Fort Bend County
Engineering Department
301 Jackson Suite 401
Richmond, Texas 77469
281.633.7500
Permits@fortbendcountytx.gov

REVIEW BY FORT BEND COUNTY COMMISSIONERS COURT

[X] **Right of Way Permit**

[ ] **Commercial Driveway Permit**

Permit No: 2018-19973

Applicant: **G&A Boring Direccional**

Job Location Site: **FM 1464, Houston, TX 77083**

Bond No. [redacted] **Date of Bond:** **5/8/2018** **Amount:** **$50,000.00**

The above applicant came to make use of certain Fort Bend County property subject to, "The Order Regulating the Laying, Construction, Maintenance, and Repair of Buried Cables, Conduits, and Pole Lines, In, Under, Across or Along Roads, Streets, Highways, and Drainage Ditches in Fort Bend County, Texas, Under the Jurisdiction of the Commissioners Court of Fort Bend County, Texas," as passed by the Commissioners Court of Fort Bend County, Texas, of the Minutes of the Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistant with Chapter 181, Vernon's Texas Statutes and Codes Annoted.

Notes:

1. Evidence of review by the Commissioners Court must be kept on the job site and failure to do so constitutes grounds for job shutdown.
2. Written notices are required:
   a. 48 hours in advance of construction start up, and
   b. When construction is completed and ready for final inspection, submit notification to Permit Administrator thru MyGovernmentOnline.org portal.
3. This permit expires one (1) year from date of permit if construction has not commenced.

On this 24th day of April, 2018, Upon Motion of Commissioner _____, seconded by Commissioner _____, duly put and carried, it is ORDERED, ADJUDGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

Signature

By: Rick J Staigle, PE, PTOE
County Engineer

N/A
By: _____
Drainage District Engineer/Manager

Presented to Commissioners Court and approved.

Date Recorded _____ Comm. Court No. _____

Clerk of Commissioners Court

By: _____
Deputy

Fort Bend County
Engineering Department
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Richmond, Texas 77469
281.633.7500
Permits@fortbendcountytx.gov

PERMIT APPLICATION REVIEW FORM FOR CABLE, CONDUIT, AND POLE LINE ACTIVITY IN FORT BEND COUNTY

[X] **Right of Way Permit**

[ ] **Commercial Driveway Permit**

Permit No: 2018-19973

The following "Notice of Proposed Cable, Conduit, and/or Pole Line activity in Fort Bend County" and accompanying attachments have been reviewed and the notice conforms to appropriate regulations set by Commissioner's Court of Fort Bend County, Texas.

(1) COMPLETE APPLICATION FORM:

- [X] a. Name of road, street, and/or drainage ditch affected.
- [X] b. Vicinity map showing course of directions
- [X] c. Plans and specifications

(2) BOND:

- [ ] County Attorney, approval when applicable.
- [X] Perpetual bond currently posted. Bond No: [redacted] Amount: $50,000.00
- [ ] Performance bond submitted. Bond No: Amount:
- [ ] Cashier's Check Check No: Amount:

(3) DRAINAGE DISTRICT APPROVAL (WHEN APPLICABLE):

Drainage District Approval _____ Date _____

We have reviewed this project and agree it meets minimum requirements.

Rick J Staigle, PE, PTOE
Permit Administrator

4/13/2018
Date

FORT BEND COUNTY
MUNICIPAL UTILITY DISTRICT NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS
FROM BISSONNET ST. TO BELLAIRE BLVD.

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6 PROJECT LAYOUT FM 1464 STA. 30+00 TO STA. 60+00
7 PROJECT LAYOUT FM 1464 STA. 60+00 TO END OF PROJECT
8 PLAN & PROFILE ~ STA. 0+00 TO STA. 5+00 (INFO ONLY)
9 PLAN & PROFILE ~ STA. 5+00 TO STA. 10+00
10 PLAN & PROFILE ~ STA. 10+00 TO STA. 15+00
11 PLAN & PROFILE ~ STA. 15+00 TO STA. 20+00
12 PLAN & PROFILE ~ STA. 20+00 TO STA. 25+00
13 PLAN & PROFILE ~ STA. 25+00 TO STA. 30+00
14 PLAN & PROFILE ~ STA. 30+00 TO STA. 35+00
15 PLAN & PROFILE ~ STA. 35+00 TO STA. 40+00
16 PLAN & PROFILE ~ STA. 40+00 TO STA. 45+00
17 PLAN & PROFILE ~ STA. 45+00 TO STA. 50+00
18 PLAN & PROFILE ~ STA. 50+00 TO STA. 55+00
19 PLAN & PROFILE ~ STA. 55+00 TO STA. 60+00
20 PLAN & PROFILE ~ STA. 60+00 TO STA. 65+00
21 PLAN & PROFILE ~ STA. 65+00 TO STA. 70+00
22 PLAN & PROFILE ~ STA. 70+00 TO STA. 75+00
23 PLAN & PROFILE ~ STA. 75+00 TO STA. 80+00
24 PLAN & PROFILE ~ STA. 80+00 TO STA. 85+00
25 PLAN & PROFILE ~ STA. 85+00 TO STA. 90+00
26 PLAN & PROFILE ~ STA. 90+00 TO STA. 95+00
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NOTE:

1. NO SANITARY SEWER IMPROVEMENTS ARE INCLUDED IN THIS PROJECT.
2. NO CHANGE IN THE EXISTING DRAINAGE PATTERN.

CITY OF HOUSTON NOTE:

CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON DEPARTMENT OF PUBLIC WORKS AND ENGINEERING, OCE ENGINEERING CONSTRUCTION DIVISION AT 832-395-4924 48 HOURS PRIOR TO STARTING WORK ON THIS PROJECT.

TXDOT APPROVAL

TXDOT PERMIT NO. HOU2016021815 4125
APPLIED FOR BY: SREE PHIPPS
APPLIED FOR ON: 3-23-2015

"PRIOR TO THE CONSTRUCTION OF THESE FACILITIES WITHIN OR BY THE DISTRICT, THE DISTRICT OR ITS ENGINEER WILL GIVE WRITTEN NOTICE BY REGISTERED OR CERTIFIED MAIL TO THE DIRECTOR OF PUBLIC WORKS AND ENGINEERING STATING THE DATE SUCH CONSTRUCTION WILL BE COMMENCED."

THIS SITE IS IN ZONE "X"

FIRM:
FLOOD INSURANCE RATE MAP: FORT BEND COUNTY, TEXAS AND INCORPORATED AREAS
MAP #48157C0111J & #48157C0120J
EFF: 04/02/2014

CONTRACTOR SHALL NOTIFY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING, OFFICE OF THE CITY ENGINEER, 48 HOURS BEFORE STARTING WORK ON THIS PROJECT. TELEPHONE NO. 832-394-4048

TXDOT APP. NO. HOU2019121301 75128

TEXAS ONE-CALL NOTIFICATION SYSTEM
CALL BEFORE YOU DIG
713-223-4567 (LOCAL HOUSTON NUMBER)
1-800-545-6005

NOTE:
CALL 1-800-DIG-TESS BEFORE THE COMMENCEMENT OF ANY EXCAVATION.

FORT BEND COUNTY M.U.D. No. 30
BOARD OF DIRECTORS

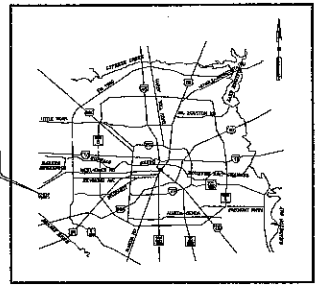
LINDA S. YORLANO
PRESIDENT

PAUL LIONEL YOUNT JR.
VICE PRESIDENT

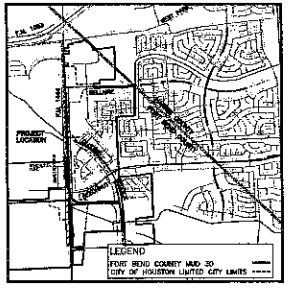
CHRISTOPHER BELL
SECRETARY

MICHAEL SMITH
ASST. VICE PRESIDENT

PAULINE ROWE
ASST. SECRETARY



LOCATION MAP
N.T.S.



VICINITY MAP
KEY MAP 527-E GRID T
GMS TILE 485A/C

DATE: July 2017
PLANS PREPARED BY:

J A COSTANZA & ASSOCIATES ENGINEERING, INC.
T.B.P.E. FIRM REGISTRATION No. F-652
4301 CENTER ST. DEER PARK, TX 77536 281-930-9328

PREVIOUSLY APPROVED UNDER
COH. PLAN NO. 15-0426
C.O.H. LOG NO. 1503 2588
DRAWING NO. 54109

IMLS NO. 13096644
COH LOG NO. 13.3045

FORT BEND COUNTY ENGINEER

ENGINEER: Richard W. Stolleis, P.E., PMP
RICHARD W. STOLLEIS, P.E.

DATE: 9/7/17

THESE SIGNATURES ARE VOID IF CONSTRUCTION HAS NOT COMMENCED IN (1) YEAR FROM DATE OF APPROVAL.

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

APP	REVISIONS	DATE

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER 8-3-17
WASTEWATER 8-3-17
STORM WATER
STREET & BRIDGE
TRAFFIC AND TRANSPORTATION
STORM WATER QUALITY
FACILITIES

CITY ENGINEER DATE
DIRECTOR OF PUBLIC WORKS AND ENGINEERING DATE

CITY DWG NO. 58731

SHEET NO 1 OF 42 SHEETS

P:\Active\F003\1069\Plans PHASE 1\Cover Sheet-Notes\01 Cover-sheet.dwg ~ 7/18/2017 10:21:16 AM ~ Maritza F. Rodriguez

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES DURING CONSTRUCTION AND SHALL RESHAPE AND REGRADE ANY DITCHES THAT WERE DISTURBED DURING CONSTRUCTION SO AS NOT TO IMPEDE DRAINAGE.
2. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED BY THE CITY OF HOUSTON FOR CONSTRUCTION OF UTILITIES AND/OR CULVERTS WITHIN THE CITY R.O.W.
3. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED BY REGULATION OF FORT BEND COUNTY FOR FLOOD PLAIN MANAGEMENT.
4. BACKFILL TO BE COMPACTED IN NO GREATER THAN EIGHT (8) INCH LIFTS TO THE DENSITY OF THE UNDISTURBED ADJACENT SOILS.
5. ALL EXISTING UNDERGROUND UTILITIES ARE NOT GUARANTEED TO BE COMPLETE OR DEFINITE, BUT WERE OBTAINED FROM THE BEST INFORMATION AVAILABLE. CONTRACTOR HAS SOLE RESPONSIBILITY FOR FIELD VERIFICATION OF ALL EXISTING FACILITIES SHOWN ON DRAWINGS. CONTRACTOR SHALL COORDINATE ALL CONFLICTS WITH THE APPROPRIATE GOVERNING AGENCY.
6. CONTRACTOR SHALL COMPLY WITH "OSHA" REGULATIONS AND STATE OF TEXAS LAW CONCERNING TRENCHING AND SHORING.
7. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM TO MEET, AS A MINIMUM, THE REQUIREMENTS OF "OSHA" SAFETY AND HEALTH REGULATION, PART 1926, SUBPART "P" AS PUBLISHED IN THE FEDERAL REGISTER, VOLUME 54, No. 209, DATED OCTOBER 31, 1989.
8. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISED CITY OF HOUSTON SPECIFICATIONS AND STANDARDS.
9. THE CITY OF HOUSTON ENGINEERING DEPARTMENT SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION.
10. UTILITIES HAVE BEEN INDICATED ON THE CONTRACT DRAWINGS AND SHALL ACT AS A GUIDE TO THE CONTRACTOR VERIFYING THE ACTUAL LOCATION OF THESE UTILITIES. THE CONTRACTOR WILL BE REQUIRED TO OBSERVE WATER AND GAS METERS, MANHOLES, AND CLEAN OUTS ETC.. NECESSARY TO DETERMINE THEIR RELATIONSHIP TO THE MAINS AND LATERALS, AND TO USE PIPE DETECTORS OR OTHER SUITABLE MEANS TO VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF GAS AND ELECTRICAL MAIN AND LATERALS. IN CASE OF DAMAGE TO PRIVATE UTILITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE FOLLOWING:
    1. HOUSTON FIRE DEPARTMENT (GAS, ALL PIPELINES, ELECTRICAL) AT 911.
    2. THE UTILITY COMPANIES
    3. CITY OF HOUSTON ENGINEERING AT 311
11. THE CONTRACTOR IS WHOLLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO ANY ADJOINING PROPERTIES. ANY AREA DAMAGED OR DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO AN EQUAL OR BETTER CONDITION THAN THE EXISTING AT NO EXTRA COST TO THE CITY.
12. EXCAVATIONS LEFT BY THE REMOVAL OF EXISTING UTILITIES SHALL BE BACKFILLED IN MINIMUM EIGHT (8) INCH LIFTS TO 90% DENSITY OF UNDISTURBED ADJACENT SOILS.
13. ALL TRENCHES UNDER PAVEMENT (STREETS, PARKING LOTS, DRIVEWAYS, ETC.) SHALL BE BACKFILLED IN THEIR ENTIRETY WITH 2 SACK CEMENT STABILIZED SAND TO THE BOTTOM OF THE SUBGRADE.
14. CONTRACTOR SHALL PROVIDE 8" CEMENT STABILIZED BASE COMPACTED TO 95% STANDARD DENSITY UNDER 12" TO ALL INLETS, JUNCTION BOXES AND MANHOLES.

STANDARD CITY OF HOUSTON NOTES (OUTSIDE OF THE CITY LIMITS)

1. CONSTRUCT WASTEWATER COLLECTION SYSTEMS, WATER LINES AND STORM DRAINAGE IN ACCORDANCE WITH THE LATEST EDITION OF THE PUBLICATIONS STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING PUBLISHED BY THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING.
2. UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION.

   CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT 713-223-4567/ 800-245-4545 AND LONE STAR ONE CALL AT 800-669-8344 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO EXISTING WATER, WASTEWATER AND STORM DRAINAGE LINES. DAMAGES SHALL BE REPAIRED IN ACCORDANCE WITH THE CITY OF HOUSTON, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING'S STANDARD CONSTRUCTION SPECIFICATIONS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING AND STANDARD CONSTRUCTION DETAILS FOR WASTEWATER COLLECTION SYSTEMS, WATER LINES, STORM DRAINAGE, AND STREET PAVING REFERENCED ABOVE, AT NO ADDITIONAL COST.
4. CONTRACTOR SHALL NOTIFY THE OFFICE OF THE CITY ENGINEER, DEPARTMENT OF PUBLIC WORKS AND ENGINEERING IN WRITING PRIOR TO COMMENCING CONSTRUCTION.
5. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO EXISTING CONDITIONS OR BETTER.
6. CONTRACTOR SHALL COMPLY WITH LATEST EDITION OF OSHA REGULATIONS AND THE STATE OF TEXAS LAWS CONCERNING PROTECTION OF WORKERS ENTERING EXCAVATIONS.

WATER DISTRIBUTION NOTES:

1. WATER MAIN/METER CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF HOUSTON "SPECIFICATIONS FOR WATER MAIN CONSTRUCTION AND MATERIALS" AND "SPECIFICATIONS FOR WATER TAPS AND SERVICE LINES", 3/4" THROUGH 2", WITH LATEST ADDENDA AND ADDENDUM'S THERETO.
2. ALL UTILITIES SHOWN ON THE DRAWINGS ARE SHOWN AT THE APPROXIMATE LOCATIONS BASED ON THE BEST AVAILABLE INFORMATION. CONTRACTOR TO FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION. ANY DAMAGE TO THE UTILITIES DURING CONSTRUCTION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. CONTRACTOR SHALL CONSTRUCT THE PROPOSED WATER MAINS WITH THE SPECIFICATIONS RELATING TO EXCAVATION, TRENCHING AND BACKFILL FOR WATER MAINS.
4. P.V.C. WILL BE USED. IT WILL CONFORM TO ASTM C900 STANDARDS.
5. ALL WATER MAINS UNDER STREET PAVEMENT – 4 INCHES THRU 12 INCHES IN DIAMETER, IF NOT OTHERWISE SHOWN, SHALL BE AWWA C-900 PVC PIPE.
6. NO A.C. PIPE WILL BE USED ON THE PROJECT.
7. WATER VALVES ON MAIN LINES TO BE LOCATED AS CLOSE AS POSSIBLE TO LOT LINE.
8. ALL WATER MAINS WITHIN STREET R.O.W. HAVE MINIMUM 4' COVER BELOW TOP OF CURB. WATER MAINS WITHIN EASEMENTS HAVE MINIMUM 4' COVER BELOW NATURAL GROUND.
9. FLUSHING VALVE ASSEMBLIES TO BE LOCATED 3' INSIDE OF RIGHT-OF-WAY. DEFLECT WATER LINES AS SHOWN ON PLANS. SEE DETAIL SHEET FOR TYPICAL ASSEMBLY.
10. ALL WATER METERS SIZED FROM 3/4" TO 2" MUST HAVE INDIVIDUAL SERVICE LEADS AND METER BOXES.
11. ALL WELDED STEEL SECTIONS TO EXTEND A MINIMUM OF 5 FEET PAST BENDS AND CROSSES.
12. NEW WATER LINES MUST BE DISINFECTED ACCORDING TO THE GUIDELINES ESTABLISHED IN THE "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS".
13. CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING TO WITHSTAND TEST PRESSURE SPECIFIED IN SPECIFICATION FOR WATER MAIN CONSTRUCTION AND MATERIALS WITH LATEST ADDENDA AND AMENDMENTS THERETO.
14. ALL GATE VALVES, TEES, CROSSES, AND OTHER FITTINGS SHALL BE PLACED BACK OF CURB, NOT UNDER PAVEMENT.
15. ALL PUBLIC WATER MAINS – 4 INCHES THRU 12 INCHES IN DIAMETER, IF NOT OTHERWISE SHOWN, SHALL BE AWWA C-900 PVC PIPE (DL-150). ALL FITTINGS ARE TO BE MECHANICAL JOINT.
16. WATER VALVES ON MAIN LINES TO BE LOCATED AS CLOSE AS POSSIBLE TO LOT LINE.
17. FIRE HYDRANT ASSEMBLIES TO BE LOCATED 1' INSIDE STREET R.O.W.. DEFLECT WATER LINES AS SHOWN ON PLANS. SEE DETAIL SHEET FOR TYPICAL ASSEMBLY. ALL FIRE HYDRANTS SHALL BE "MUELLER" A-24015 OR APPROVED EQUAL, THREADS NATIONAL STANDARD.
18. A MINIMUM OF 6 INCH CLEARANCE MUST BE MAINTAINED WHEN A WATER LINE CROSSES ANOTHER UTILITY. CURRENT TCEQ REGULATIONS SHALL BE ADHERED TO WHEN CROSSING SANITARY SEWER FACILITIES.
19. ALL WELDED STEEL SECTIONS TO EXTEND A MINIMUM OF 5 FEET PAST BENDS AND CROSSES.
20. ALL GATE VALVES WILL BE INSPECTED FOR ALIGNMENT (PLUMB) AND OPERATION FULL OPEN TO FULL CLOSE POSITIONS.
21. CONTRACTOR SHALL PROVIDE NEW WATER SERVICE CONNECTIONS AT ALL LOCATIONS ALONG THE WATERLINE SERVICE ROUTE.
22. ALL WATER METERS AND SERVICE LINES SHALL BE LOCATED AT LOT LINES, SERVICE LINES SHALL BE 1" MINIMUM OR AS SHOWN ON PLANS.

CENTER POINT ENERGY

CAUTION: UNDERGROUND GAS FACILITIES

LOCATIONS OF CENTERPOINT ENERGY MAIN LINE (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE LLC., WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT (713) 223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES LOCATED.

--WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 967-8037 (7:00 am TO 4:30 pm) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.

--WHEN EXCAVATING WITH EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATING PROCEDURES.

--WHEN CENTERPOINT FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

CENTER POINT ENERGY

WARNING: OVERHEAD ELECTRICAL LINES

OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THEY ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH AND 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 CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR MOVED, CALL CENTERPOINT ENERGY AT (713) 207-6248 OR (713) 207-2222.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY WATER DISTRIBUTION SYSTEM GENERAL CONSTRUCTION NOTES

1. THIS WATER DISTRIBUTION SYSTEM MUST BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS 30 TEXAS ADMINISTRATIVE CODE (TAC) CHAPTER 290 SUBCHAPTER D.
2. ALL NEWLY INSTALLED PIPES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.
3. PLASTIC PIPE FOR USE IN PUBLIC WATER SYSTEMS MUST BEAR THE NATIONAL SANITATION FOUNDATION SEAL OF APPROVAL (NSF-PW) AND HAVE AN ASTM DESIGN PRESSURE RATING OF AT LEAST 150 PSI OR A STANDARD DIMENSION RATIO OF 26 OR LESS.
4. NO PIPE WHICH HAS BEEN USED FOR ANY PURPOSE OTHER THAN THE CONVEYANCE OF DRINKING WATER SHALL BE ACCEPTED OR RELOCATED FOR USE IN ANY PUBLIC DRINKING WATER SUPPLY.
5. WATER TRANSMISSION AND DISTRIBUTION LINES MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. HOWEVER, THE TOP OF THE WATER LINE MUST BE LOCATED BELOW THE FROST LINE AND IN NO CASE SHALL THE TOP OF THE WATER LINE BE LESS THAN 24 INCHES BELOW GROUND SURFACE.
6. THE HYDROSTATIC LEAKAGE RATE SHALL NOT EXCEED THE AMOUNT ALLOWED OR RECOMMENDED BY AWWA FORMULA FOR PVC PIPE: L= (ND)(P)/7,400. THE FORMULA FOR DUCTILE OR CAST IRON PIPE IS L= (S)(D)/P)/133,200.
7. THE USE OF PIPES AND PIPE FITTINGS THAT CONTAIN MORE THAN 8.0% LEAD OR SOLDERS AND FLUX THAT CONTAINS MORE THAN 0.2% LEAD IS PROHIBITED IN THE FOLLOWING CIRCUMSTANCES FOR INSTALLATION OR REPAIR OF ANY PUBLIC WATER SUPPLY AND FOR INSTALLATION OR REPAIR OF ANY PLUMBING IN A RESIDENTIAL OR NONRESIDENTIAL FACILITY PROVIDING WATER FOR HUMAN CONSUMPTION AND CONNECTED TO A PUBLIC DRINKING WATER SUPPLY SYSTEM.
8. THE CONTRACTOR SHALL INSTALL APPROPRIATE AIR RELEASE DEVICES IN THE DISTRIBUTION SYSTEM AT ALL POINTS WHERE TOPOGRAPHY OR OTHER FACTORS MAY CREATE AIR LOCKS IN THE LINES. ALL VENT OPENINGS TO THE ATMOSPHERE SHALL BE COVERED WITH 16-MESH OR FINER. CORROSION RESISTANT SCREENING MATERIAL OR AN ACCEPTABLE EQUIVALENT. THE SYSTEM SHALL BE DESIGNED TO AFFORD EFFECTIVE CIRCULATION OF WATER WITH A MINIMUM OF DEAD ENDS. ALL DEAD-END MAINS SHALL BE PROVIDED WITH ACCEPTABLE FLUSH VALVES AND DISCHARGE PIPING. ALL DEAD-END LINES LESS THAN TWO INCHES IN DIAMETER WILL NOT REQUIRE FLUSH VALVES IF THEY END AT A CUSTOMER SERVICE. WHERE DEAD ENDS ARE NECESSARY AS A STAGE IN THE GROWTH OF THE SYSTEM, THEY SHALL BE LOCATED AND ARRANGED TO ULTIMATELY CONNECT THE ENDS TO PROVIDE CIRCULATION.
9. THE CONTRACTOR SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE IN ALL DIRECTIONS OF NINE FEET BETWEEN THE PROPOSED WATERLINE AND WASTEWATER COLLECTION FACILITIES INCLUDING MANHOLES AND SEPTIC TANK DRAINFIELDS. IF THIS DISTANCE CANNOT BE MAINTAINED, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE PROJECT ENGINEER FOR FURTHER DIRECTION. SEPARATION DISTANCES, INSTALLATION METHODS, AND MATERIALS UTILIZED MUST MEET §290.44(E) OF THE CURRENT RULES.
10. THE CONTRACTOR SHALL NOT PLACE THE PIPE IN WATER OR WHERE IT CAN BE FLOODED WITH WATER OR SEWAGE DURING ITS STORAGE OR INSTALLATION.
11. THE CONTRACTOR SHALL DISINFECT THE NEW WATER MAINS IN ACCORDANCE WITH AWWA STANDARD C651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE BEING PLACED INTO SERVICE. SAMPLES SHALL BE COLLECTED FOR MICRO BIOLOGICAL ANALYSIS TO CHECK THE EFFECTIVENESS OF THE DISINFECTION PROCEDURE WHICH SHALL BE REPEATED IF CONTAMINATION PERSISTS. A MINIMUM OF ONE SAMPLE FOR EACH 1,000 FEET OF COMPLETED WATER LINE WILL BE REQUIRED OR AT THE NEXT AVAILABLE SAMPLING POINT BEYOND 1,000 FEET AS DESIGNATED BY THE DESIGN ENGINEER.

PIPELINE INFORMATION

HOUSTON PIPELINE
CONTACT: CORY PARTON 281-850-1417 (FIELD)
CONTACT: KAVIN DODD 832-668-1137 (PLANS)

NETCO PIPELINE
CONTACT: RICHARD HINES 585-615-5184 (FIELD)

MONUMENT PIPELINE
CONTACT: JOSH BOWSLER 832-451-4268 (FIELD)

KINDER MORGAN PIPELINE
CONTACT: MIKE LUNA 713-539-9646 (FIELD)

WINDSTREAM FACILITIES

1. THE LOCATIONS OF WINDSTREAM FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
2. THE CONTRACTOR SHALL CALL 1-800-344-8377 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF WINDSTREAM FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE WINDSTREAM FACILITIES.
4. WHEN WINDSTREAM 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.

TXDOT

1. TXDOT SHALL BE NOTIFIED 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION USING THE UIR SYSTEM. CONTACT TXDOT ONCE THE CONSTRUCTION IS COMPLETE.
2. CONTRACTOR SHALL CONTACT ISRAEL CUELLAR AT (281)230-7955 PRIOR TO BEGINNING WORK TO OBTAIN AN APPROVED TRAFFIC CONTROL PLAN.
3. NO DIRT NUISANCE TO ROADWAY.
4. ALL SURPLUS MATERIAL SHALL BE REMOVED FROM THE RIGHT-OF-WAY AND THE EXCAVATION FINISHED FLUSH WITH SURROUNDING NATURAL GROUND.
5. NO BORE PITS TO BE LEFT UNPROTECTED.
6. CONTACT ISRAEL CUELLAR WHEN JOB STARTS AND IS COMPLETED.

FORT BEND COUNTY GENERAL NOTES:

1. CONTRACTOR SHALL NOTIFY FORT BEND COUNTY ENGINEERING DEPARTMENT 48 HOURS PRIOR TO COMMENCING CONSTRUCTION AND 24 HOURS PRIOR TO ANY PAVING OPERATIONS AT CONSTRUCTION@FORTBENDCOUNTYTX.GOV
2. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FROM FORT BEND COUNTY PRIOR TO COMMENCING CONSTRUCTION OF ANY IMPROVEMENTS WITHIN COUNTY ROAD RIGHT OF WAYS.
3. ALL PAVING IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FORT BEND COUNTY RULES, REGULATIONS AND REQUIREMENTS RELATING TO THE APPROVAL AND ACCEPTANCE OF IMPROVEMENTS IN SUBDIVISIONS AS CURRENTLY AMENDED.
4. ALL ROAD WIDTHS, CURB RADII AND CURB ALIGNMENT SHOWN INDICATES BACK OF CURB.
5. A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN THE CURBS.
8. ALL CONCRETE PAVEMENT SHALL BE 5-1/2 SACK CEMENT WITH A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT EACH CURB RETURN AND AT A MAXIMUM SPACING OF 60 FEET.
7. ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
8. 4"X12" REINFORCED CONCRETE CURB SHALL BE PLACED IN FRONT OF SINGLE FAMILY LOTS ONLY. ALL OTHER AREAS SHALL BE 6" REINFORCED CONCRETE CURB.
9. AT ALL INTERSECTION LOCATIONS, TYPE 7 RAMPS SHALL BE PLACE IN ACCORDANCE WITH TXDOT PED-12A STANDARD DETAIL SHEET, A.D.A. --HANDICAP RAMPS SHALL BE INSTALLED WITH STREET PAVING AT ALL INTERSECTIONS AND COMPLY WITH CURRENT A.D.A. REGULATIONS.
10. CURB HEADERS ARE REQUIRED AT CURB CONNECTIONS TO HANDICAP RAMPS, WITH NO CONSTRUCTION JOINT WITHIN 5' OF RAMPS.
11. ALL INTERSECTIONS UTILIZING TRAFFIC CONTROL MEASURES SHALL HAVE A.D.A. WHEEL CHAIR RAMPS INSTALLED.
12. GUIDELINES ARE 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 FLAGMEN, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION --BOTH DAY AND NIGHT.
13. ALL R1-1 STOP SIGNS SHALL BE 30"X30" WITH DIAMOND GRADE SHEETING. STREET NAME SIGNS SHALL BE UPPER AND LOWER CASE LETTERS WITH DIAMOND GRADE SHEETING.
14. A BLUE DOUBLE REFLECTORIZED BUTTON SHALL BE PLACED AT ALL FIRE HYDRANT LOCATIONS. THE BUTTON SHALL BE PLACED 12 INCHES OFF OF THE CENTERLINE OF THE STREET ON THE SAME SIDE AS THE HYDRANT.

BENCHMARK INFORMATION:

CONTROL POINT #75
5/8" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET 49.2' EAST OF OBRIEN ROAD IN A PIPELINE EASEMENT APPROX. 2,400' SOUTH OF BEECHNUT STREET.
ELEV. 94.15' NAVD-88, 2002 ADJ.

CONTROL POINT #76
5/8" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET APPROX. 200' SOUTH OF BEECHNUT STREET & 17.9' EAST OF OBRIEN ROAD.
ELEV. 92.52 NAVD-88, 2002 ADJ.

CONTROL POINT #77
5/8" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET APPROX. 1,100' NORTH OF BEECHNUT STREET ON THE EAST SIDE OF FM 1464, JUST SOUTH OF THE 1464 PLAZA STRIP MALL. ELEV. 92.22 NAVD-88, 2002 ADJ.

CONTROL POINT #80
5/8" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET IN THE MEDIAN EAST OF THE INTERSECTION OF BELLAIRE BOULEVARD AND F.M.1464 10.8 FEET EAST OF THE END OF THE MEDIAN.
ELEV. 93.47 NAVD-88, 2002 ADJ.

FEMA NOTE:

SITE IS LOCATED IN ZONE "X" PER MAP PANEL NUMBERS: 48157C0110J & 0120J.

REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES ENGINEERING, INC.
TBPE FIRM REGISTRATION No. F-470
4349 GONZER ST. SUITE F-200 TX 77092 281-821-6200

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

GENERAL NOTES

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER _____ TRAFFIC & TRANSPORTATION _____
WASTEWATER 9-7-17 STORM WATER QUALITY _____
STORM 9-7-17 FACILITIES _____
STREET & BRIDGE _____

FILE NO: F003-1009

DRAWING SCALE: N.T.S.

SHEET No: 2 OF 42

FOR CITY OF HOUSTON USE ONLY

58731

P:\Active\F003\1009\Plans PHASE 1\Cover Street-Notes\02 NOTES.dwg ~ 7/18/2017 8:29:07 AM ~ Maritza F. Rodriguez

P:\Active\F003\1009\Plans PHASE 1\Cover Sheet-Notes\03 Pipeline Approval.dwg ~ 7/18/2017 8:28:55 AM ~ Maritza F. Rodriguez

CHEVRON TRANSPORT
Houston Pipeline Company LP

November 30, 2017

VIA EMAIL

Reference: Fort Bend MUD 30 / Fairwood 12 Bell Waterline crossing, Houston Pipe Line Company LP's (HPL) North Freeport (Tidy Woods (3011) Pipeline within Fort Bend County, Texas

Dear Mr. Adams

Chevron Pipe Line Company LP (HPL) received your letter/ phone on July 8, 2015 concerning the subject project. As the subject facilities, HPL does own, operate and maintain 10 inch, steel, high-pressure, natural gas pipeline (HPL's pipeline). HPL has reviewed the proposed plans and profile for the subject project. HPL has no objection to the proposed project, provided that the following conditions be met to protect HPL's pipeline and to ensure safe and proper operations and maintenance of the pipeline and adjacent to the following conditions by Fort Bend County MUD No. 30 and its contractor(s):

(1) All contractors or consultants shall give client or of your HPL's pipeline concerned copy or HPL's Excavator shall the letter agreement for form signed and returned to HPL.

(2) An HPL representative must have the opportunity to be present and be satisfied at least thirty-eight (38) hours prior to any field disturbance or operation of heavy equipment; or in case for HPL's pipeline. The planning, scheduling, and performance of the work will be coordinated with the following HPL Representative:

Name	Location	Telephone
Gary Hanson Chief Pipeline Operator	Brazoria	(281) 824-6471 (Cell)

Texas Utilities Code, Chapter 251, which is referred to commonly as the Texas One-Call Law requires that excavators in Texas notify a one-call participation center 48 hours prior to digging. HPL currently utilizes the Texas Excavation Safety System (TESS) as its one-call center. You can contact the TESS at 1-800-344-8377 or www.texas811.org. In addition to calling the TESS, excavators must also contact HPL's pipeline representative before any construction activity is or near HPL's facilities. HPL respectfully requests that a copy of the plans be sent to the client following your contractor's (ship) name and phone numbers for the HPL representative mentioned above and noting the existence of the letter sent to you based on this information with the letter plans.

(3) HPL's agreement to the subject project is based upon your plans attached hereto as "Exhibit A." Should your design change, you must inform us HPL, you (2) (or of referred/contacting) for review and approval prior to commencing any of the work.

(4) In the event Fort Bend County MUD No. 30 or representative and is cross over along HPL's facilities with Harry Construction equipment, HPL reserves the right

Subject: Fort Bend MUD No. 30
Date: November 30, 2017
Page: 2 of 2

to require, on common (d) or Kinder and Small respectively, the (d) and/or confirm (d) letter for Harbor or other to protect the pipeline from heavy equipment loads.

(5) HPL Facilities must be positively located before the Excavation begins; or exposed or located prior HPL Facilities, HPL requires that an flexible minimum clearance of 24 inches be provided between the outside diameter of HPL's 30 inch pipeline (HPL Facilities) and HPL and all of your facilities. Longitudinal encroaching of HPL Facilities (HPL) will not be allowed. Any encroachment within HPL Facilities (HPL) will be at the sole discretion of HPL. Any encroachment approved shall be provided at HPL. Fort Bend MUD shall be responsible for complete installation of HPL. HPL's inspector in that making does so cross.

(6) Fort Bend County MUD No. 30 or the contractor(s) and any plans upon HPL in the vicinity of HPL's facilities shall be required to open and the pipeline (HPL) Facilities of excavation, shall be hand dug.

(7) HPL requires the pipeline crossing be made clear of any temporary or permanent structures, such as buildings, lighting, structures, signs, sign supports, fencing, or other structures, and/or, HPL to enter the proper / authorized and approved to initiate the proposed construction.

(8) Fort Bend County MUD No. 30 or its contractors must notify, modify or tell any construction activity, which is the subject of HPL's audit inspection, discussion of contingent HPL's Facilities.

(9) If a tension necessary for HPL, in excess to expose (HPL) the inspection, repair or replacement, HPL will not be responsible for any damage to your facilities unless HPL's employee was present to the event HPL, were negligent or with intentional misconduct.

For the extent allowed by law, Fort Bend County MUD No. 30 agrees to cause to compensate Installing its facilities to individually, protect and hold HPL, its parent, affiliates, subsidiaries and their directors, officers, employees, representatives, and agents harmless from and against any and all actions or causes of action, claims, demands, liabilities, loss, damage, injury, suit, proceeding, judgment, cost or expense of any kind or nature whatsoever, including, but not limited to, attorney's fees, arising from damage to or loss of HPL's facilities or to any property of HPL, Fort Bend MUD No. 30 or any other person or entity, or any injury to or death of any person, arising from or out of your facilities within HPL's pipeline (HPL) Facilities and/or upon the for construction, operation, maintenance, use or possession of your facilities and shall include the construction, maintenance, use or possession of the HPL Facilities and/or to compensate any (including, without limitation, HPL's right of way) and additional support for the pipeline) and you shall be responsible for any damage to or loss of HPL's facilities or to any property of HPL, Fort Bend MUD No. 30 or any other person, or to any injury, sickness or disease, death or loss of any kind or nature to or suffered or permanently caused by the gross negligence of HPL, its employees or designated agents).

Unless you otherwise notify HPL in writing your receipt of the conditions/ letter of acceptance (LoA) be deemed to be evidence of your acceptance of and adherence to the above terms and conditions.

Subject: Fort Bend MUD No. 30
Date: November 30, 2017
Page: 3 of 3

Should you have any questions, please feel free to contact me at (713) 969-1159 or arthur.crawford@chevrontexaco.com.

Sincerely,

Arthur A. Crawford
Project Manager

HOUSTON PIPE LINE COMPANY LP

Arthur A. Crawford
Project Manager

cc: Gary Hanson
P.O. Box 1390
Brazoria, Texas 77422
Phone: 979-798-2000 Fax: 979-798-2000 Cell: 979-798-2000

NETCO PIPELINE, L.L.C.

July 25, 2016

City of Houston
c/o Casey Stevens
J.A. Costanza & Associates Engineering, Inc.
4203 Center Street
Deer Park, TX 77536

RE: FM 1464 Waterline Improvements
Fort Bend County MUD 30
Notice of Pipe Disposition

To Whom It May Concern:

This is in response to the mail out message from Casey Stevens of J.A. Costanza Associates Engineering, Inc. to Dick Reed and P.D. Leonard of NETCO Pipeline, LLC in regards to your planned project crossing NETCO Pipeline's 24" diameter steel lateral, pipeline and meaning station 14+06. This is based on drawings supplied via email on July 8, 2016 from Costanza, enclosed, and unsigned, but titled FM 1464 Waterline Improvements Fort Bend MUD No. 30, Plan & Profile Sta. 10+00 to Sta. 18+00, bearing the File Number F003-1009 and Sheet Number 04 of 42. Sheet Attached.

We see no conflicts with your plans as long as NETCO's crossing criteria are met:

1- 24" minimum clearance
2- In addition to the solid 811 notice, provide 48 hour notice to NETCO's field representative, 713-828-3710 before working in proximity of the NETCO line.
3- If the NETCO line is exposed for any reason, locally and field top to whom let inspection and/or backfilling. This is to allow inspection and NETCO to verify if the NETCO (Backfilled Construction).

Continue on Dick | Share if you have any questions

P.D. Leonard
PD Leonard
Operations Manager

MONUMENT PIPELINE, L.P.

July 23, 2015

Dear Sir/Ma'am
J.A. Costanza & Associates Engineering, Inc
4203 Center Street
Deer Park, TX 77536

Re: Texas Gas Service (a 12" steel) is not crossing Monument's 30" steel natural gas pipeline at FM 1464 in Waller County

Mr. Stevens:

Texas Gas Service / Monument Pipeline has no objection to the proposed plans for FM 1464 in Waller County, provided that Texas Gas Service and Monument meet the following requirements:

1. No changes to our current cover of pipeline.
2. Allow for minimum clearance of 24" between the pipelines.
3. All heavy equipment must be kept at a safe distance from our pipeline (Approximately 20 feet) or installed at 24" of 30 inch Steel Casing cover.
4. Any excavation within our pipeline (including but not limited to excavation, MO, etc) must be hand dug.
5. Any changes in cover, depth of cover, or alignment of our pipeline must be approved by Monument Pipeline, L.P. and Texas Gas Service.
6. Monument Pipeline, L.P. and Texas Gas Service must be notified before any construction activity is to take place.
7. Monument Pipeline, L.P. and Texas Gas Service must be notified if there are any damages to our pipeline.
8. Monument Pipeline, L.P. and Texas Gas Service must be notified if there are any changes to our pipeline.

Sincerely,

Mike Meuler
Operations
Monument Pipeline, LP

KINDER MORGAN

Angust 3, 2015

Casey Stevens
J.A. Costanza & Associates Engineering, Inc.
4203 Center Street
Deer Park, Texas 77536

Re: Fort Bend MUD 30 - FM 1464 Waterline Improvements (File F003-1009)

Dear Casey:

Kinder Morgan has no objection to the construction of the 12" water line along FM 1464 as authorized by the attached letter and drawing, with a cover being the Kinder Morgan Operator Rule 400-07 pipeline with cover of approximately twenty-five feet (25') and the pipeline regardless of water line. Kinder Morgan is willing to the construction of water line provided that the attached drawing that modify the Fort Bend Morgan Pipeline City Force equivalent within at 250-400-1000 and have a "Texas Gas Line" plan and 811 plan for construction has to be Kinder Morgan Energy Partners Operator or its authorized representative which shall be being work on behalf of a Fire High Pressure natural gas pipeline.

Kinder Morgan and its parent, KM, retains the right and reserves the right to require approval and inspection of the design of any pipeline and/or facilities per our Line Operations Guidelines or our Kinder Morgan Guidelines for Design and Construction Operations over water, any and all Kinder Morgan's rights under its easement or as pipeline owner/operator or compromise the safety of the pipeline operation.

Sincerely,

Jim Bernard Stevens, P.E.
Project Manager
Phone: 713-369-9001
Fax: 713-369-7400
Cell: 713-301-0149
jim_bernard@kinedermorgan.com

1506 Greenhouse Road Suite 1200 Houston, Texas 77067 (281-820-6400)

KINDER MORGAN

Guidelines for Design and Construction over Kinder Morgan Operated Facilities

Name of Company: Kinder Morgan

The Kinder Morgan operated and non-operated pipelines include gas and petroleum liquids. Minimum requirements for the design and construction of foreign pipelines or structures crossing the right-of-way (ROW) and/or the Kinder Morgan operated facilities are outlined in the Kinder Morgan Operator Rule 400-07 and the Kinder Morgan Guidelines for Design and Construction Operations over Water, which are available upon request. Copies of these documents are available on the Kinder Morgan Operator Rule 400-07 website at www.kinedermorgan.com and the Kinder Morgan Guidelines for Design and Construction Operations over Water are available upon request.

Design

- All proposed crossings of pipelines or other underground facilities shall be made as close to perpendicular to the pipeline as possible. Pipelines shall be installed at a minimum of a 45 degree angle to the pipeline.
- Crossings of pipelines shall be made with a minimum of 24 inches of vertical separation between the bottom of the pipeline and the top of the proposed facility. Pipelines shall be installed at a minimum of a 45 degree angle to the pipeline.
- The Contractor must locate all Kinder Morgan operated pipelines prior to any construction or excavation. Contractor may be required to hand dig pipelines to the proposed depth.
- Pipelines shall be installed in accordance with the Kinder Morgan Operator Rule 400-07 and the Kinder Morgan Guidelines for Design and Construction Operations over Water, which are available upon request. Copies of these documents are available on the Kinder Morgan Operator Rule 400-07 website at www.kinedermorgan.com and the Kinder Morgan Guidelines for Design and Construction Operations over Water are available upon request.
- Pipelines shall be installed in accordance with the Kinder Morgan Operator Rule 400-07 and the Kinder Morgan Guidelines for Design and Construction Operations over Water, which are available upon request. Copies of these documents are available on the Kinder Morgan Operator Rule 400-07 website at www.kinedermorgan.com and the Kinder Morgan Guidelines for Design and Construction Operations over Water, which are available upon request.
- Pipelines shall be installed in accordance with the Kinder Morgan Operator Rule 400-07 and the Kinder Morgan Guidelines for Design and Construction Operations over Water, which are available upon request. Copies of these documents are available on the Kinder Morgan Operator Rule 400-07 website at www.kinedermorgan.com and the Kinder Morgan Guidelines for Design and Construction Operations over Water, which are available upon request.

KINDER MORGAN

Guidelines for Design and Construction over Kinder Morgan Operated Facilities

Guidelines for Design and Construction over Kinder Morgan Operated Facilities

- The casing length shall be at least 3 times the diameter of the pipeline.
- Casing pipe shall be installed with a minimum of 24 inches of vertical separation between the bottom of the pipeline and the top of the casing.
- Casing pipe shall be installed with a minimum of 24 inches of vertical separation between the bottom of the pipeline and the top of the casing.
- Casing pipe shall be installed with a minimum of 24 inches of vertical separation between the bottom of the pipeline and the top of the casing.
- Casing pipe shall be installed with a minimum of 24 inches of vertical separation between the bottom of the pipeline and the top of the casing.
- Casing pipe shall be installed with a minimum of 24 inches of vertical separation between the bottom of the pipeline and the top of the casing.
- Casing pipe shall be installed with a minimum of 24 inches of vertical separation between the bottom of the pipeline and the top of the casing.

Approved Form

Page 3 of 3

APPROVAL

Date: 12/08/2014
Application No. PROJECT NOTICE
Permit No. 15-1776
Date Approved: 12/08/2014
Permit Type: UTILITY
Project Type: Water Line
Location: 1 Mile West of Fairmont Parkway
Property Owner: Fort Bend County Municipal Utility District No. 30

Dear Applicant:

Enclosed is your permit to place the structure in the right of way of your proposed utility installation, as more fully described in your Application for Permit to Place Structures in Highway Right of Way, TxDOT Form 1058-A, and approved by your representative, subject to the following:

Special provisions:

Where excavation within Road and Highway Structure Right of Way is required, a Contractor Work Authorization (CWA) must be obtained from the District Office prior to beginning work. Contact the District Office at (281) 371-5000 to schedule a pre-work meeting. Failure to obtain a CWA prior to beginning work will be a violation of the Texas Transportation Code and may result in a stop work order. Contact the District Office at (281) 371-5000 to schedule a pre-work meeting. Failure to obtain a CWA prior to beginning work will be a violation of the Texas Transportation Code and may result in a stop work order. Contact the District Office at (281) 371-5000 to schedule a pre-work meeting. Failure to obtain a CWA prior to beginning work will be a violation of the Texas Transportation Code and may result in a stop work order.

The contractor shall be responsible for the safety of the traffic and adequately protect and provide for the safety and convenience of the public. Traffic control devices shall be installed and maintained in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD) and the Texas Department of Transportation Barricade and Construction Standards. Contact the District Office at (281) 371-5000 to schedule a pre-work meeting. Failure to obtain a CWA prior to beginning work will be a violation of the Texas Transportation Code and may result in a stop work order. Contact the District Office at (281) 371-5000 to schedule a pre-work meeting. Failure to obtain a CWA prior to beginning work will be a violation of the Texas Transportation Code and may result in a stop work order. Contact the District Office at (281) 371-5000 to schedule a pre-work meeting. Failure to obtain a CWA prior to beginning work will be a violation of the Texas Transportation Code and may result in a stop work order.

Sincerely,

Texas Department of Transportation
Utility Permit
Transportation Engineering Assistant
(713-802-5)

http://www.dot.state.tx.us/dpg/UTILITY/UTILITYPermitApproval.asp?ApprovalID=0000000000000&Mode=... 2/23/2015

SPECIAL PROVISIONS

1. This permit is valid if installation is completed within one year from date of approval.
2. Traffic control for utility work cross shall conform to applicable specifications in Texas Manual of Uniform Traffic Control Devices for Streets and Highways (TMUTCD).
3. Trail open/closed subject to a traffic control plan being filed and approved by the Area Engineer at the person named on the permit. In each vehicle in Right-of-way shall be performed until the signal has been placed.
4. Structurally approved non-conforming Utilities shall be maintained and maintenance of a traffic control plan will be the responsibility of the grantee and the grantee shall indemnify and assume the risk to the State of any loss or damage to any person or property that may occur due to this permit.
5. Grantee shall contact the Area Engineer at 713-802-5000 or Mr. Jignesh Vaghani, P.E., Traffic Systems Manager, at 713-802-5401.
6. Highway Drainage shall be control between Ditch Bottom and top of bank not exceed the diameter of the pipe by more than one foot. Any crossing shall be full width of the ditch and shall not cut off the flow of the ditch.
7. Casing pipe consist of smooth wall pipe with welded joints and seams, and shall be continuous, extending beyond the toe of the back slope of the roadway section, or the back of the ditch, whichever is the greater.
8. Any abandoment or relocation of this installation necessary shall be at the Texas Department of Transportation.

TEXAS DEPARTMENT OF TRANSPORTATION
Specifications For Utility Work Along Lines Within The Right-of-way of State Rural Highways

1. All operations within the right-of-way and outer building shall be feasible for hauling in no sub-base or base material. All traffic control shall be secured from the right-of-way and no excavation shall be left with connecting cases grated.
2. When adding to Roadway construction or building operations, each area shall be replaced by using, Figure 01 or more and replacement utility work, using, Figure shall be permanently with Texas Department of Transportation (TxDOT) Specifications.
3. TCP by crossings outer material and and adjacent crossings with the right-of-way shall be placed by using, Parking, Bulldozer or other equipment.
4. Use of water or other fluids in connection with hauling operations within or adjacent to or in contact with the highway shall be prohibited. Hauling with water prohibited.
5. Flexible material and bridge through pipes that are over the minimum Federal Safety Standards for Liquid and Gas Pipelines.
6. Operations in the highway shall be performed in such a manner that operating equipment and equipment material are not off the pavement or shoulder.
7. Barricades and warning signs and flagmen when necessary, shall be provided by the contractor or other. Contact the District Office at (281) 371-5000 to schedule a pre-work meeting.
8. Work performed on adjacent right-of-way in addition to the construction of the underground pipeline. Approval of this permit does not authorize the use of the right-of-way for any purpose other than the construction of the underground pipeline. Work performed on adjacent right-of-way shall be performed by hand, and the contractor shall be responsible for any damage to the right-of-way. Any other work on the right-of-way shall be performed by the contractor and approved by the District Office. Any other work on the right-of-way shall be performed by the contractor and approved by the District Office.
9. All material taken from the right-of-way shall be disposed of in a manner approved by the District Office. Approval of the property owner shall be required prior to any removal or use of the right-of-way.
10. All material taken from the right-of-way shall be disposed of in a manner approved by the District Office.
11. Any removal of material from the right-of-way shall be performed in a manner approved by the District Office.
12. Work shall be performed in a manner approved by the District Office.
13. Work shall be performed in a manner approved by the District Office.
14. Work shall be performed in a manner approved by the District Office.
15. Work shall be performed in a manner approved by the District Office.
16. Work shall be performed in a manner approved by the District Office.

Revised 4/29/2010

REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/2/17

COSTANZA & ASSOCIATES ENGINEERING, INC.
TBPE FIRM REGISTRATION No. F-1437
4203 CENTER ST. DEER PARK, TX 77536 281-479-8100

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

APPROVAL LETTERS

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER | TRAFFIC & TRANSPORTATION
WASTEWATER | STORM WATER QUALITY
STORM | FACILITIES
STREET & BRIDGE

FILE NO: F003-1009

DRAWING SCALE: N.T.S.

SHEET No: 3 OF 42

FOR CITY OF HOUSTON USE ONLY

REGISTERED PROFESSIONAL ENGINEER
MARIO A. CASTANZA
58731

NORTH FORT BEND WATER AUTHORITY

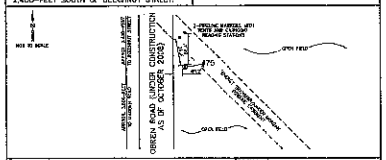
SEGMENT 2 CONTROL POINT 76 – SHEET 1

CONTROL POINT NUMBER 75 KEY MAP PAGE: 527–N	GRID COORDINATES Y:13,809,971.85	VERTICAL DATUM: NAVD–88
HORIZONTAL DATUM: NAD83		VERTICAL ADJUSTMENT: 2002 ADJ. (SEE VERTICAL NOTES)
HORIZONTAL ADJUSTMENT: (CORS 96 – EPOCH 2002)	SURFACE COORDINATES Y:13,810,898.73 X:3,020,608.15	POINT ESTABLISHED BY RTK.
MARKER: ALUMINUM CAP	SCALE FACTOR: 1.00013	POINTS DIRECTLY TIED:
STAMPING: "NORTH FORT BEND WATER AUTHORITY 75"	ELEVATION 94.15 FT.	19, 20 & 23 UPDATED JUNE, 2010

GEODETIC COORDINATES:
LATITUDE: N 29° 40' 41.93612"
LONGITUDE: W 95° 41' 14.72706"

DESCRIPTION: CONTROL POINT 75 A 5/8–INCH IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET 49.2–FEET EAST OF OBRIEN ROAD IN A PIPELINE EASEMENT APPROXIMATELY 2,400–FEET SOUTH OF BEECHNUT STREET.

VERTICAL NOTES: THIS SURVEY IS CONSTRAINED TO THE NGS PUBLISHED ELEVATION FOR THE NORTHEAST 2250 CORS ARP ADJUSTED BY NGS IN 2002 AND PUBLISHED AS PID AJ8805, EPOCH DATE 2002.



Glenn Fisher RPLS No. 4146
Brown & Gay Engineers, Inc.
10777 Westheimer, Suite 400
Houston, Texas 77042
Telephone: (281) 558–8700

NORTH FORT BEND WATER AUTHORITY

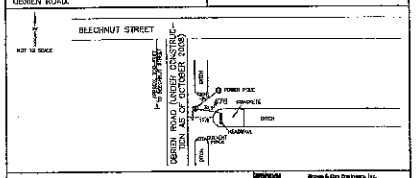
SEGMENT 2 CONTROL POINT 78 – SHEET 1

CONTROL POINT NUMBER 78 KEY MAP PAGE: 527–N	GRID COORDINATES Y:13,810,948.54 X:3,020,113.19	VERTICAL DATUM: NAVD–88
HORIZONTAL DATUM: NAD83		VERTICAL ADJUSTMENT: 2002 ADJ. (SEE VERTICAL NOTES)
HORIZONTAL ADJUSTMENT: (CORS 96 – EPOCH 2002)	SURFACE COORDINATES Y:13,812,744.97 X:3,020,505.80	POINT ESTABLISHED BY RTK.
MARKER: ALUMINUM CAP	SCALE FACTOR: 1.00013	POINTS DIRECTLY TIED:
STAMPING: "NORTH FORT BEND WATER AUTHORITY 76"	ELEVATION 92.92 FT.	19, 20 & 23 UPDATED JUNE, 2010

GEODETIC COORDINATES:
LATITUDE: N 29° 41' 00.52654"
LONGITUDE: W 95° 41' 15.28209"

DESCRIPTION: CONTROL POINT IS A 5/8–INCH IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET APPROXIMATELY 200–FEET SOUTH OF BEECHNUT STREET 17.3–FEET EAST OF OBRIEN ROAD.

VERTICAL NOTES: THIS SURVEY IS CONSTRAINED TO THE NGS PUBLISHED ELEVATION FOR THE NORTHEAST 2250 CORS ARP ADJUSTED BY NGS IN 2002 AND PUBLISHED AS PID AJ8805, EPOCH DATE 2002.



Glenn Fisher RPLS No. 4146
Brown & Gay Engineers, Inc.
10777 Westheimer, Suite 400
Houston, Texas 77042
Telephone: (281) 558–8700

NORTH FORT BEND WATER AUTHORITY

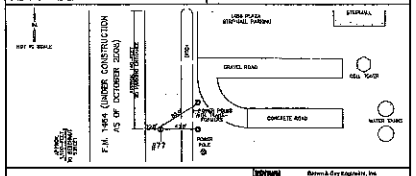
SEGMENT 2 CONTROL POINT 77 – SHEET 1

CONTROL POINT NUMBER 77 KEY MAP PAGE: 527–J	GRID COORDINATES Y:13,812,573.17 X:3,018,886.39	VERTICAL DATUM: NAVD–88
HORIZONTAL DATUM: NAD83		VERTICAL ADJUSTMENT: 2002 ADJ. (SEE VERTICAL NOTES)
HORIZONTAL ADJUSTMENT: (CORS 96 – EPOCH 2002)	SURFACE COORDINATES Y:13,814,468.62 X:3,020,388.99	POINT ESTABLISHED BY RTK.
MARKER: ALUMINUM CAP	SCALE FACTOR: 1.00013	POINTS DIRECTLY TIED:
STAMPING: "NORTH FORT BEND WATER AUTHORITY 77"	ELEVATION 92.22 FT.	19, 20 & 23 UPDATED JUNE, 2010

GEODETIC COORDINATES:
LATITUDE: N 29° 41' 17.61977"
LONGITUDE: W 95° 41' 16.03241"

DESCRIPTION: CONTROL POINT IS A 5/8–INCH IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET APPROXIMATELY 1,400–FEET NORTH OF BEECHNUT STREET ON THE EAST SIDE OF F.M. 1464, JUST SOUTH OF THE 1464 PLAZA STRIPMALL.

VERTICAL NOTES: THIS SURVEY IS CONSTRAINED TO THE NGS PUBLISHED ELEVATION FOR THE NORTHEAST 2250 CORS ARP ADJUSTED BY NGS IN 2002 AND PUBLISHED AS PID AJ8805, EPOCH DATE 2002.



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Houston, Texas 77042
Telephone: (281) 558–8700

NORTH FORT BEND WATER AUTHORITY

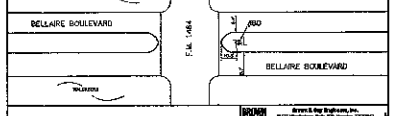
SEGMENT 2 CONTROL POINT 80 – SHEET 1

CONTROL POINT NUMBER 80 KEY MAP PAGE: 527–E	GRID COORDINATES Y:13,817,313.07 X:3,019,634.76	VERTICAL DATUM: NAVD–88
HORIZONTAL DATUM: NAD83		VERTICAL ADJUSTMENT: 2002 ADJ. (SEE VERTICAL NOTES)
HORIZONTAL ADJUSTMENT: (CORS 96 – EPOCH 2002)	SURFACE COORDINATES Y:13,819,109.32 X:3,020,227.33	POINT ESTABLISHED BY RTK.
MARKER: ALUMINUM CAP	SCALE FACTOR: 1.00013	POINTS DIRECTLY TIED:
STAMPING: "NORTH FORT BEND WATER AUTHORITY 80"	ELEVATION 93.47 FT.	19, 20 & 23

GEODETIC COORDINATES:
LATITUDE: N 29° 42' 03.98281"
LONGITUDE: W 95° 41' 18.37499"

DESCRIPTION: CONTROL POINT IS A 5/8–INCH IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET IN THE MEDIAN EASY OF THE INTERSECTION OF BELLAIRE BOULEVARD AND F.M. 1464 10.6–FEET EAST OF THE END OF THE MEDIAN.

VERTICAL NOTES: THIS SURVEY IS CONSTRAINED TO THE NGS PUBLISHED ELEVATION FOR THE NORTHEAST 2250 CORS ARP ADJUSTED BY NGS IN 2002 AND PUBLISHED AS PID AJ8805, EPOCH DATE 2002.



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Telephone: (281) 558–8700

REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES ENGINEERING, INC.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

CONTROL POINT REFERENCE SHEET

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & TRANSPORTATION
WASTEWATER — STORM WATER QUALITY
ENGINEERING — FACILITIES
STREET & BRIDGE

FILE NO: F003–1009

DRAWING SCALE: N.T.S.

SHEET No: 4 OF 42

FOR CITY OF HOUSTON USE ONLY

68731

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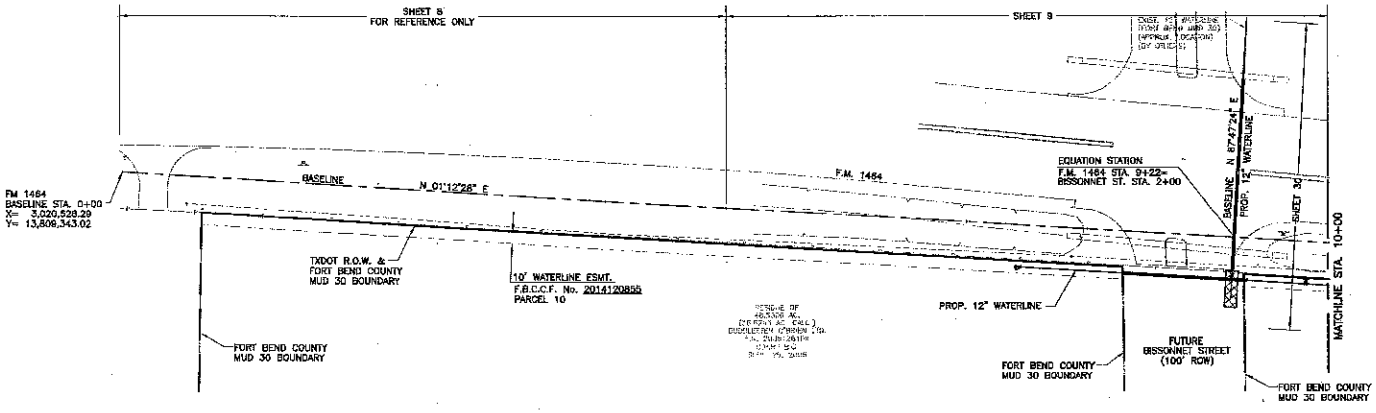
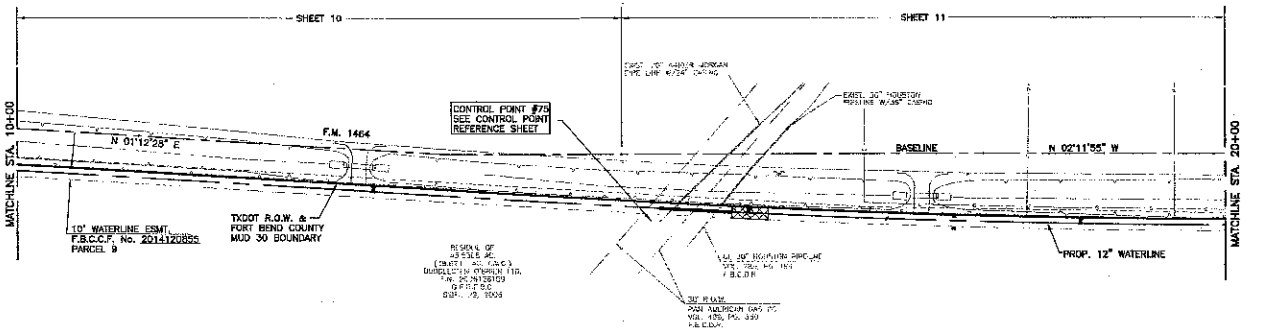
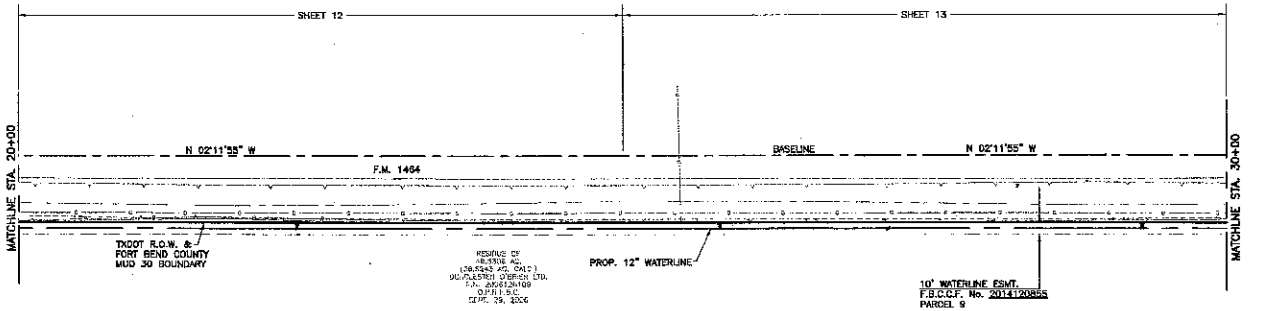






0 50 100 150

BENCHMARK INFORMATION:

CONTROL POINT #75
⅝" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET 46.2-FEET EAST OF OBRIEN ROAD IN A PIPELINE EASEMENT APPROX. 2,400-FEET SOUTH OF BEECHNUT STREET. ELEV. 94.15 NAVD-88, 2002 ADJ.

CONTROL POINT #76
⅝" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET APPROX. 200' SOUTH OF BEECHNUT STREET & 17.9' EAST OF OBRIEN ROAD. ELEV. 92.92 NAVD-88, 2002 ADJ.

CONTROL POINT #77
⅝" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET APPROX. 1,100' NORTH OF BEECHNUT STREET ON THE EAST SIDE OF FM 1464, JUST SOUTH OF THE 1464 PLAZA STRIP MALL. ELEV. 92.22 NAVD-88, 2002 ADJ.

CONTROL POINT #80
⅝" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET IN THE MEDIAN EAST OF THE INTERSECTION OF BELLAIRE BLVD. AND F.M. 1464 10.8-FEET EAST OF THE END OF THE MEDIAN. ELEV. 92.22 NAVD-88, 2002 ADJ.

UTILITY NOTES

ALL ATTEMPTS HAVE BEEN MADE TO ACCURATELY SHOW ALL EXISTING UNDERGROUND UTILITIES AND PIPELINES. HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THE UTILITY AND PIPELINES PHYSICALLY LOCATED IN THE FIELD PRIOR TO CONSTRUCTION. ALL LIABILITY FOR THE UTILITIES AND PIPELINES ARE SOLELY THE CONTRACTOR'S WHETHER SHOWN ON THE PLANS OR NOT.

CAUTION: UNDERGROUND GAS FACILITIES
LOCATION OF GAS LINES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 713-223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK AND AGREE TO BE FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATED AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING:
OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT CONTRACTOR SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. CONTRACTOR AND OWNERS ARE LEGALLY RESPONSIBLE FOR SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY.

REVISIONS

MARKER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

JA COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PROJECT LAYOUT
STA. 0+00 TO STA. 30+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER | STREETS & TRANSPORTATION
WASTEWATER | STORM WATER QUALITY
DRAINAGE | FACILITIES
STREET & BRIDGE

FILE NO: F003-1009

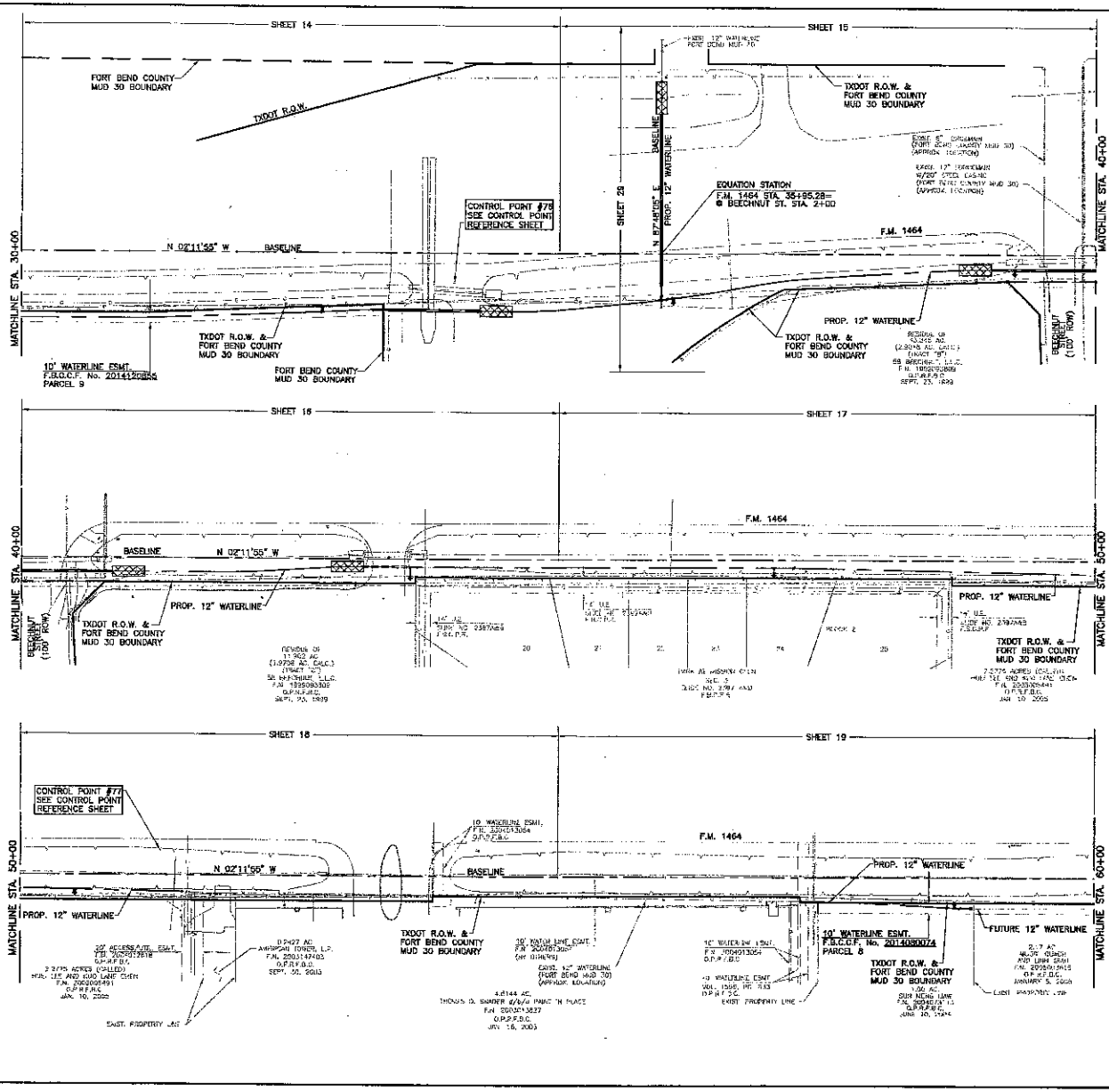
DRAWING SCALE 1"=50'

SHEET No: 5 OF 42

FOR CITY OF HOUSTON USE ONLY

58431

P:\Active\F003\1009\Plans PHASE 1\Layouts\05 Project Layout1.dwg ~ 7/18/2017 12:23:09 PM ~ Maritza F. Rodriguez



0 50 100 150

BENCHMARK INFORMATION:

CONTROL POINT #75
3" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET 49.2-FEET EAST OF OBRIEN ROAD IN A PIPELINE EASEMENT APPROX. 2,400-FEET SOUTH OF BEECHNUT STREET. ELEV. 94.15 NAVD-88, 2002 ADJ.

CONTROL POINT #76
3" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET APPROX. 200' SOUTH OF BEECHNUT STREET & 17.9' EAST OF OBRIEN ROAD. ELEV. 92.92 NAVD-88, 2002 ADJ.

CONTROL POINT #77
3" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET APPROX. 1,100' NORTH OF BEECHNUT STREET ON THE EAST SIDE OF FM 1464, JUST SOUTH OF THE 1464 PLAZA STRIP MALL. ELEV. 92.22 NAVD-88, 2002 ADJ.

CONTROL POINT #80
3" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET IN THE MEDIAN EAST OF THE INTERSECTION OF BELLAIRE BLVD. AND F.M. 1464 10.8-FEET EAST OF THE END OF THE MEDIAN. ELEV. 92.22 NAVD-88, 2002 ADJ.

UTILITY NOTES

ALL ATTEMPTS HAVE BEEN MADE TO ACCURATELY SHOW ALL EXISTING UNDERGROUND UTILITIES AND PIPELINES. HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THE UTILITY AND PIPELINES PHYSICALLY LOCATED IN THE FIELD PRIOR TO CONSTRUCTION. ALL LIABILITY FOR THE UTILITIES AND PIPELINES ARE SOLELY THE CONTRACTOR'S WHETHER SHOWN ON THE PLANS OR NOT.

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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES
CONSULTING ENGINEERS, INC.
TBPE FIRM REGISTRATION NO. F-1795
1400 WEST 34TH STREET, HOUSTON, TEXAS 77018 713-868-6488

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PROJECT LAYOUT
STA. 30+00 TO STA.60+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & TRANSPORTATION
WASTEWATER — STORM WATER QUALITY
STORM — FACILITIES
CONTRACT & WORK

FILE NO: F003-1009

DRAWING SCALE: 1"=50'

SHEET No: 6 OF 42

FOR CITY OF HOUSTON USE ONLY

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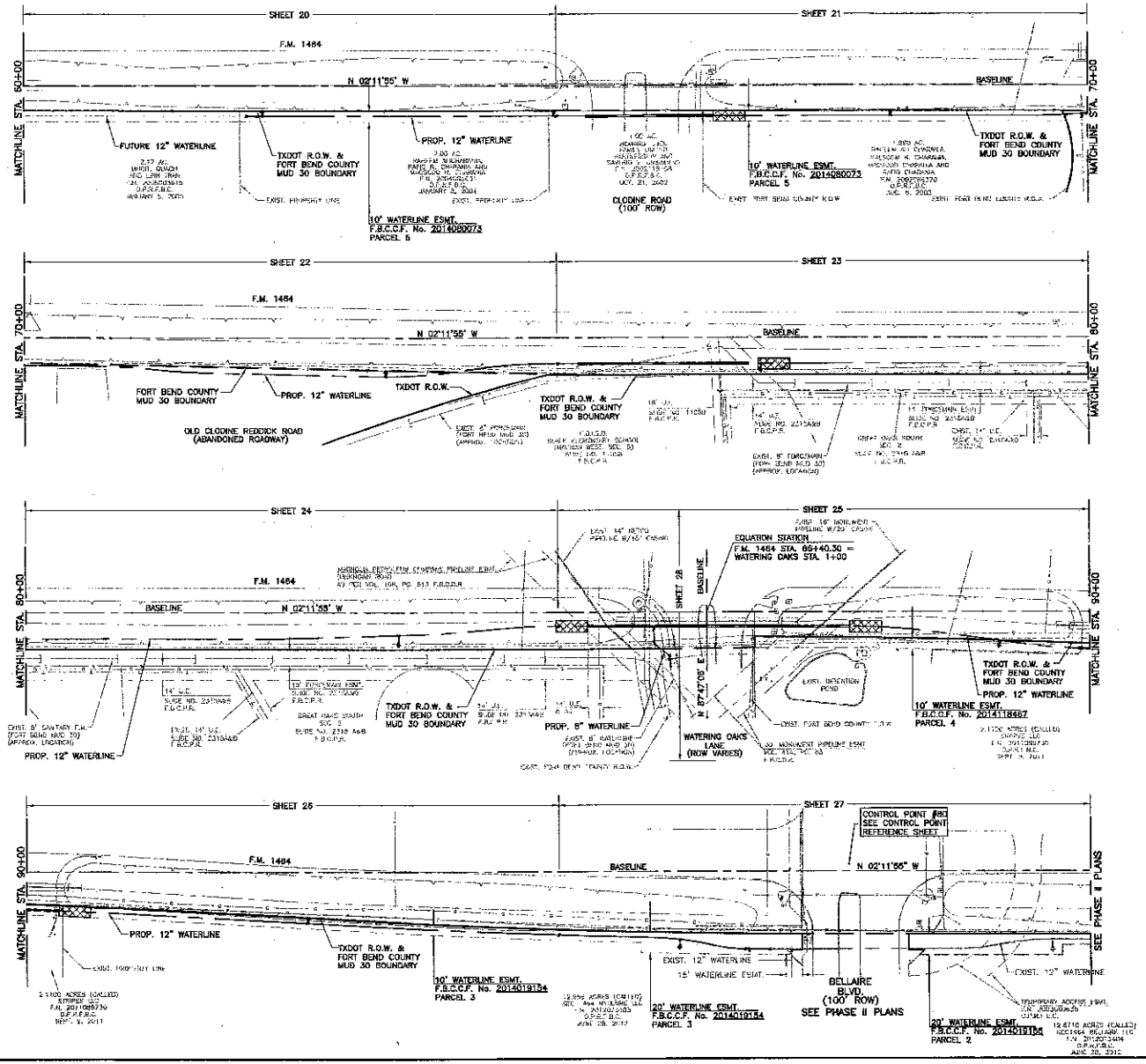

0 50 100 150

BENCHMARK INFORMATION:

CONTROL POINT #75
5/8" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET 49.2-FEET EAST OF OBRIEN ROAD IN A PIPELINE EASEMENT APPROX. 2,400-FEET SOUTH OF BEECHNUT STREET. ELEV. 94.15 NAVD-88, 2002 ADJ.

CONTROL POINT #76
5/8" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET APPROX. 200' SOUTH OF BEECHNUT STREET & 17.9' EAST OF OBRIEN ROAD. ELEV. 92.92 NAVD-88, 2002 ADJ.

CONTROL POINT #77
5/8" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET APPROX. 1,100' NORTH OF BEECHNUT STREET ON THE EAST SIDE OF FM 1464, JUST SOUTH OF THE 1464 PLAZA STRIP MALL. ELEV. 92.22 NAVD-88, 2002 ADJ.

CONTROL POINT #80
5/8" IRON ROD WITH A NORTH FORT BEND WATER AUTHORITY ALUMINUM CAP SET IN THE MEDIAN EAST OF THE INTERSECTION OF BELLAIRE BLVD. AND F.M. 1464 10.9-FEET EAST OF THE END OF THE MEDIAN. ELEV. 92.22 NAVD-88, 2002 ADJ.

UTILITY NOTES:

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REVISIONS			
NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

JACOSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PROJECT LAYOUT
STA. 60+00 TO 100+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE: 9/7/17 — TRAFFIC & TRANSPORTATION
DATE: 12-1-17 — STORM WATER QUALITY
DATE: 12-1-17 — FACILITIES
DIRECT & BRIDGE

FILE NO: F003-1009

DRAWING SCALE: 1"=50'

SHEET No: 7 OF 42

FOR CITY OF HOUSTON USE ONLY

8931

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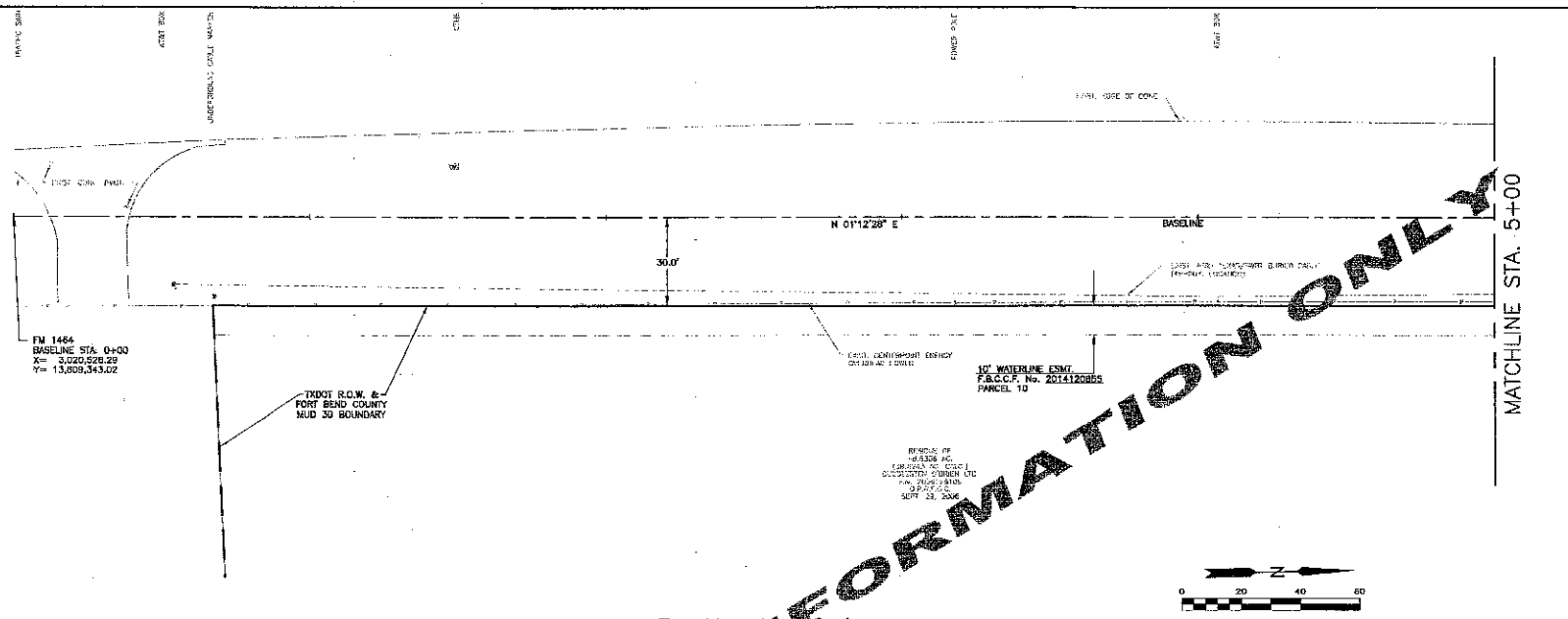
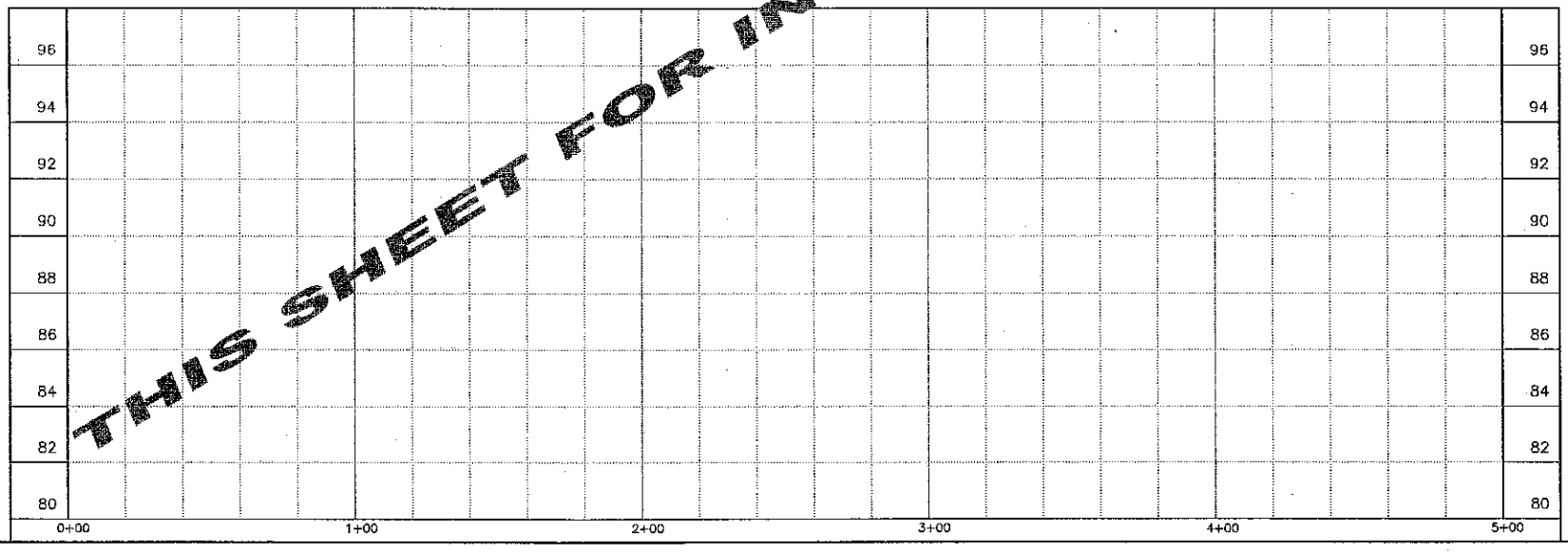


F . M. 1464



THIS SHEET FOR INFORMATION ONLY

UTILITY NOTES

ALL ATTEMPTS HAVE BEEN MADE TO ACCURATELY SHOW ALL EXISTING UNDERGROUND UTILITIES AND PIPELINES. HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THE UTILITY AND PIPELINES PHYSICALLY LOCATED IN THE FIELD PRIOR TO CONSTRUCTION. ALL LIABILITY FOR THE UTILITIES AND PIPELINES ARE SOLELY THE CONTRACTOR'S WHETHER SHOWN ON THE PLANS OR NOT.

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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: _____
DEVELOPMENT COORDINATOR

DATE: 9/7/17

J.A. COSTANZA & ASSOCIATES ENGINEERING, INC.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 0+00 TO STA. 5+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — DRAINAGE & TRANSPORTATION
WASTEWATER — STORM WATER QUALITY
STORM — PARKS
STREET & BRIDGE

FILE NO: F003-1009

DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 8 OF 42

FOR CITY OF HOUSTON USE ONLY

56731

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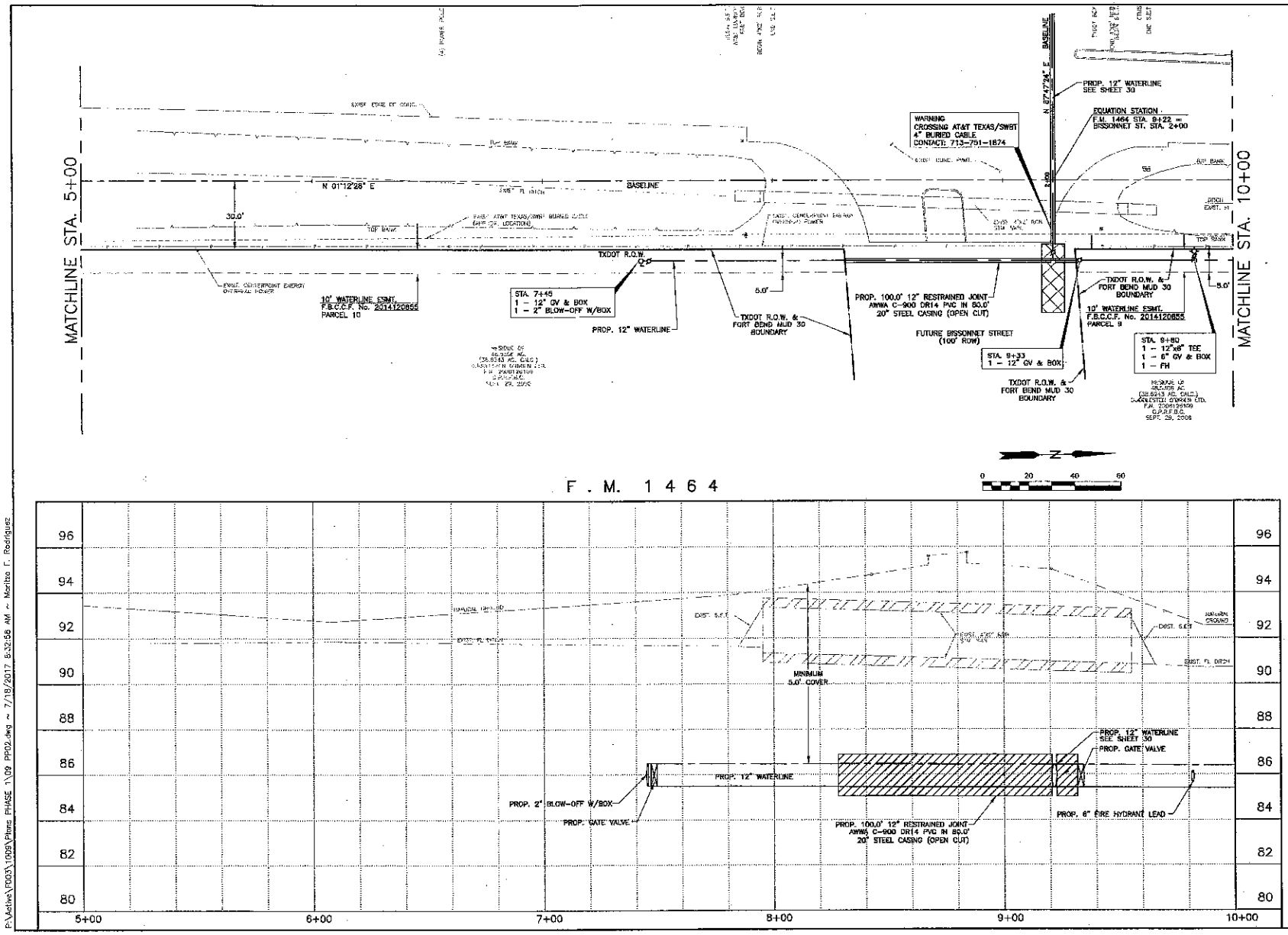

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UTILITY NOTES

ALL ATTEMPTS HAVE BEEN MADE TO ACCURATELY SHOW ALL EXISTING UNDERGROUND UTILITIES AND PIPELINES. HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THE UTILITY AND PIPELINES PHYSICALLY LOCATED IN THE FIELD PRIOR TO CONSTRUCTION. ALL LIABILITY FOR THE UTILITIES AND PIPELINES ARE SOLELY THE CONTRACTOR'S WHETHER SHOWN ON THE PLANS OR NOT.

CAUTION: UNDERGROUND GAS FACILITIES LOCATION OF GAS LINES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 713-225-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK AND AGREE TO BE FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATED AND PRESERVE THESE UNDERGROUND FACILITIES.

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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 5+00 TO STA. 10+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DIRECTOR & TRANSPORTATION
DIRECTOR WATER QUALITY
ENGINEER
DIRECTOR & OFFICE

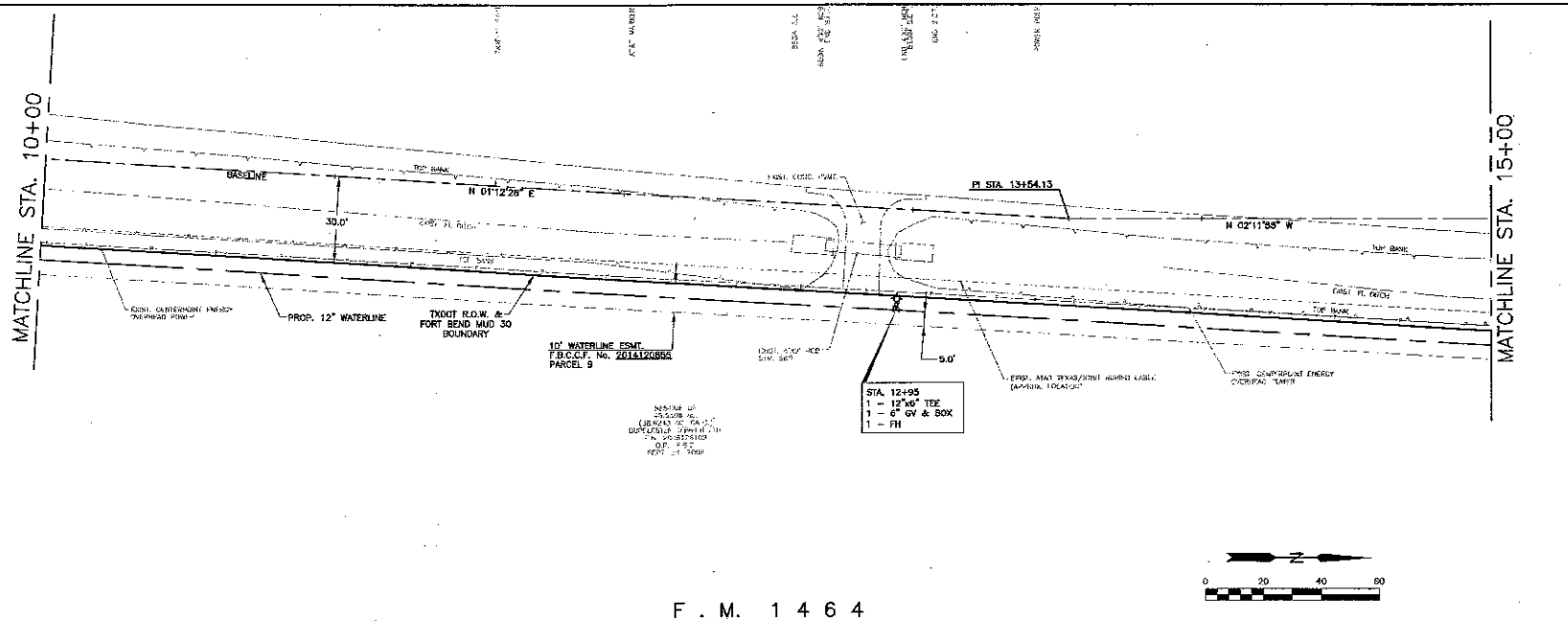
FILE NO: F003-1009

DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 9 OF 42

FOR CITY OF HOUSTON USE ONLY

56731



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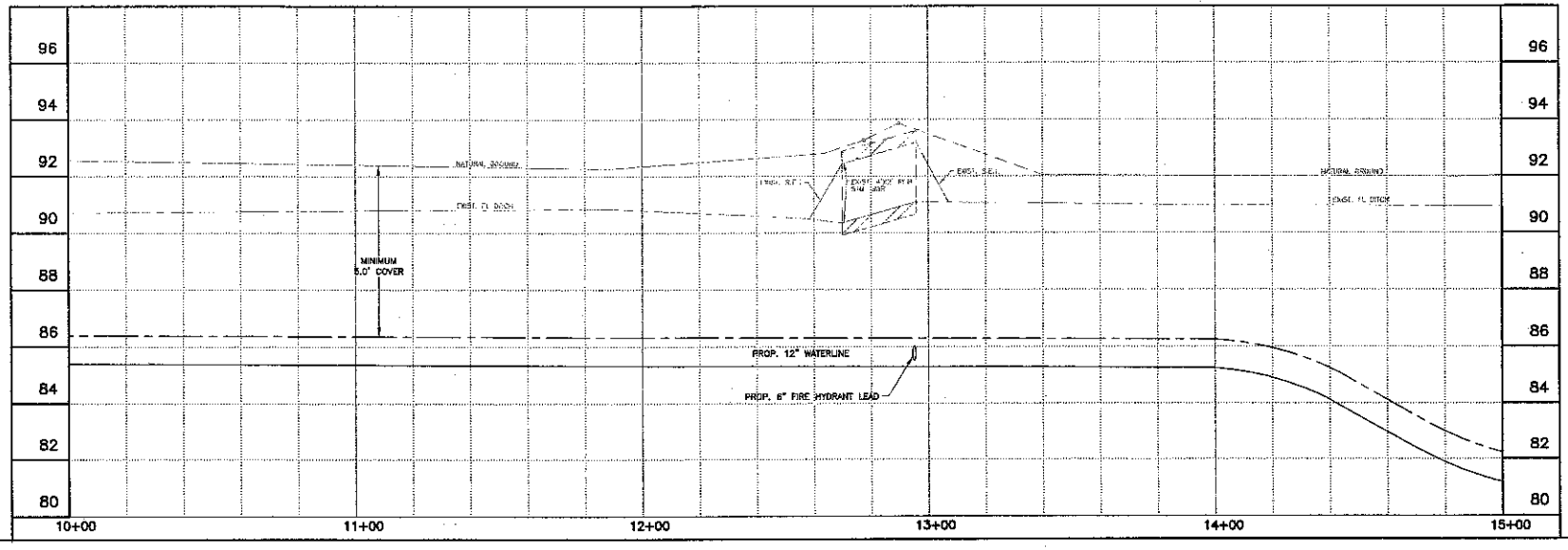

UTILITY NOTES

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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 10+00 TO STA. 15+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER: SANITARY & TRANSPORTATION
WASTEWATER: STORM WATER QUALITY
WATER FACILITIES
9-7-17
CHIEF & ENGINEER

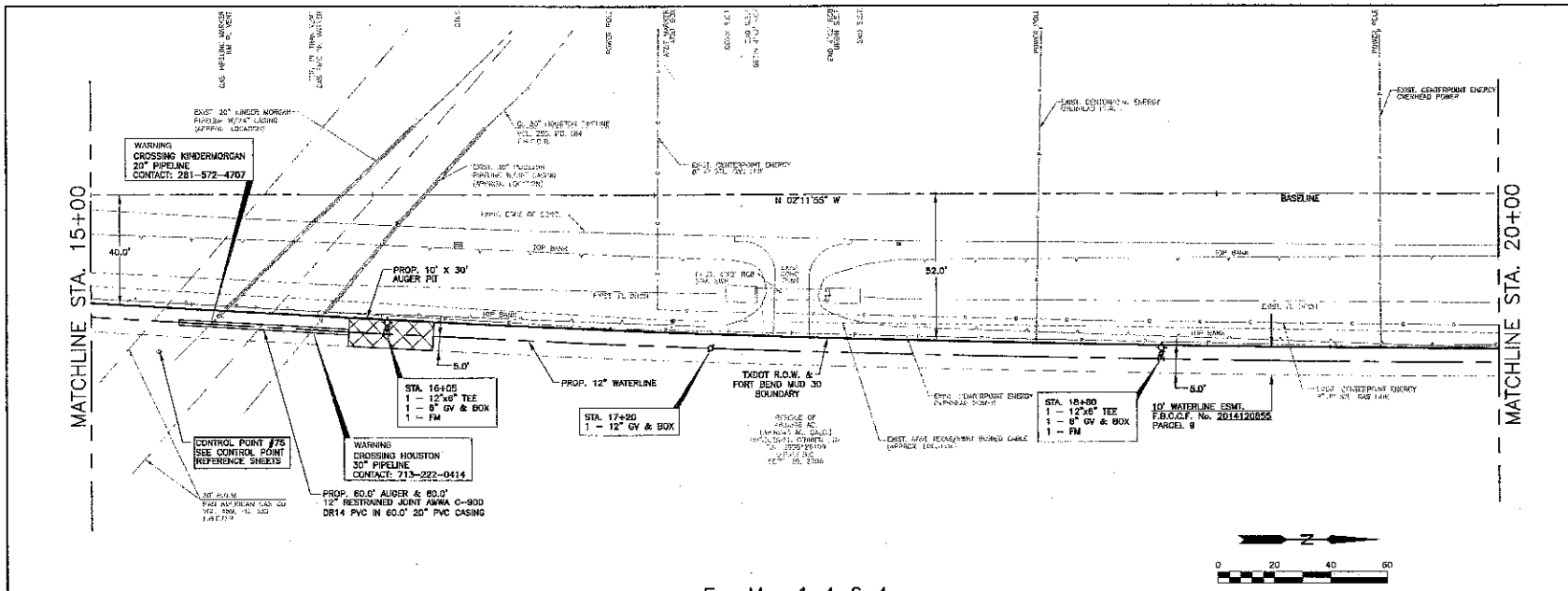
FILE NO: F003-1009

DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

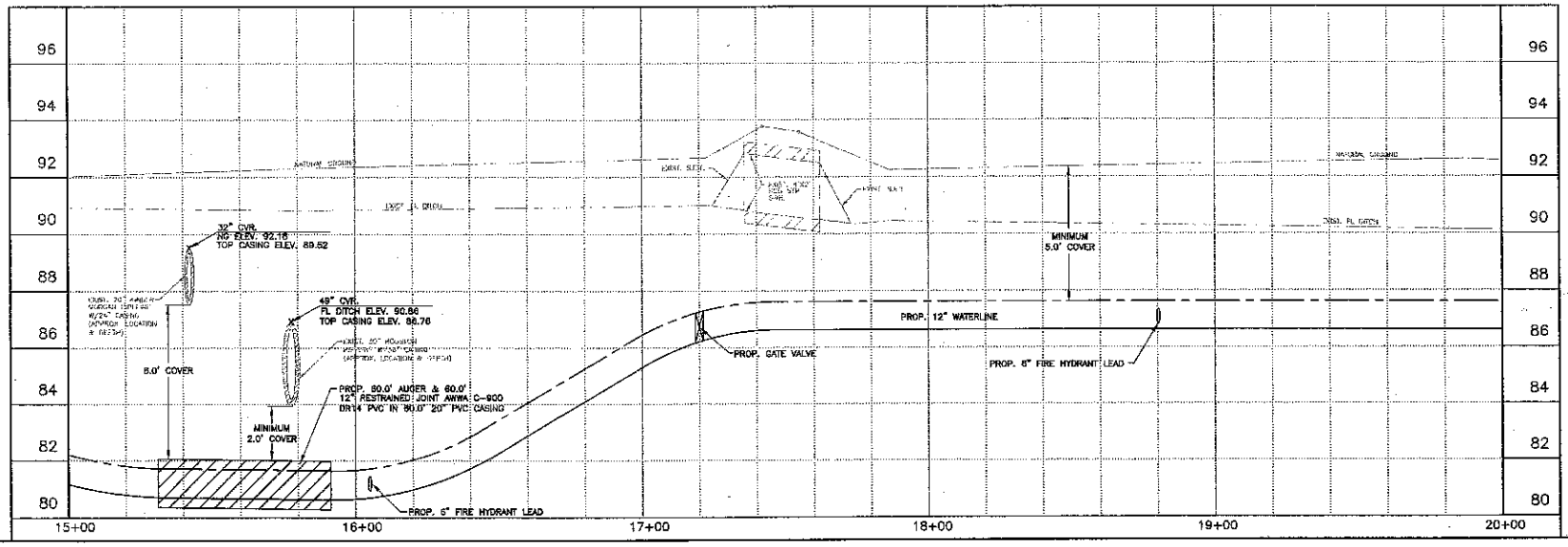
SHEET No: 10 OF 42

FOR CITY OF HOUSTON USE ONLY

P:\Active\F003\1009\Plans PHASE 1\10 PF03.dwg ~ 7/16/2017 8:32:36 AM ~ Maritza F. Rodriguez



F. M. 1464



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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 15+00 TO STA. 20+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER: _____ TRAFFIC & TRANSPORTATION
WASTEWATER: 9-13-17 _____ STORM WATER QUALITY
STORM: 9-13-17 _____ FACILITIES
STREET & BRIDGE: _____

FILE NO: F003-1009

DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 11 OF 42

FOR CITY OF HOUSTON USE ONLY

56'31

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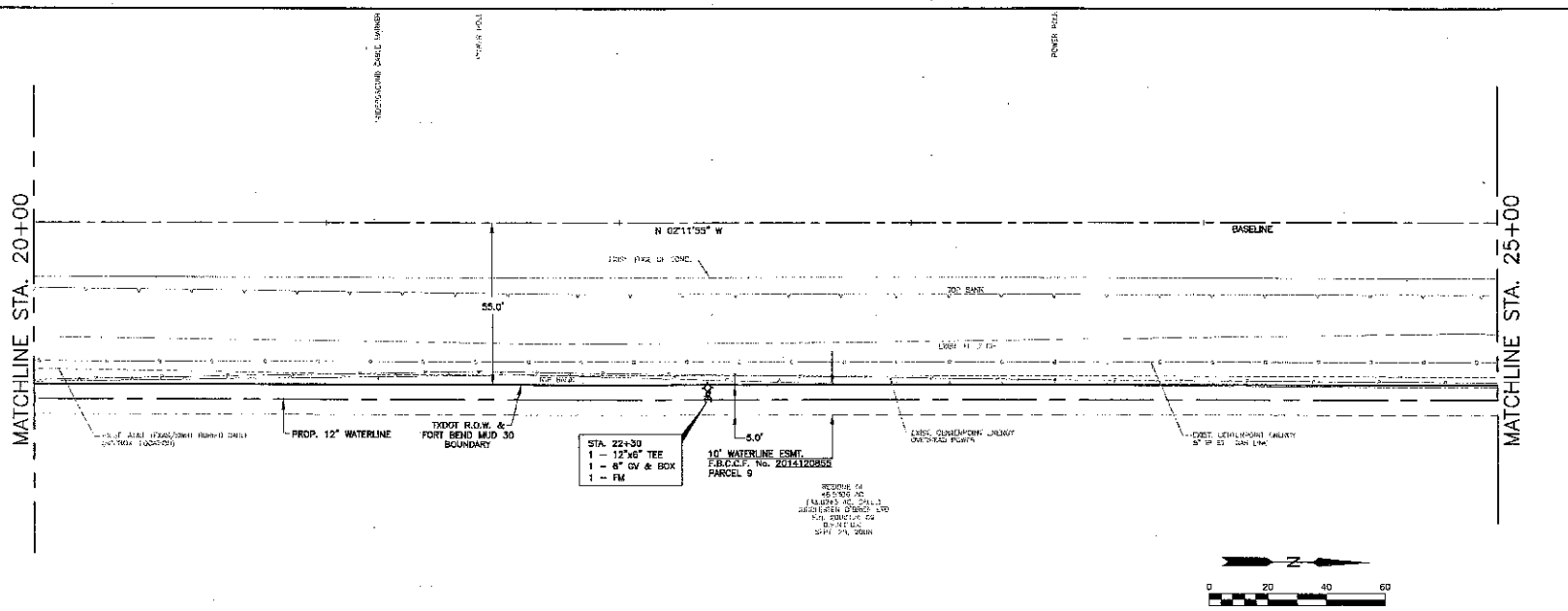

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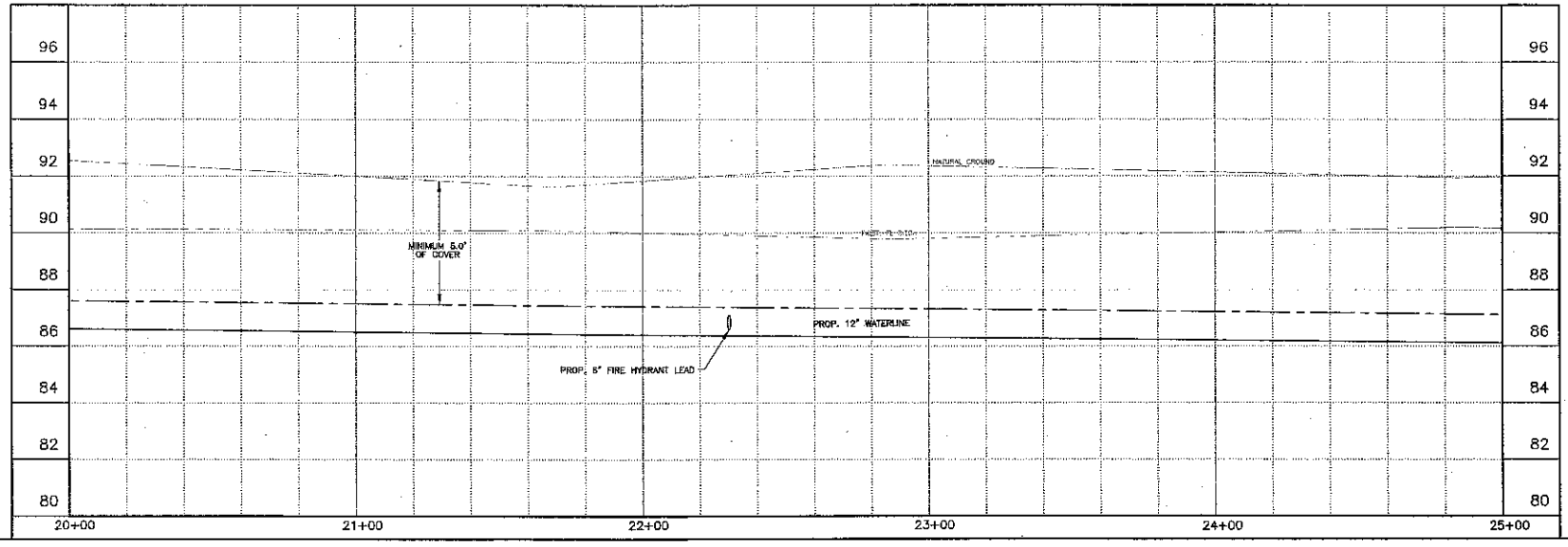

P:\Active\F003\1009\Plans PHASE 1\12 PP05.dwg - 7/18/2017 8:31:41 AM - Maritza T. Rodriguez

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REVISIONS

REVISION #	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES
PROFESSIONAL ENGINEERS

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 20+00 TO STA. 25+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — STRUCTURE & TRANSPORTATION
WASTEWATER — SURFACE WATER QUALITY
STORM WATER — TRAFFIC/SIGNALS
STREET & BRIDGE

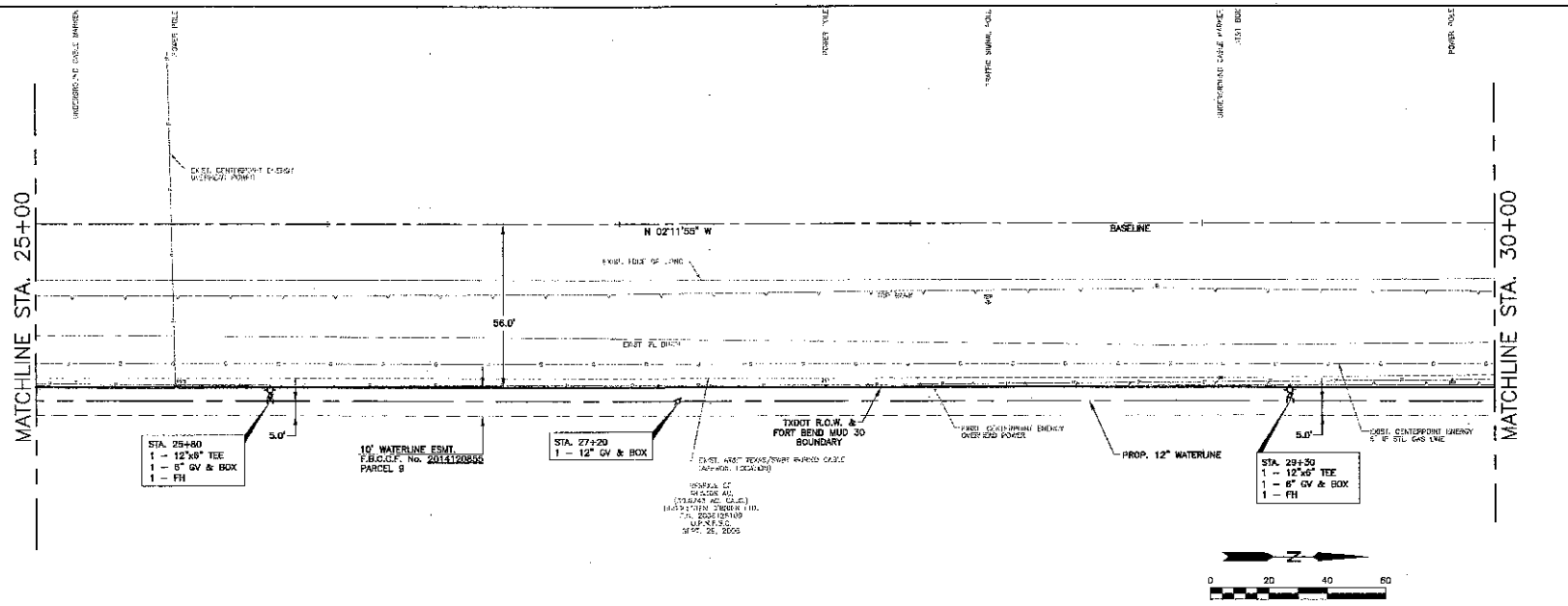
FILE NO: F003-1009

DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

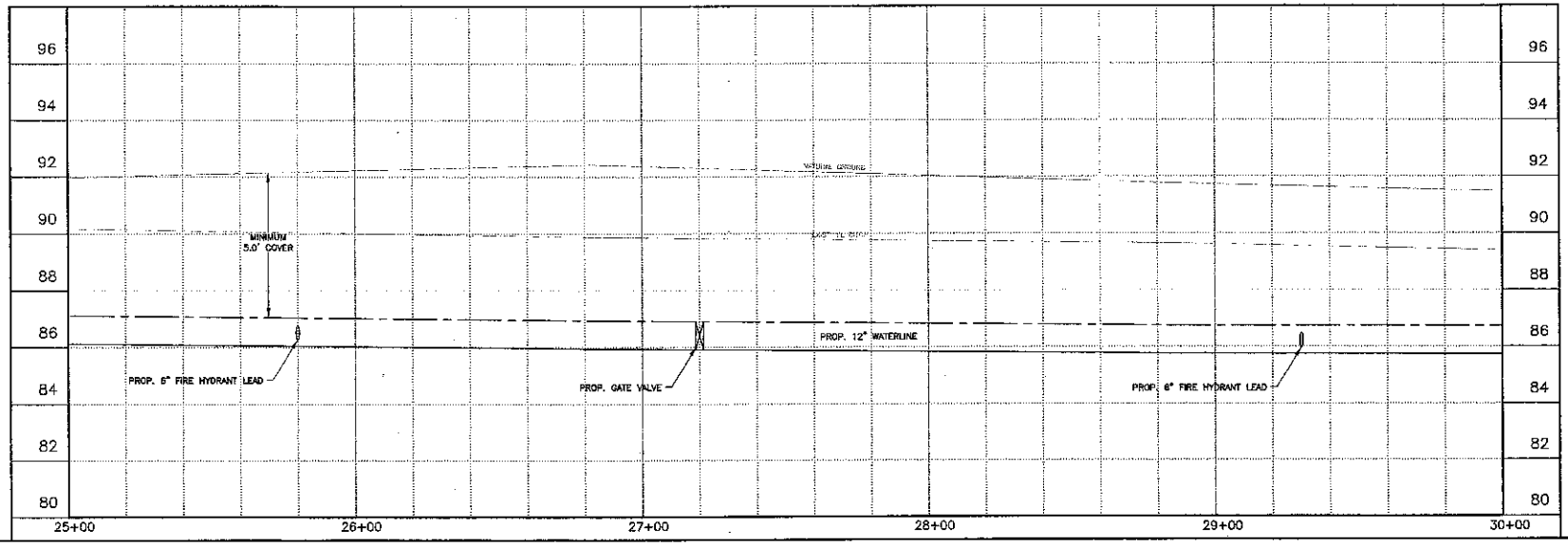
SHEET No: 12 OF 42

FOR CITY OF HOUSTON USE ONLY

58731



F. M. 1464



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REVISIONS

REVISION	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/2/17

J. COSTANZA & ASSOCIATES ENGINEERING, INC.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 25+00 TO STA. 30+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & TRANSPORTATION
WASTEWATER — WATER QUALITY
STORM — 9-7-17 — DRAINAGE
STREET & BRIDGE

FILE NO: FD03-1009

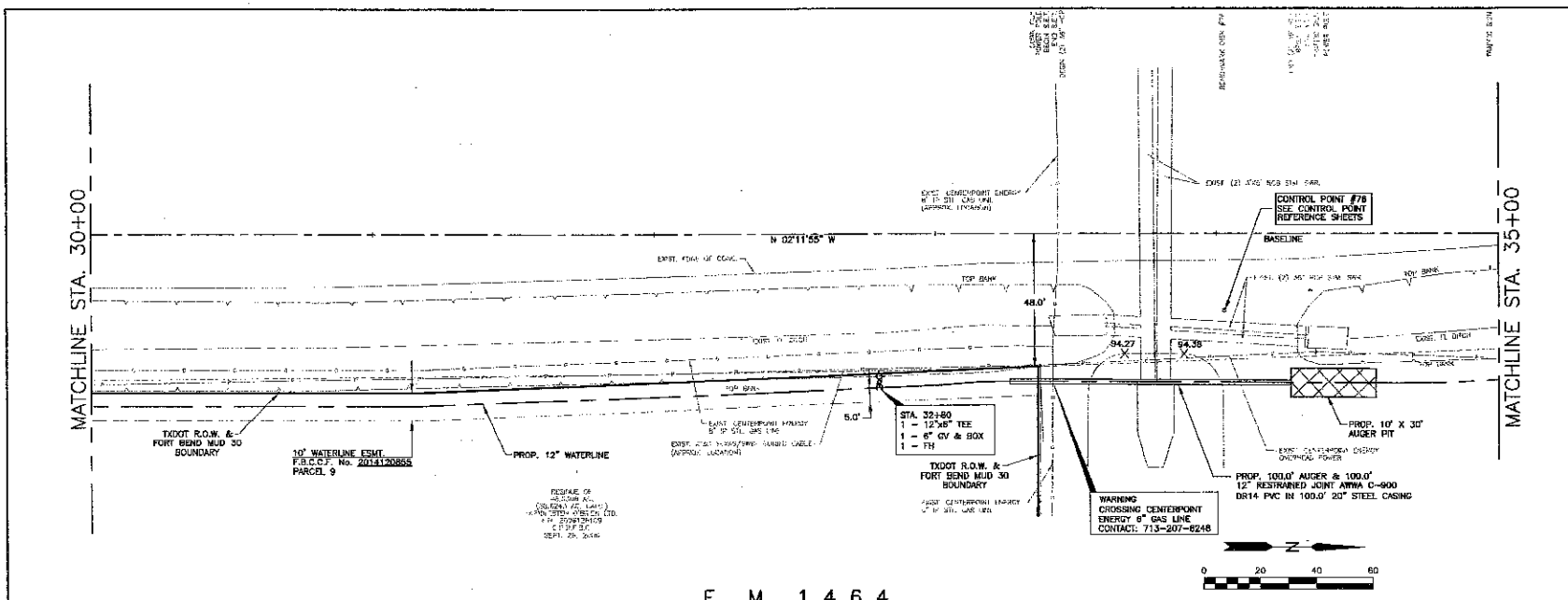
DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 13 OF 42

FOR CITY OF HOUSTON USE ONLY

58791

P:\Active\FD03\1009\Plans PHASE 1\13 PP06.dwg ~ 7/18/2017 8:31:31 AM ~ Maritza F. Rodriguez



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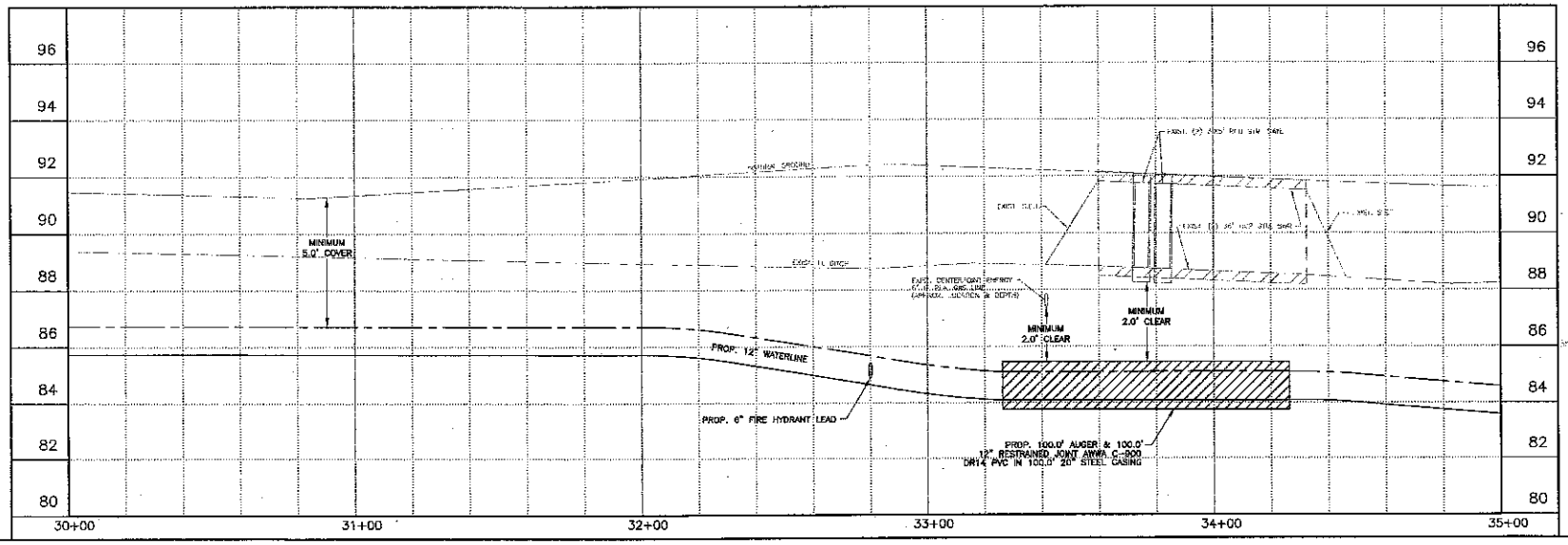

P:\Active\F003\1009\Plans PHASE 1\14 PP07.dwg ~ 7/18/2017 8:31:21 AM ~ Maritza F. Rodriguez

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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES
ENGINEERING, INC.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 30+00 TO STA. 35+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER: _____ TRAFFIC & TRANSPORTATION
WASTEWATER: 9-3-17 STORM WATER QUALITY
STORM: 9-5-17 PARKLINES
STREET & DRAINAGE:

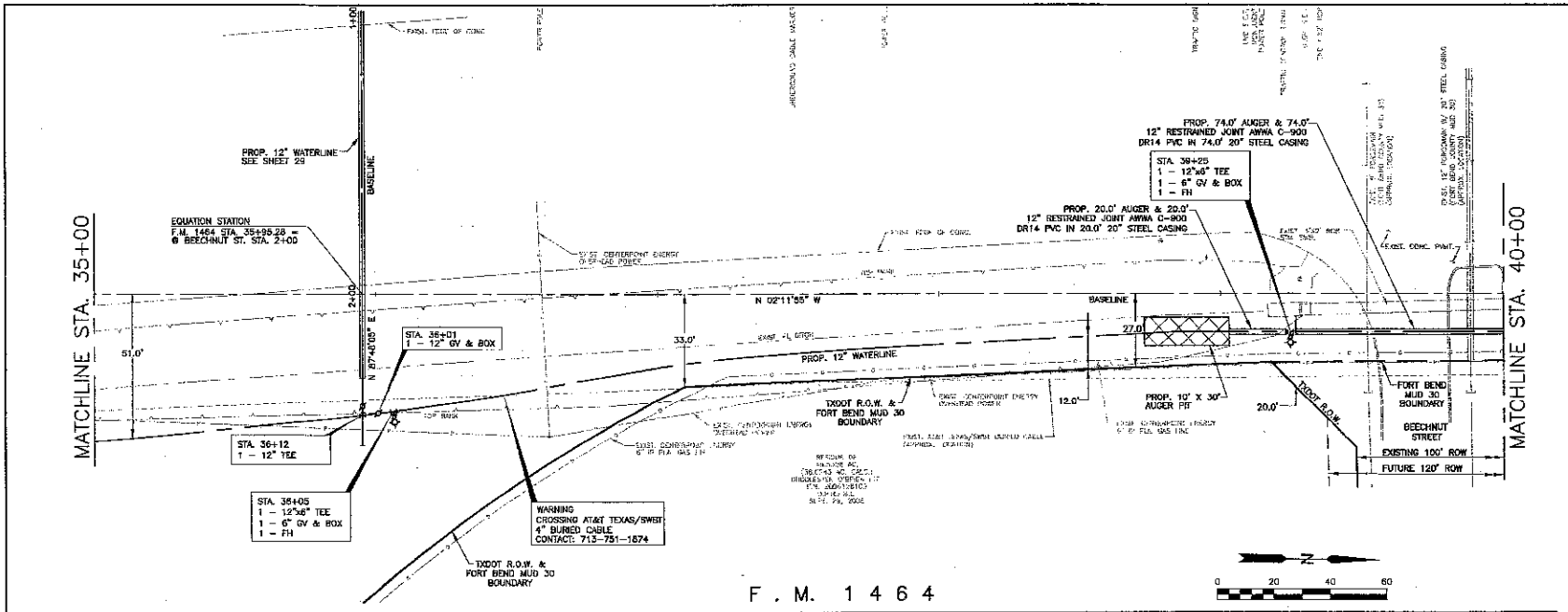
FILE NO: F003-1009

DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 14 OF 42

FOR CITY OF HOUSTON USE ONLY

68731



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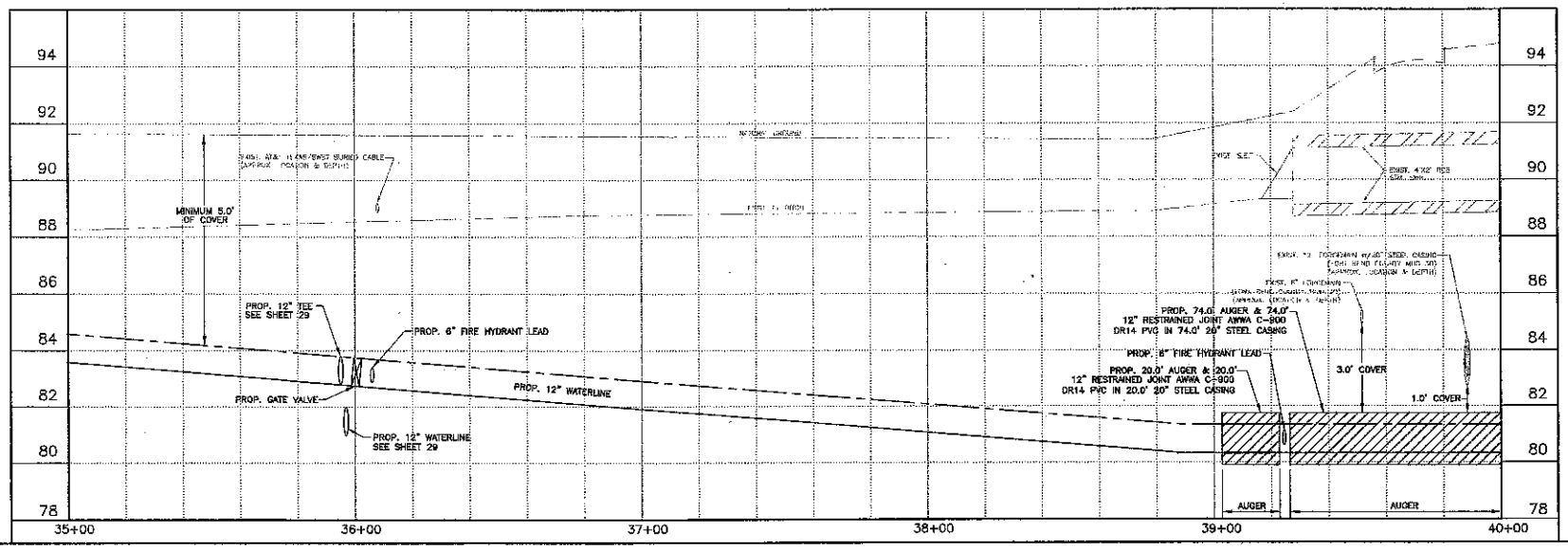

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REVISIONS

JOB NO.	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 1/7/12

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 35+00 TO STA. 40+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & ENVIRONMENTAL
WASTEWATER — 2-3-17 — WATER QUALITY
STORM WATER — 1-5-17 — FACILITIES
STREET & BRIDGE

FILE NO: F003-1009

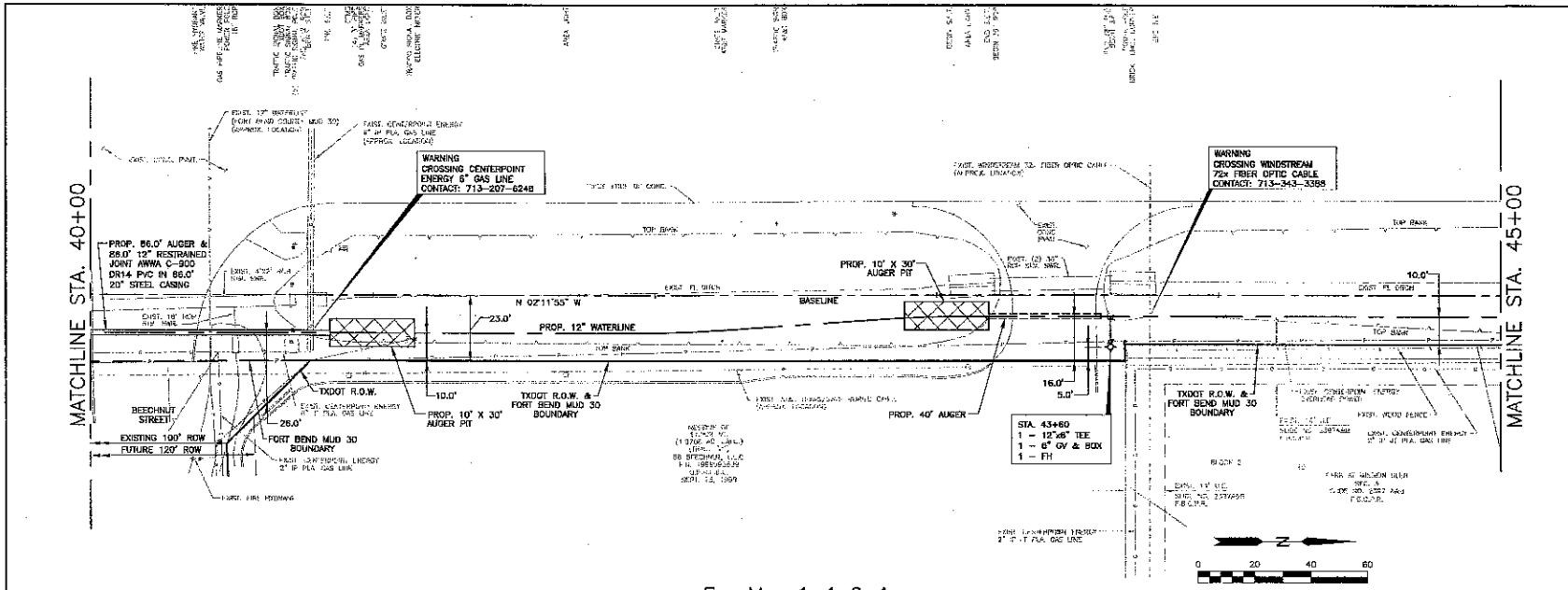
DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 15 OF 42

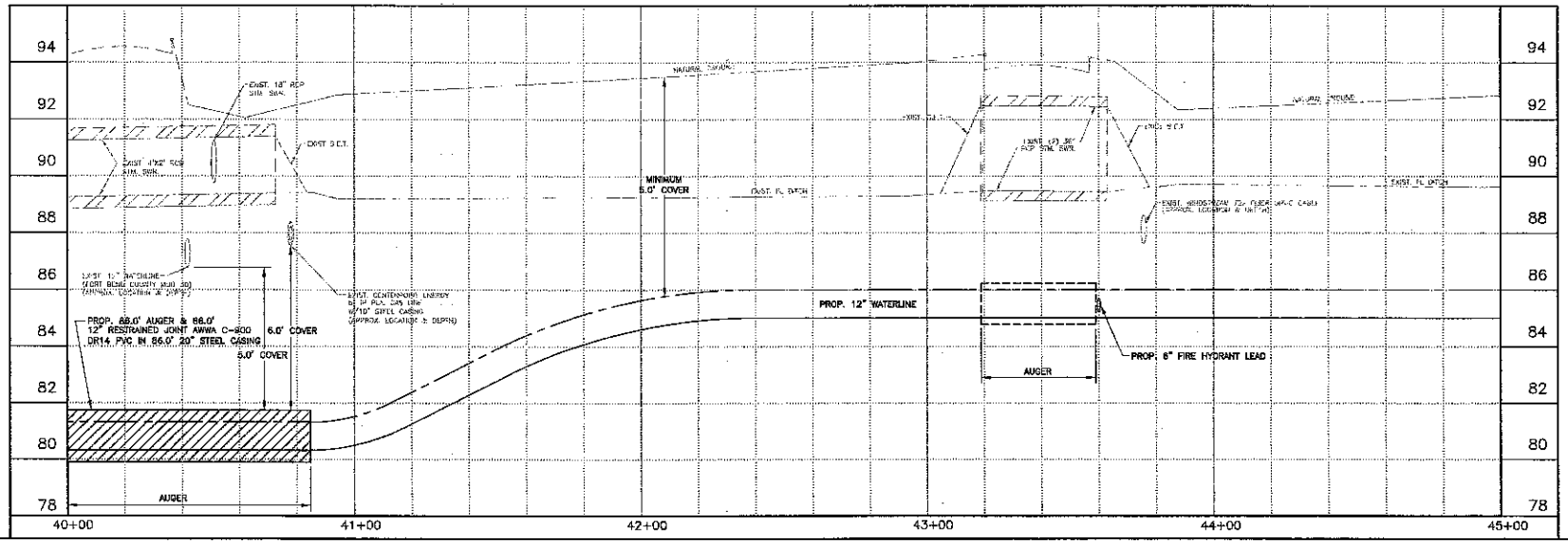
FOR CITY OF HOUSTON USE ONLY

58731

P:\Active\F003\1009\Plans PHASE 1\15 PROF.dwg ~ 8/2/2017 11:22:32 AM ~ Maritza F. Rodriguez



F. M. 1464



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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

JACOSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 40+00 TO STA. 45+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

MAYOR		
DIRECTOR	11-3-17	DIVISION WATER QUALITY
DIRECTOR	11-3-17	DIVISION
STREET & BRIDGE		

FILE NO: F003-1009

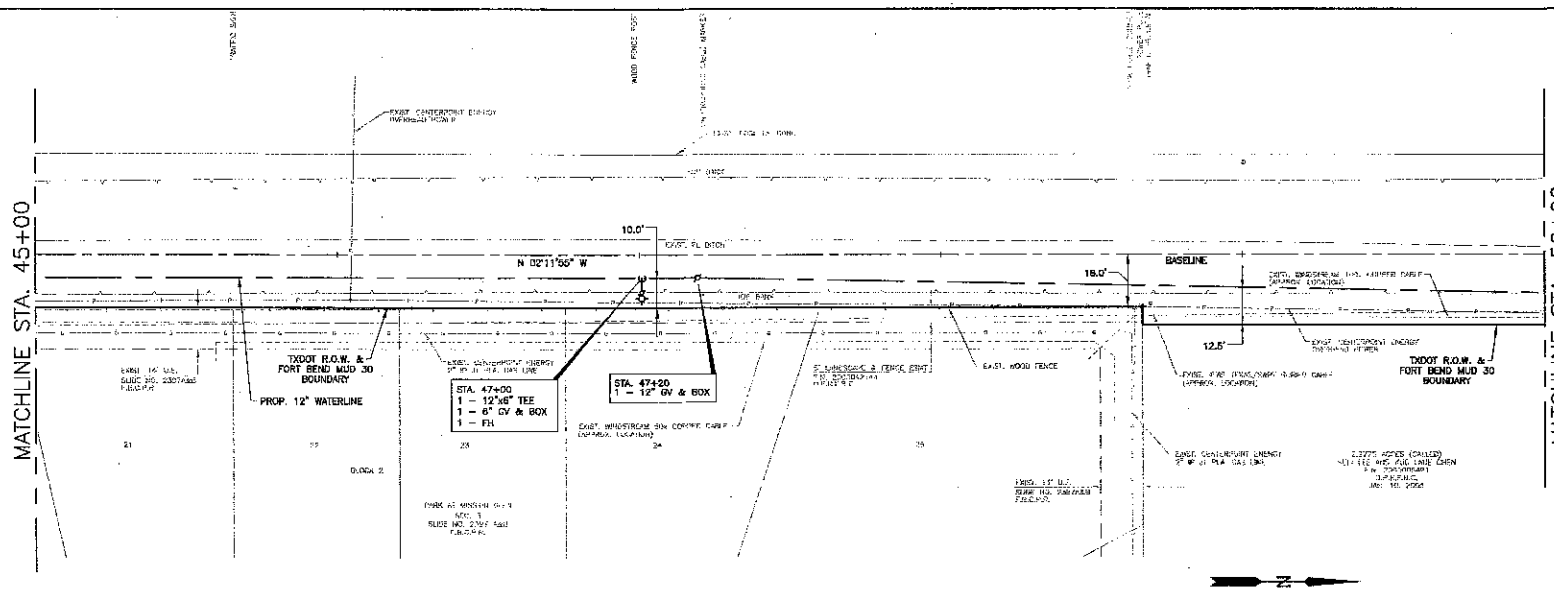
DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 18 OF 42

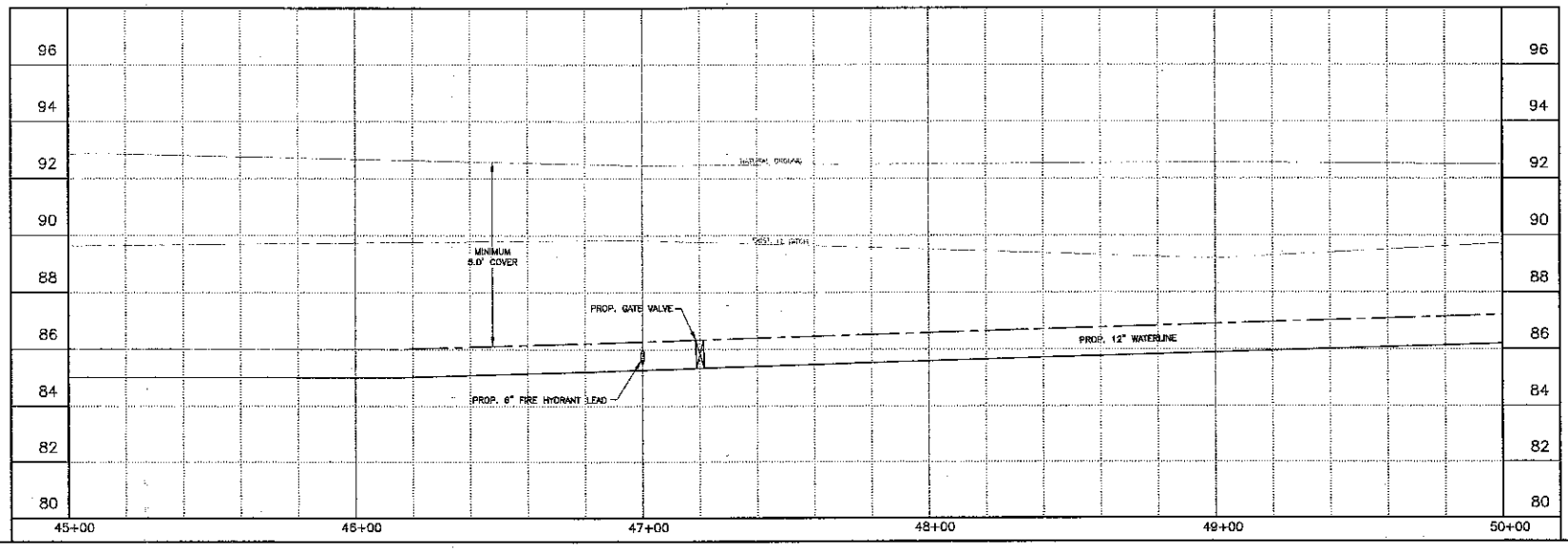
FOR CITY OF HOUSTON USE ONLY

68731

P:\Active\F003\1009\Plans PHASE 1\16 PP09.dwg ~ 7/18/2017 8:51:03 AM ~ Monica F. Rodriguez



F. M. 1464



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REVISIONS			
NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES ENGINEERING INC.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 45+00 TO STA. 50+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

BOARD	TRAFFIC & TRANSPORTATION
	STORM WATER QUALITY
STORM SEWER	PARKS
STREET & BRIDGE	

FILE NO: F003-1009

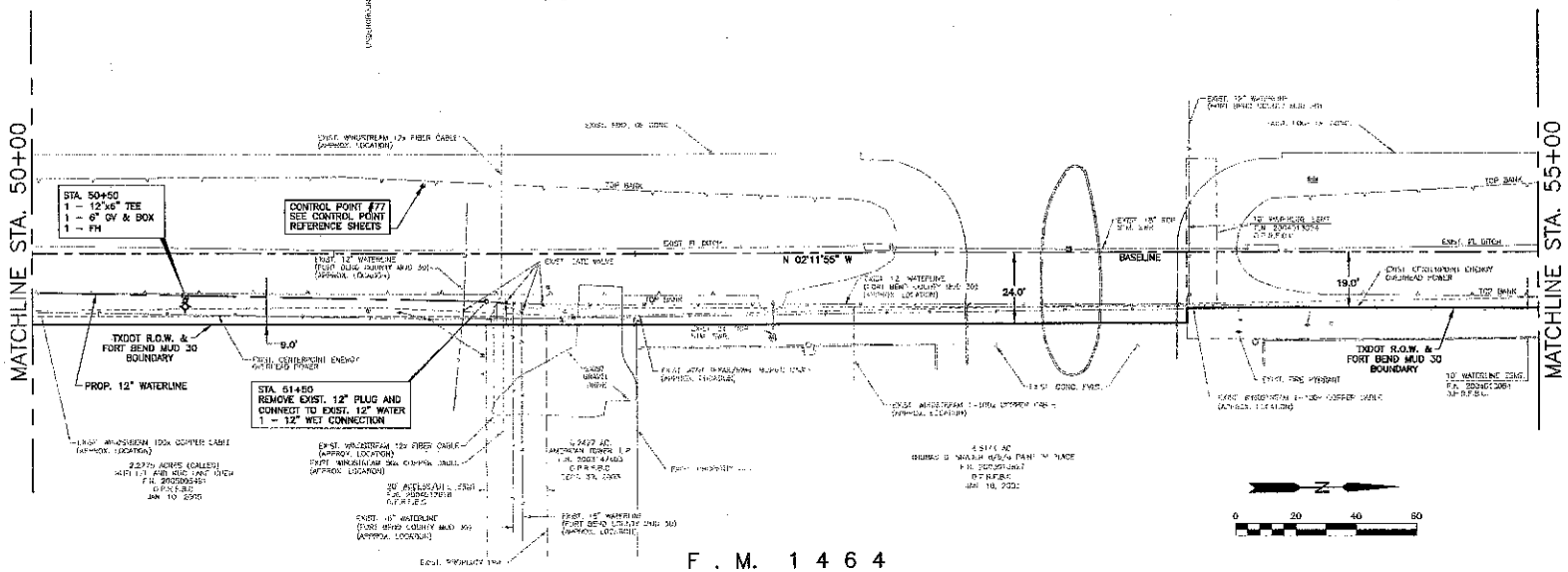
DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

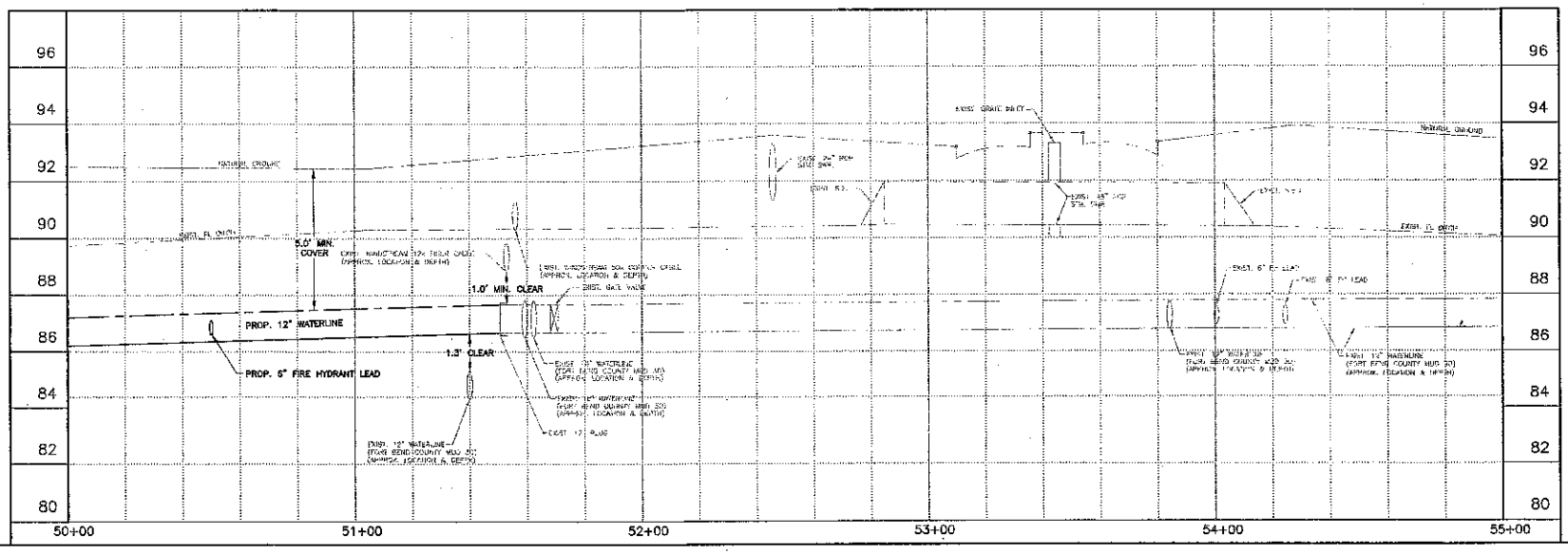
SHEET No: 17 OF 42

FOR CITY OF HOUSTON USE ONLY

58'81

P:\Active\F003\1009\Plans PHASE 1\17 PP10.dwg - 7/18/2017 8:30:53 AM ~ Maritza F. Rodriguez





UTILITY NOTES

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REVISIONS

MARK	DESCRIPTION	DATE	APPVD

APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: 9/7/17

JACOSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 50+00 TO STA. 55+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

INDEX — TRAFFIC & TRANSPORTATION
DATE — DRAIN WATER QUALITY
DATE — FACILITIES
STREET & DRAIN

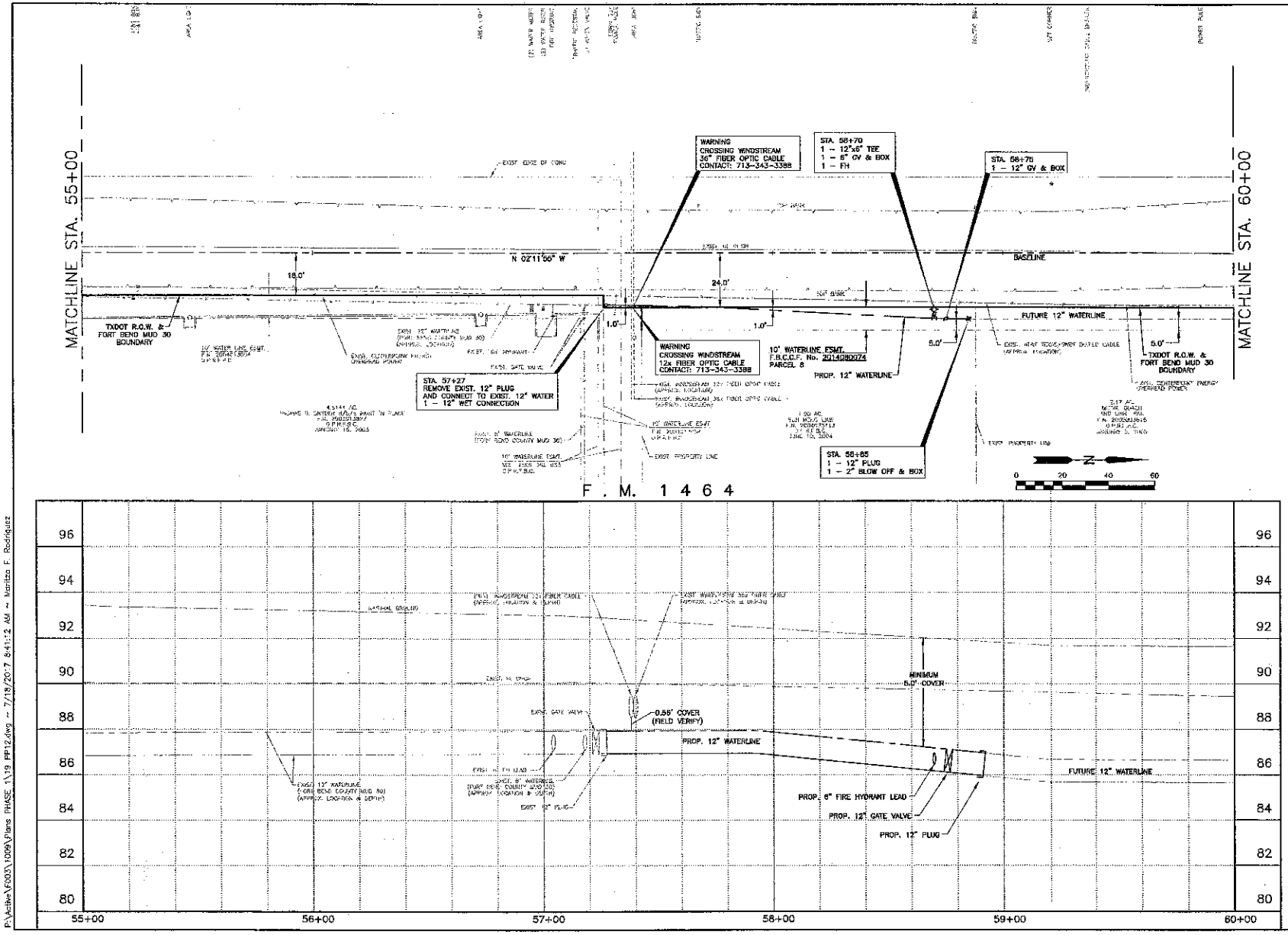
FILE NO: F003-1009

FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
HORZ: 1"=20'
VERT: 1"=2'

SHEET No: 18 OF 42

P:\Active\F003\1009\Plans PHASE 1\18 PP11.dwg ~ 7/18/2017 8:30:44 AM ~ Maritza F. Rodriguez



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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

JACOSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 55+00 TO STA. 60+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE: 8-31-17 — TRAFFIC & TRANSPORTATION
DATE: 8-31-17 — STORM WATER QUALITY
DATE: 8-12-17 — WATER & SEWER
DATE: — PARKS

FILE NO: F003-1009

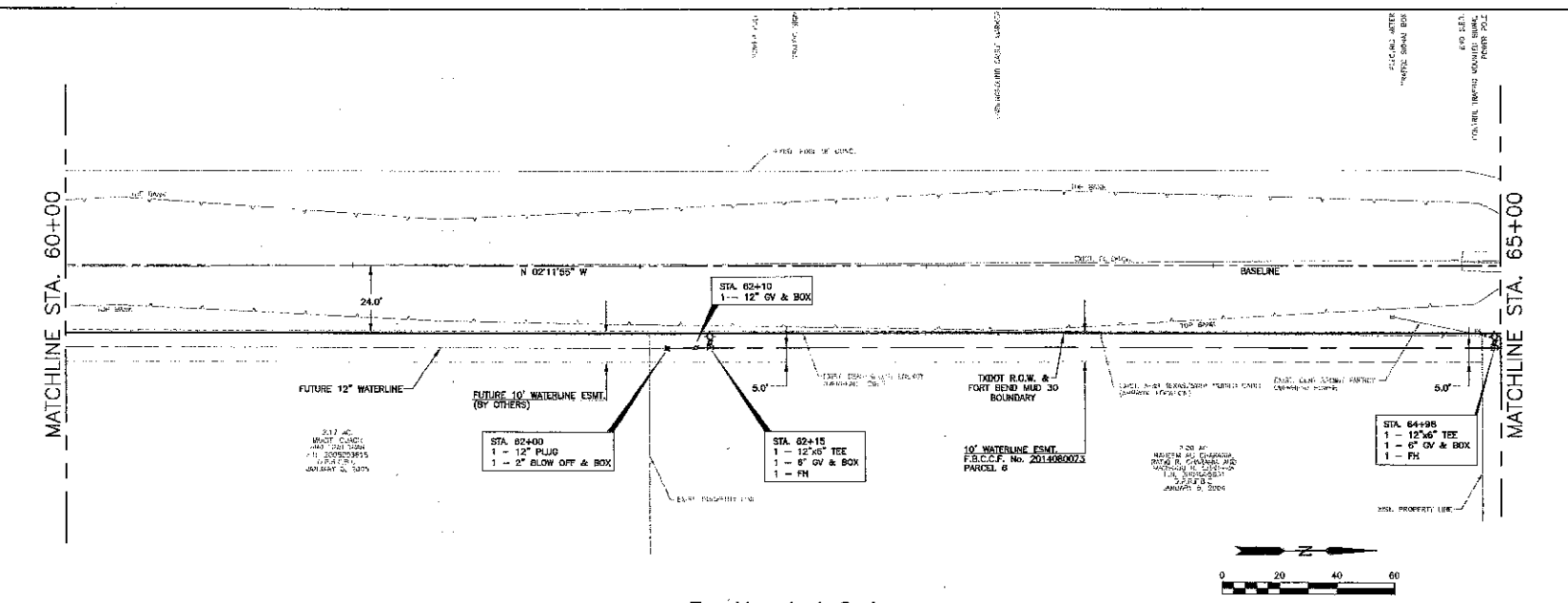
DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 19 OF 42

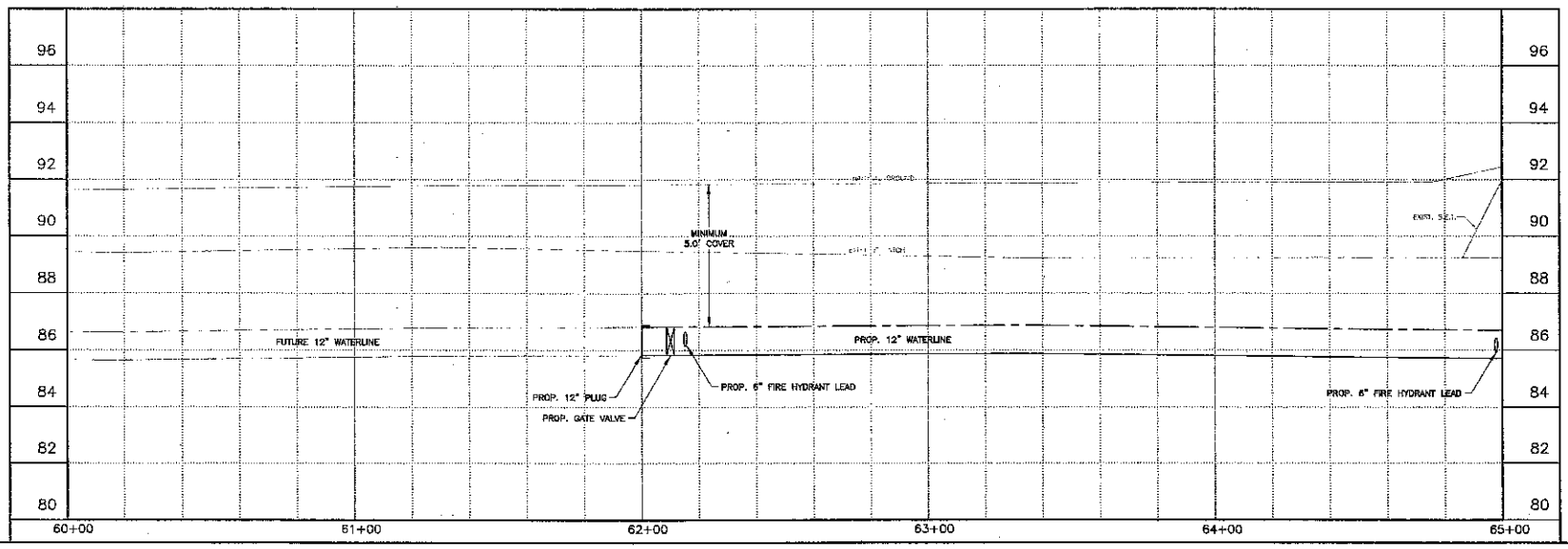
FOR CITY OF HOUSTON USE ONLY

58731

P:\Active\F003\1009\Plans PHASE 1\19 PP12.dwg ~ 7/18/2017 8:41:12 AM ~ Noritza F. Rodriguez



F. M. 1464



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REVISIONS			
NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. A. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

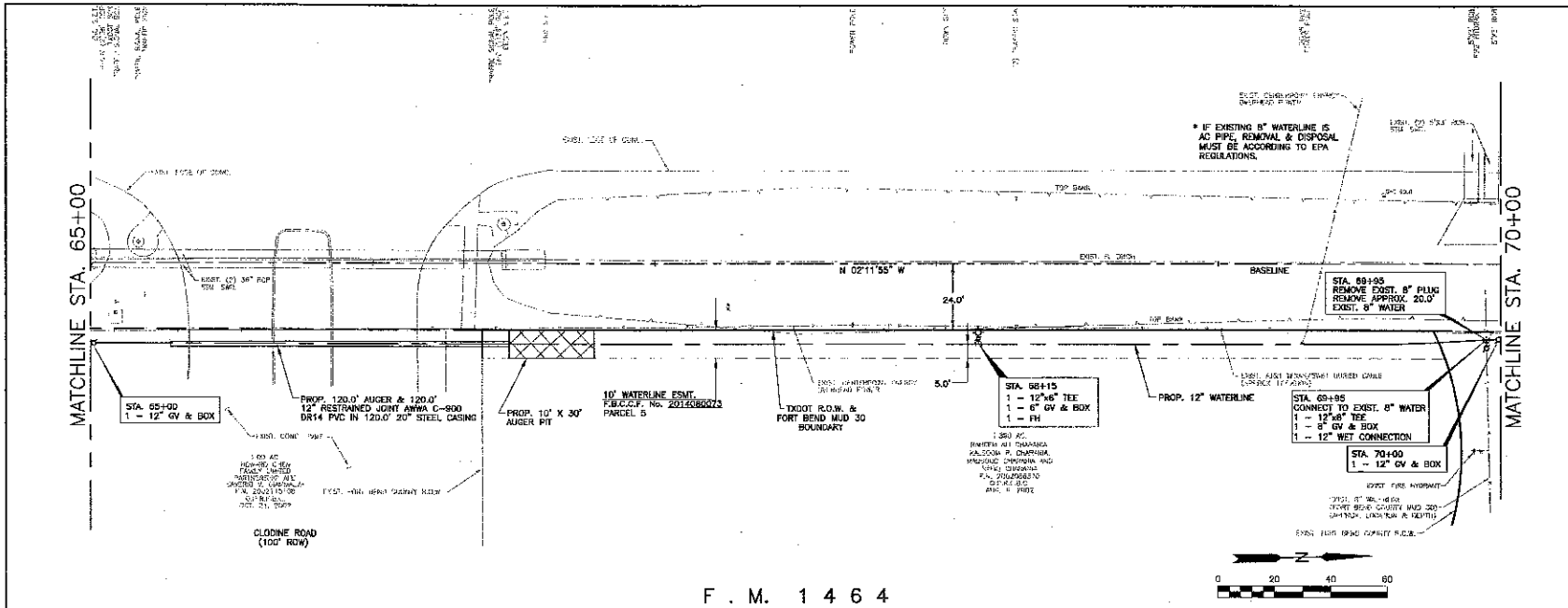
PLAN & PROFILE
STA. 60+00 TO STA. 65+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

FILE NO: F003-1009	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE HORZ.: 1"=20' VERT.: 1"=2'	58731
SHEET No: 20 OF 42	

P:\Active\F003\1009\Plans PHASE 1\20 PP13.dwg ~ 7/18/2017 8:41:02 AM ~ Maritza F. Rodriguez



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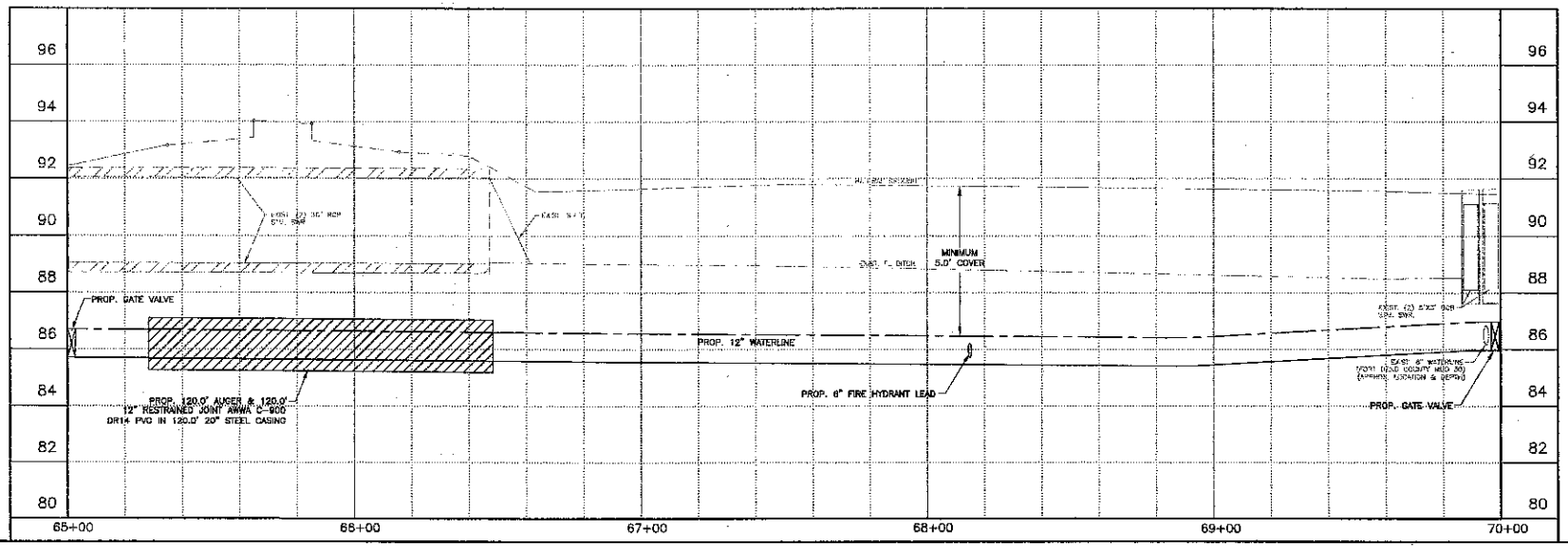

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REVISIONS

MARKER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/2/17

JACOSTANZA & ASSOCIATES ENGINEERS, P.C.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 65+00 TO STA. 70+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & TRANSPORTATION
WASTEWATER — WATER WELL SUPPLY
STREET & BRIDGE — FINANCE

FILE NO: F003-1009

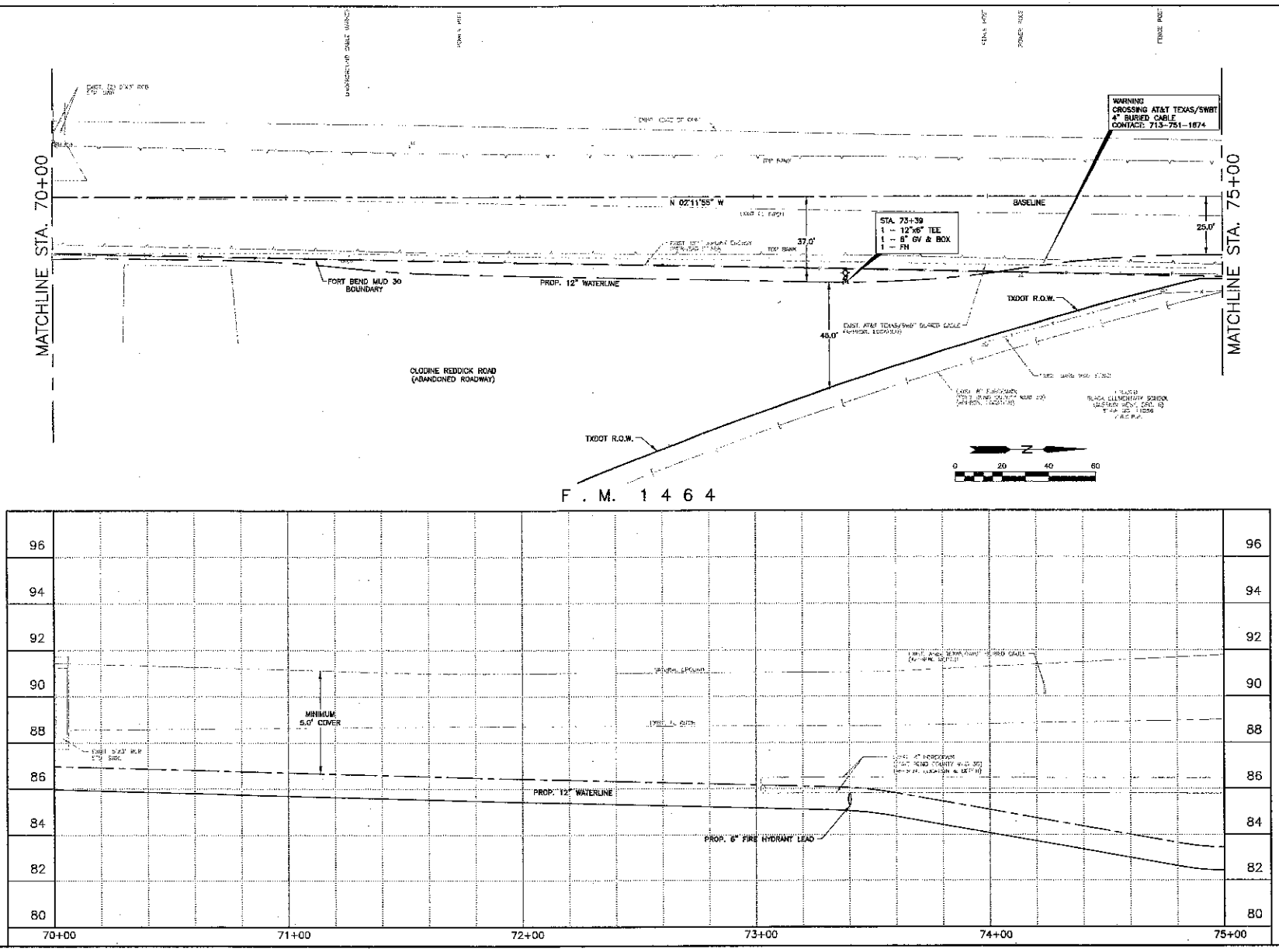
DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 21 OF 42

FOR CITY OF HOUSTON USE ONLY

58731

P:\Active\F003\1009\Plans PHASE 1\21 PP14.dwg ~ 7/18/2017 8:40:53 AM ~ Montoro F. Rodriguez



P:\Active\F003\1009\Plans PHASE 1\22 PP15.dwg ~ 7/18/2017 8:40:23 AM ~ Markco F. Rodriguez

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REVISIONS			
NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 70+00 TO STA. 75+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER: _____ WASTEWATER & TRANSPORTATION
PROJECT: _____ DRAINAGE & WATER QUALITY
STORM SEWER: _____ PARKS & RECREATION
STREET & BRIDGE: _____

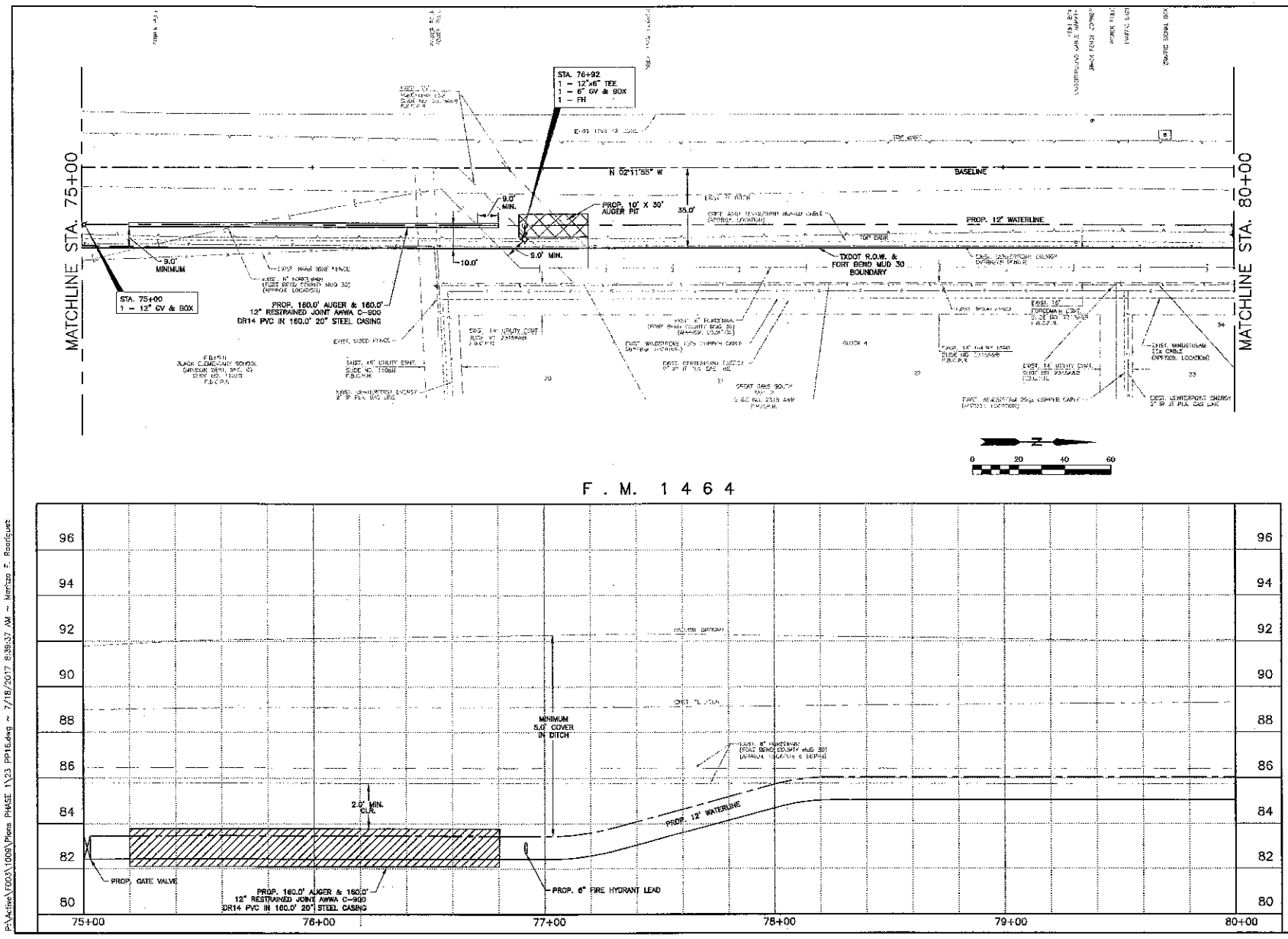
FILE NO: F003-1009

DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 22 OF 42

FOR CITY OF HOUSTON USE ONLY

REGISTERED PROFESSIONAL ENGINEER
58731
STATE OF TEXAS



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REVISIONS			
NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: _____ DEVELOPMENT COORDINATOR

DATE: 9/7/17

JA COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

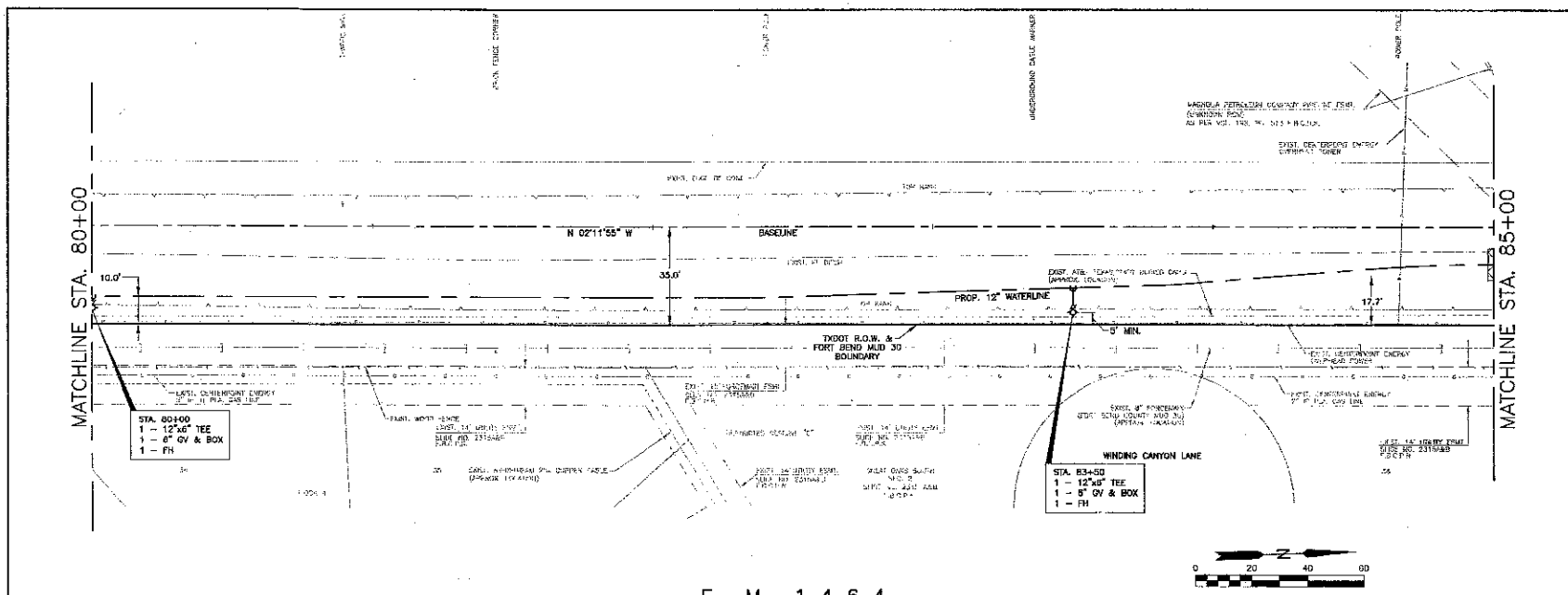
PLAN & PROFILE
STA. 75+00 TO STA. 80+00

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

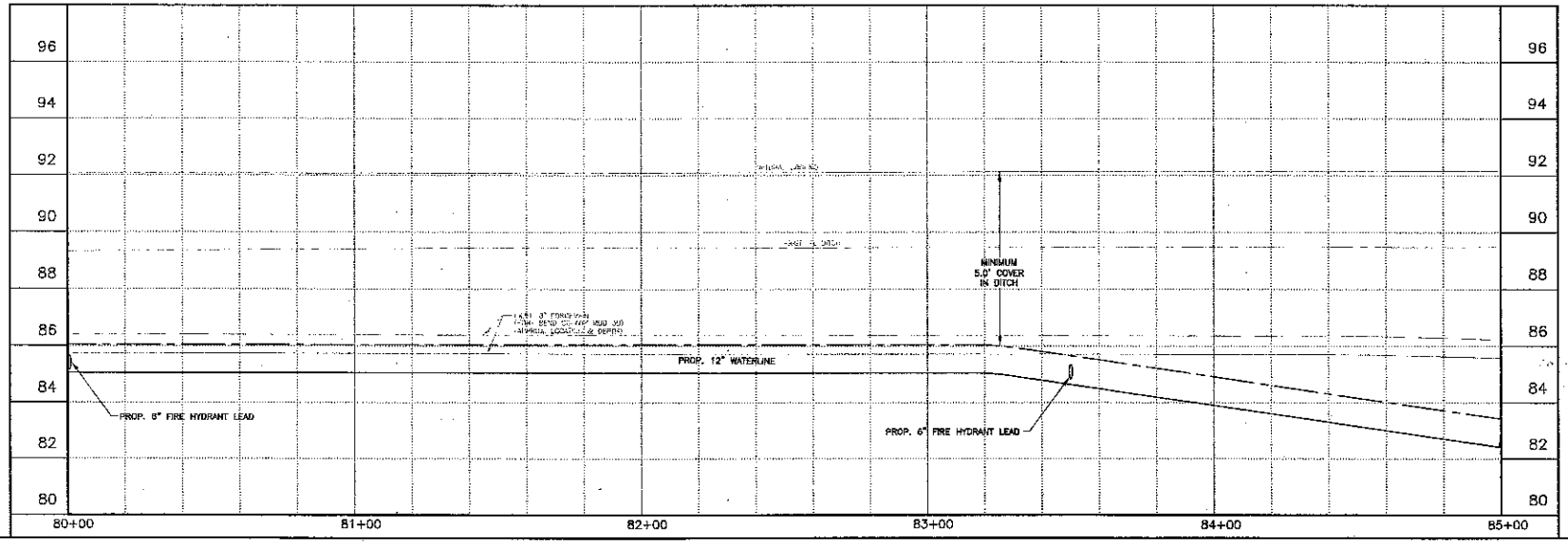
CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

FILE NO: F003-1008	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE HORZ.: 1"=20' VERT.: 1"=2'	
SHEET No: 23 OF 42	

P:\Active\F003\1008\Plans PHASE 1\23 PP16.dwg ~ 7/18/2017 8:39:37 AM ~ Manuel E. Rodriguez



F. M. 1464



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REVISIONS			
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APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES ENGINEERING, INC.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 80+00 TO STA. 85+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & TRANSPORTATION
WASTEWATER — DIVISION WATER QUALITY
STORM — 9-3-17 — FEATURES
STREET & DRAINAGE

FILE NO: F003-1009

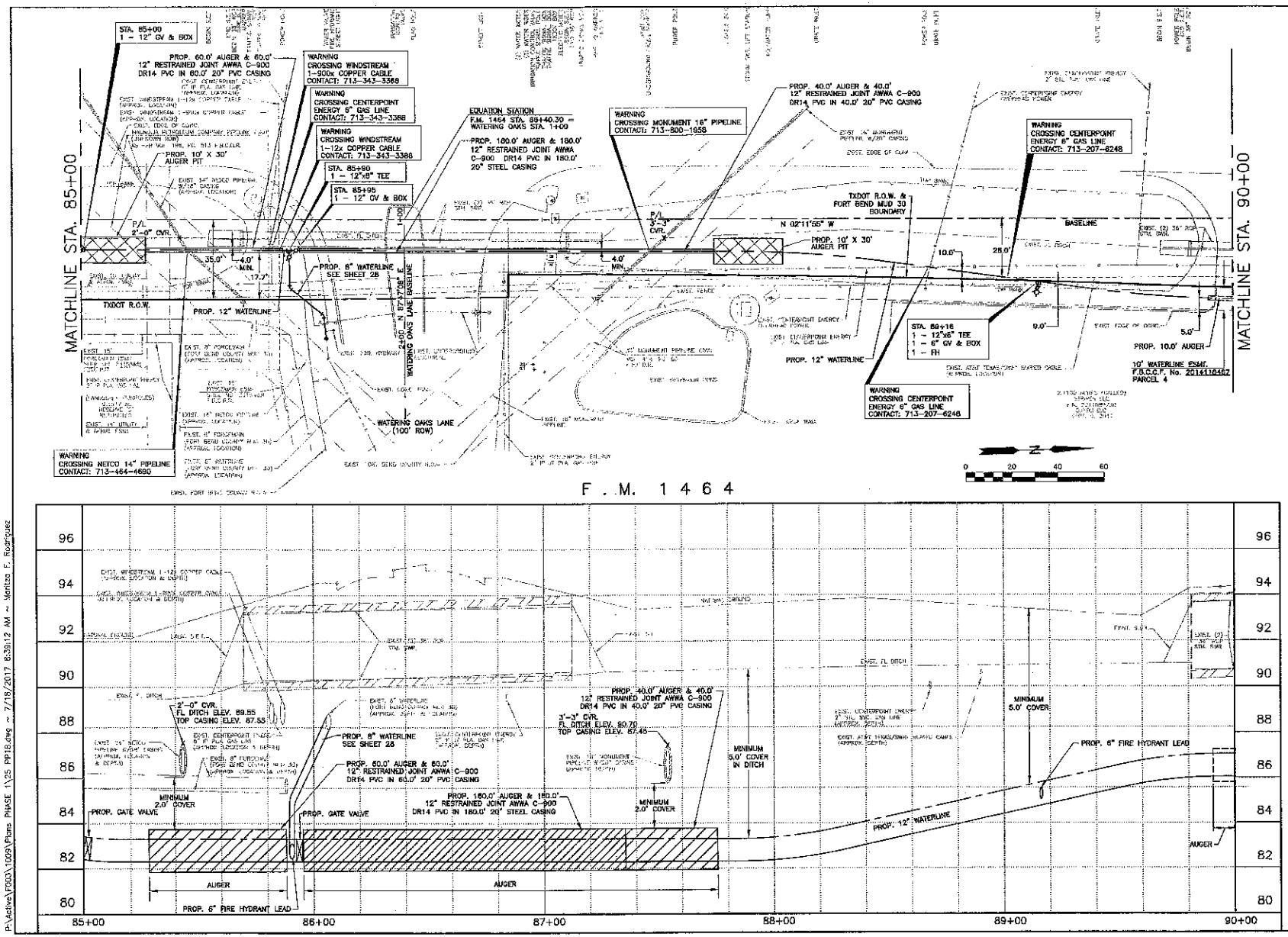
DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 24 OF 42

FOR CITY OF HOUSTON USE ONLY

PUBLIC WORKS AND ENGINEERING — REGISTERED PROFESSIONAL ENGINEER — 58791 — CITY OF HOUSTON, TEXAS

P:\Active\F003\1009\Plans PHASE 1\24 PP17.dwg ~ 7/18/2017 8:39:26 AM ~ Maritza F. Rodriguez



F.M. 1464

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APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 85+00 TO STA. 90+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER
TRAFFIC & TRANSPORTATION
WASTEWATER
STORM WATER QUALITY
STORM
ADDITIONS
STREET & DRAINAGE

FILE NO: F003-1009

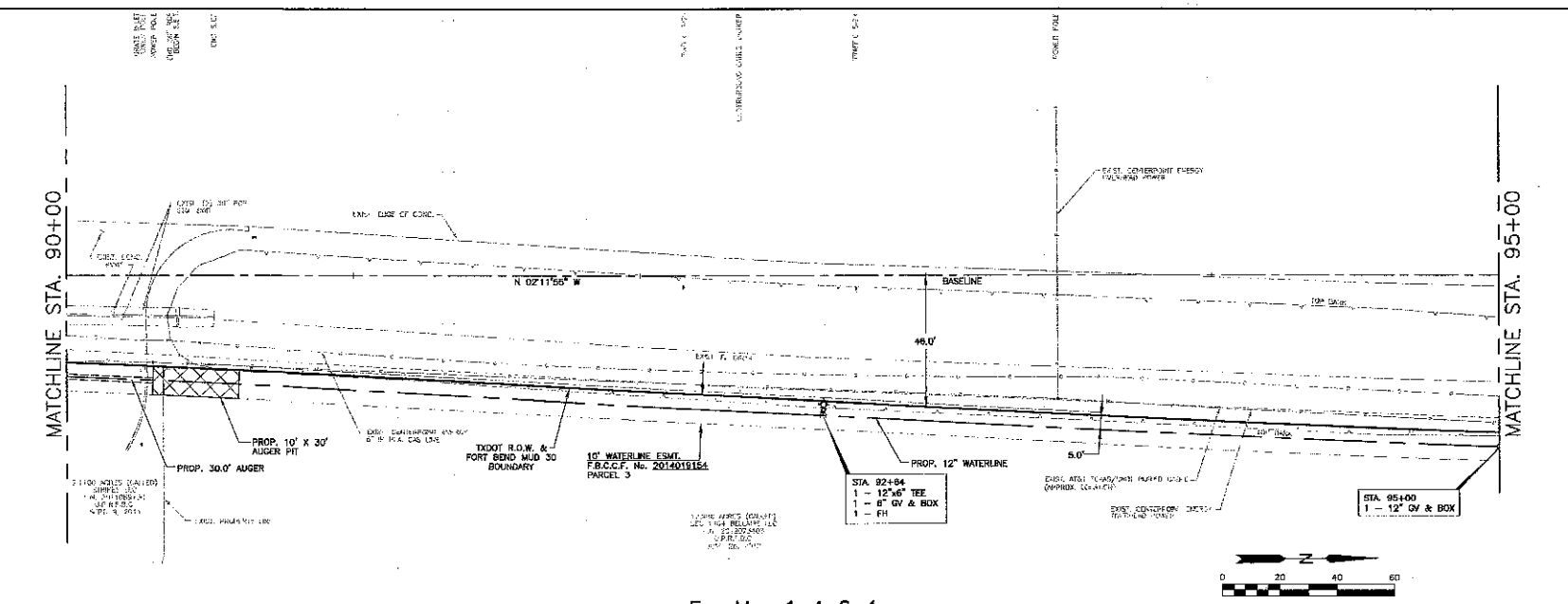
FOR CITY OF HOUSTON USE ONLY

DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

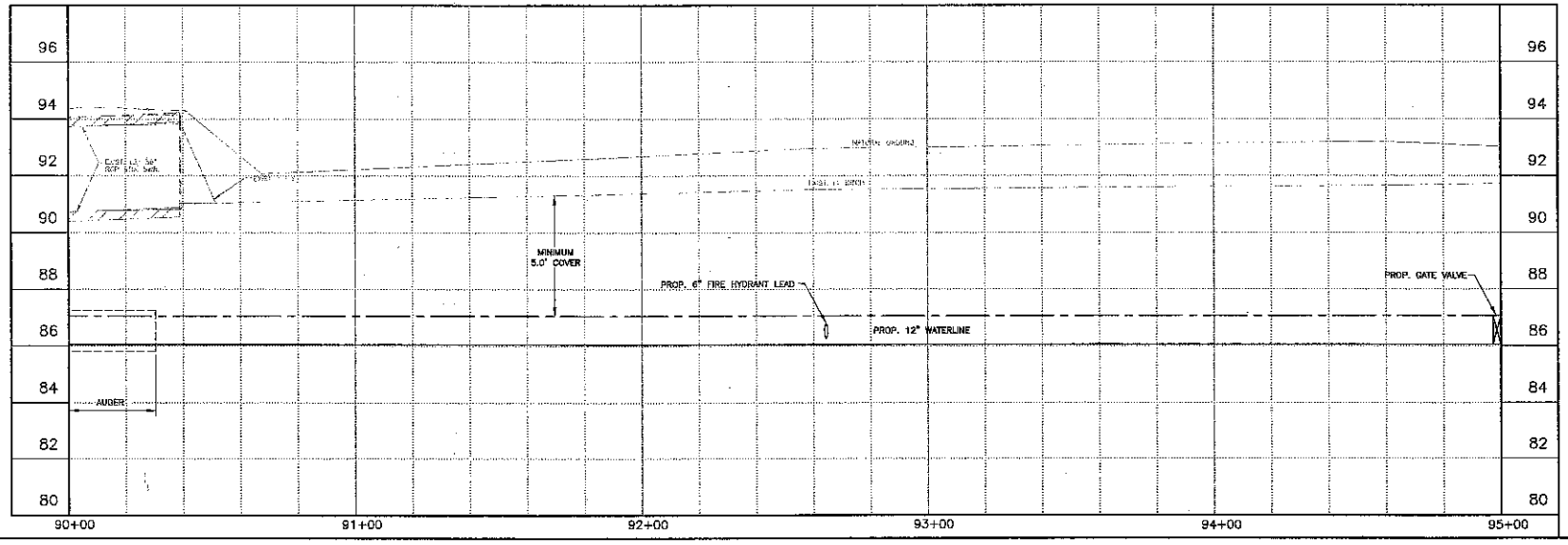
58731

SHEET No: 25 OF 42

P:\Active\F003\1009\Plans PHASE 1\25 PP18.dwg ~ 7/18/2017 8:39:12 AM ~ Maritza F. Rodriguez



F. M. 1464



UTILITY NOTES

ALL ATTEMPTS HAVE BEEN MADE TO ACCURATELY SHOW ALL EXISTING UNDERGROUND UTILITIES AND PIPELINES. HOWEVER, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE THE UTILITY AND PIPELINES PHYSICALLY LOCATED IN THE FIELD PRIOR TO CONSTRUCTION. ALL LIABILITY FOR THE UTILITIES AND PIPELINES ARE SOLELY THE CONTRACTOR'S WHETHER SHOWN ON THE PLANS OR NOT.

CAUTION: UNDERGROUND GAS FACILITIES
LOCATION OF GAS LINES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 713-223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK AND AGREE TO BE FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATED AND PRESERVE THESE UNDERGROUND FACILITIES.

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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 90+00 TO STA. 95+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & TRANSPORTATION
WASTEWATER — STORM WATER QUALITY
PROJECT MANAGER — FACILITIES
STREET & DRAINAGE

FILE NO: F003-1008

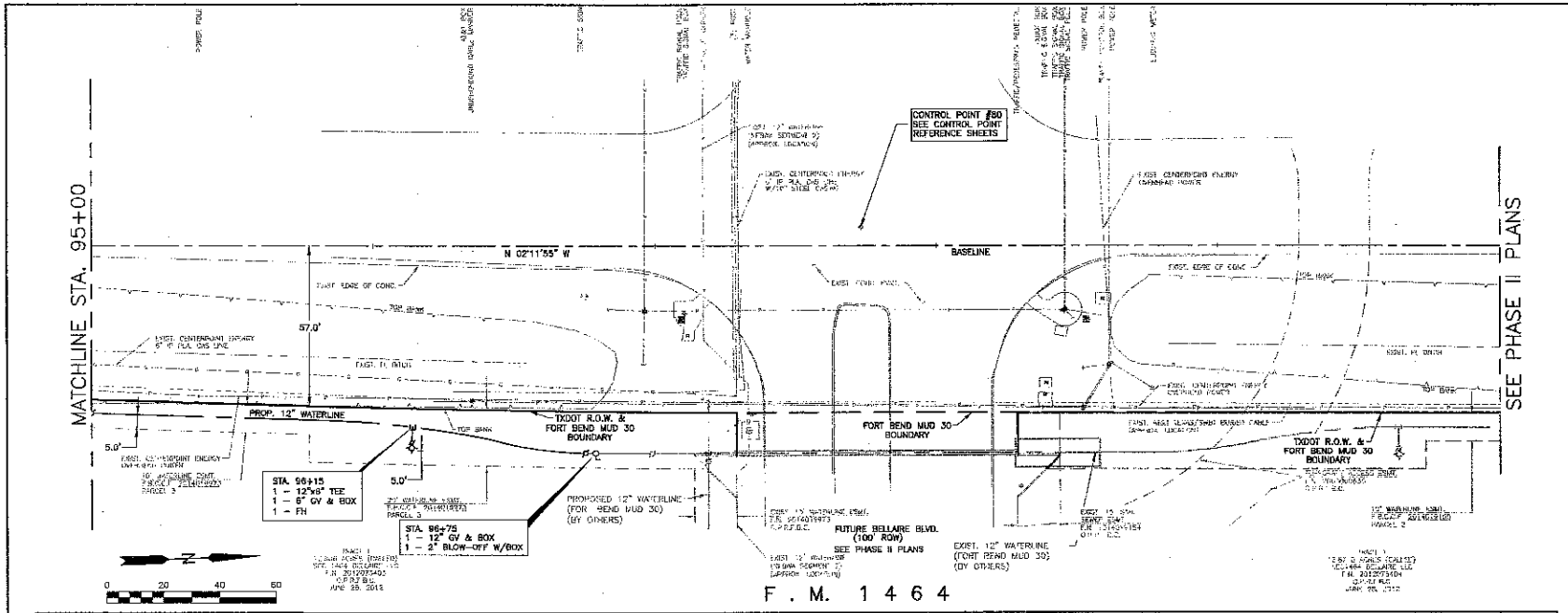
DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

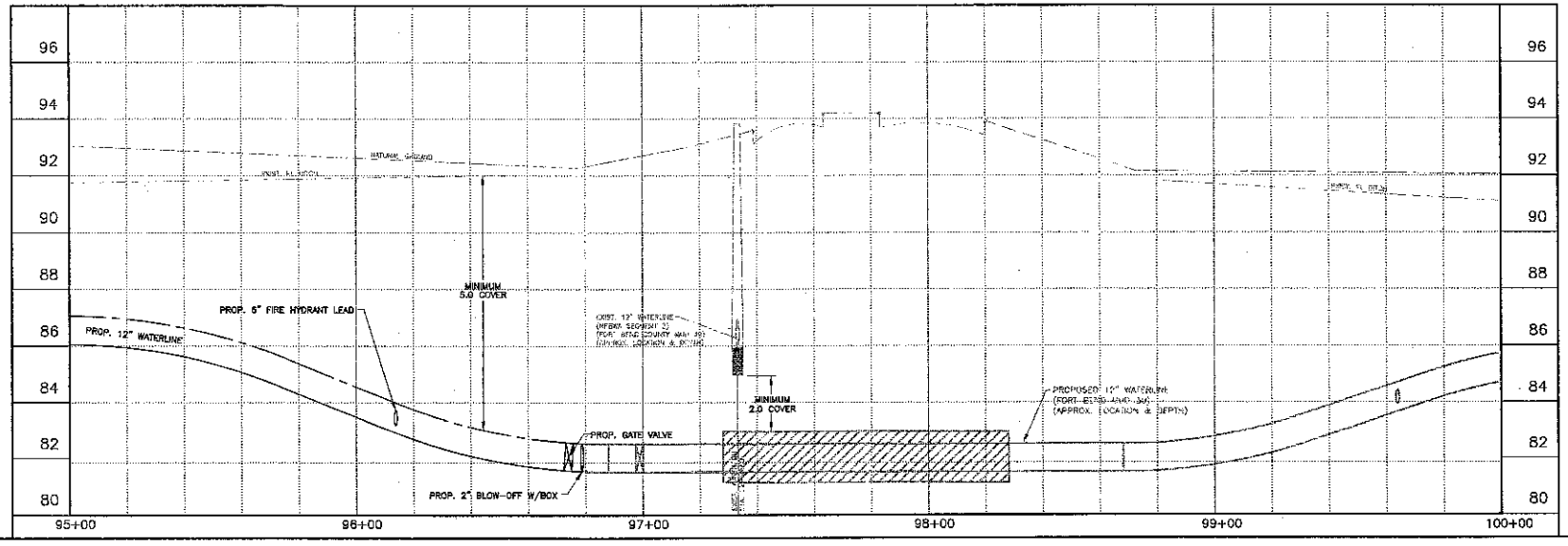
SHEET No: 26 OF 42

FOR CITY OF HOUSTON USE ONLY

58731

P:\Active\F003\1008\Plans PHASE 1\26 PP19.dwg ~ 7/18/2017 8:59:00 AM ~ Maritza F. Rodriguez





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REVISIONS

MARKER	DESCRIPTION	DATE	INITIALS

APPROVED: _____
DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES
ENGINEERING, INC.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

PLAN & PROFILE
STA. 95+00 TO STA. 100+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

NOTES	TRAFFIC & TRANSPORTATION
DRAINAGE	WATER QUALITY
STREET & ROADS	FACILITIES

FILE NO: F003-1009

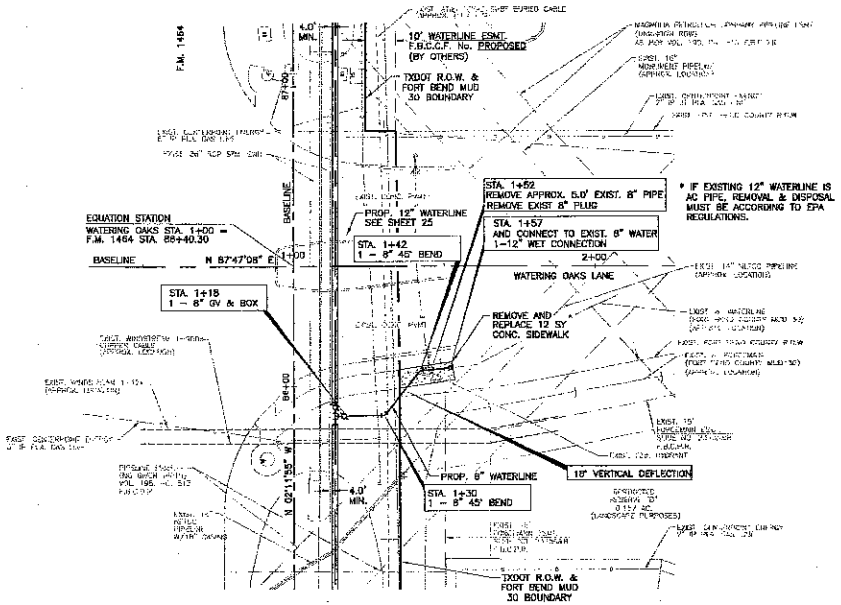
DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 27 OF 42

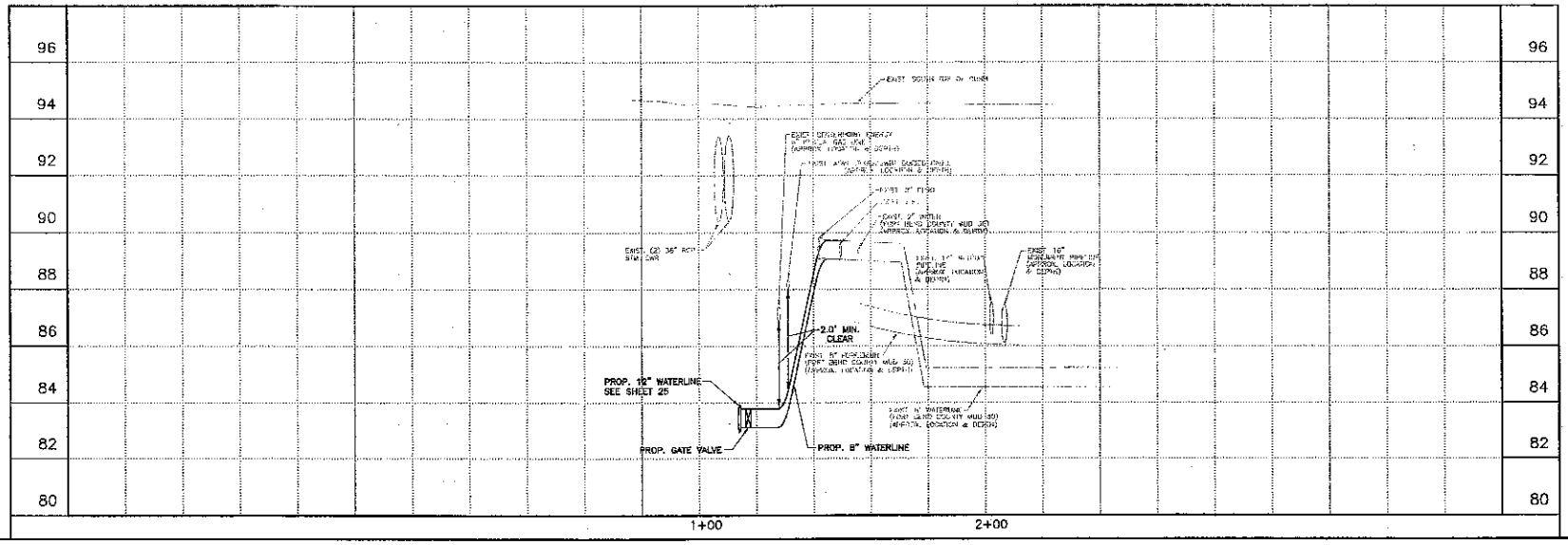
FOR CITY OF HOUSTON USE ONLY

68731

P:\Active\F003\1009\Plans PHASE 1\27 PP20.dwg ~ 7/18/2017 8:35:52 AM ~ Maritza F. Rodriguez



WATERING OAKS LANE



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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS
PLAN & PROFILE
FM 1464 AND WATERING OAKS LN. INTERSECTION

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER & WASTEWATER
DRINKING WATER QUALITY
FACILITIES
STREET & BRIDGE

FILE NO: F003-1009

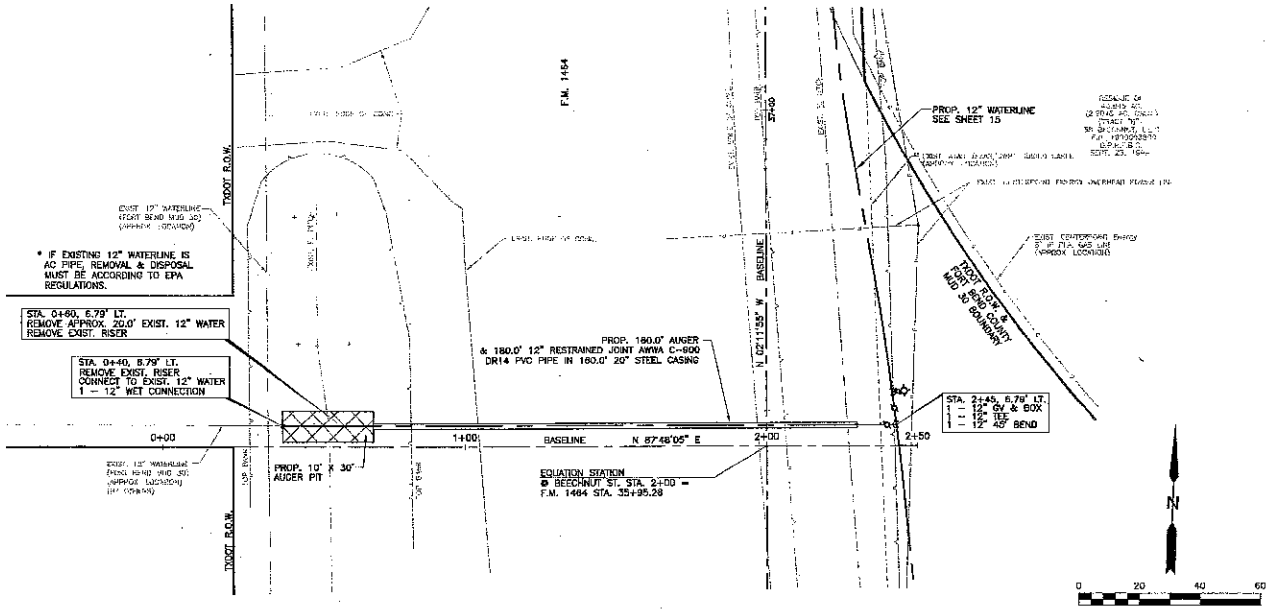
FOR CITY OF HOUSTON USE ONLY

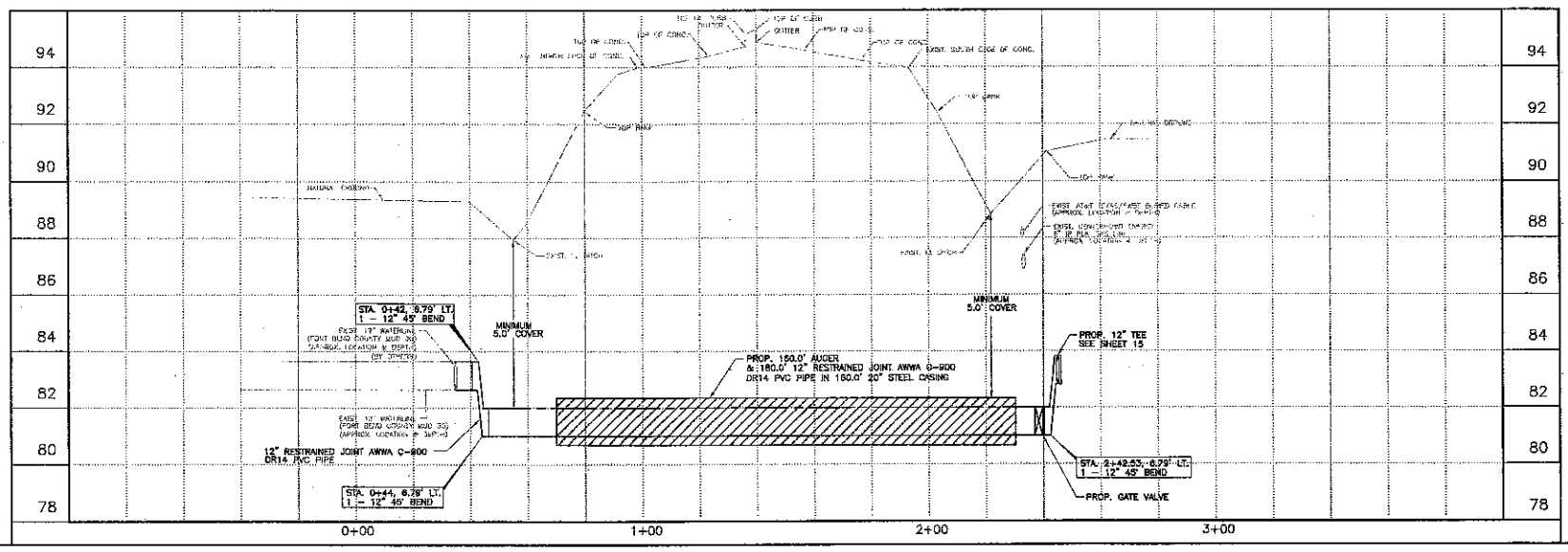
DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

SHEET No: 28 OF 42

58731

P:\Active\F003\1009\Plans PHASE 1\Intersections\28 FP25.dwg ~ 7/18/2017 8:38:39 AM ~ Meritco F. Rodriguez





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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/3/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS
PLAN & PROFILE
FM 1464 CROSSING
SOUTH OF BEECHNUT ST.

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

MGR. TRAFFIC & TRANSPORTATION
MGR. WATER WORKS QUALITY
DATE 8-23-17
STREET & DRAINAGE
ADDRESS

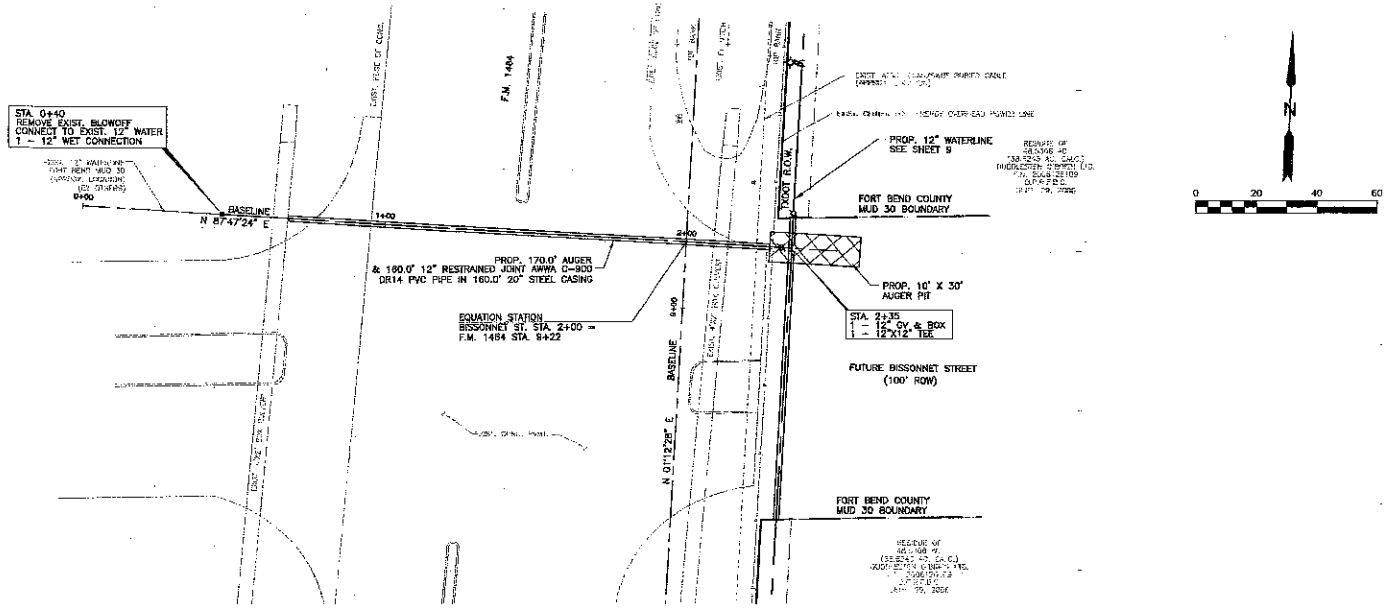
FILE NO: FD03-1009

DRAWING SCALE
HORZ.: 1"=20'
VERT.: 1"=2'

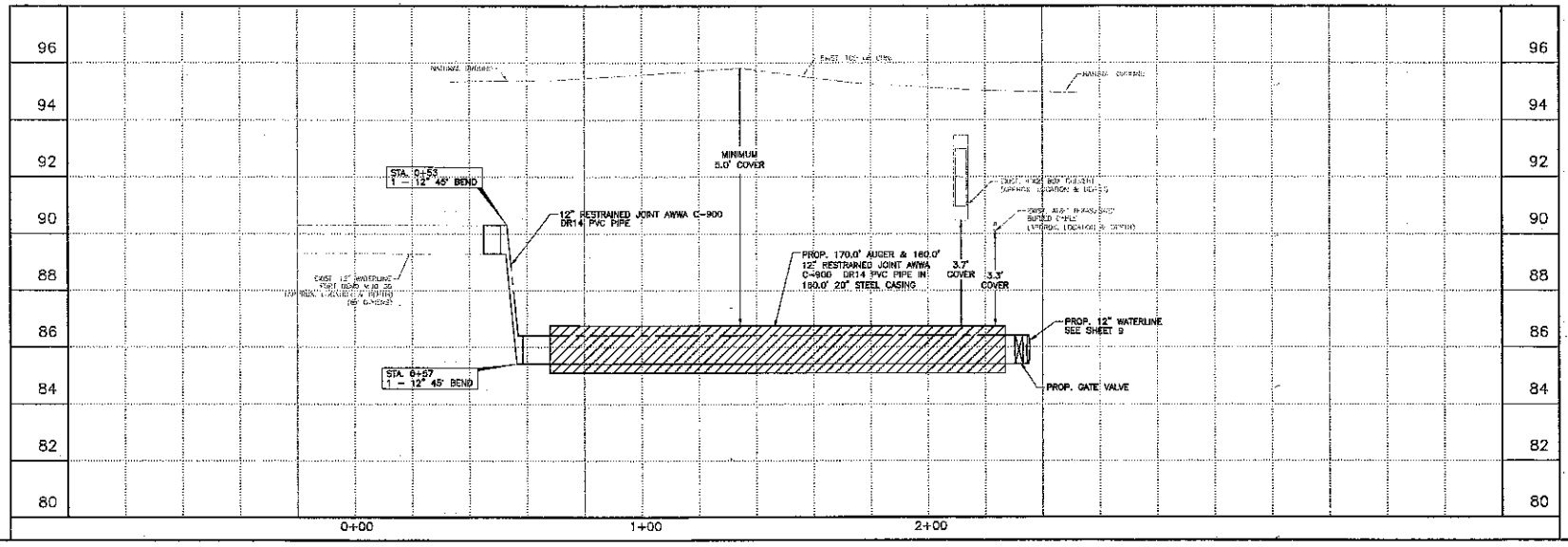
SHEET No: 29 OF 42

FOR CITY OF HOUSTON USE ONLY

P:\Active\FD03\1009\Plans PHASE 1\Intersections\29 PP26.dwg ~ 8/2/2017 11:32:01 AM ~ Karisa F. Rodriguez



BISSONNET STREET



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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: _____
DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS
PLAN & PROFILE
FM 1464 AND BISSONNET ST.
INTERSECTION

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — DIR. OF TRAFFIC & TRANSPORTATION
CONSTRUCTION — CAPITAL IMPROVEMENTS
DESIGN — PROJECT MANAGER
DIRECT & MANAGE — PROJECTS

FILE NO: F003-1009

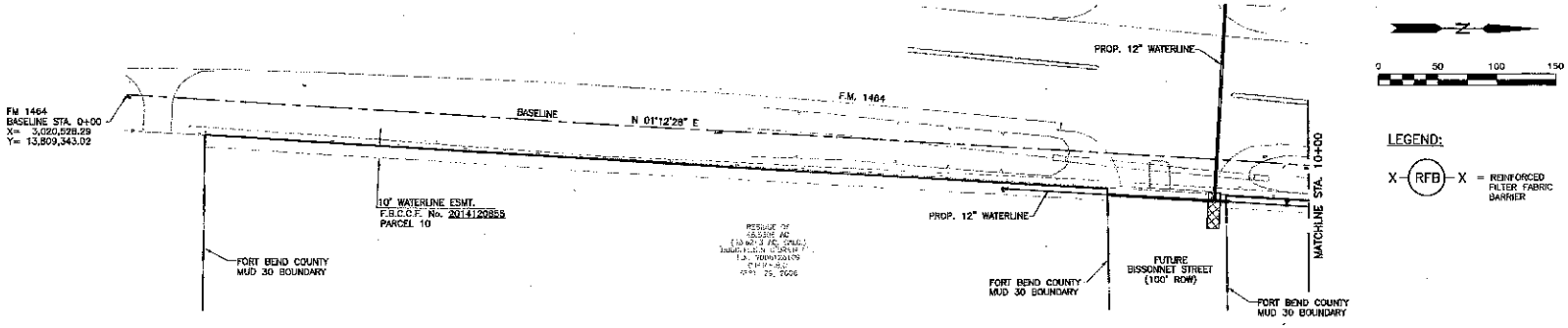
DRAWING SCALE
HORIZ.: 1"=20'
VERT.: 1"=2'

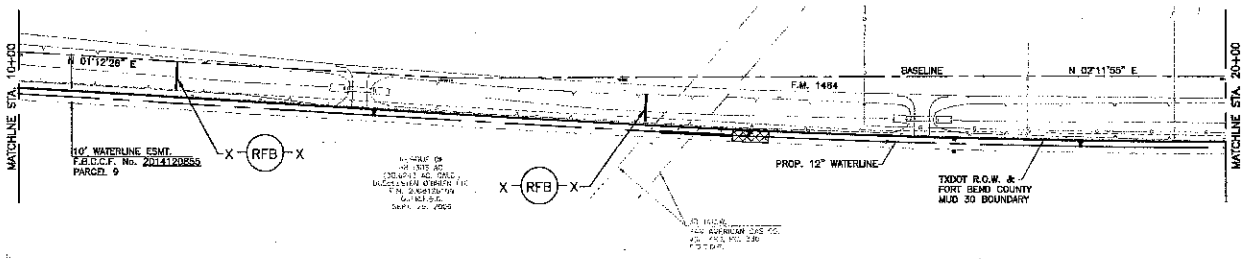
SHEET No: 30 OF 42

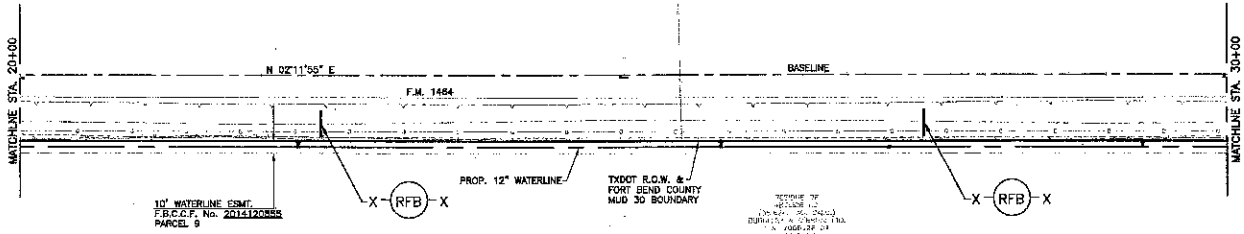
FOR CITY OF HOUSTON USE ONLY

68791

P:\Active\F003\1009\Plans PHASE 1\intersections\30 PP30.dwg ~ 7/18/2017 8:44:24 AM ~ Maritza F. Rodriguez







0 50 100 150

LEGEND:

X-RFB-X = REINFORCED FILTER FABRIC BARRIER

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REVISIONS			
NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/12

JA COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS
STORMWATER POLLUTION PREVENTION PLAN
STA. 0+00 TO 30+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER
WASTEWATER
STREET & DRAINAGE
TRANSPORTATION & CONSTRUCTION
STORM WATER QUALITY
FACILITIES

FILE NO: F003-1009

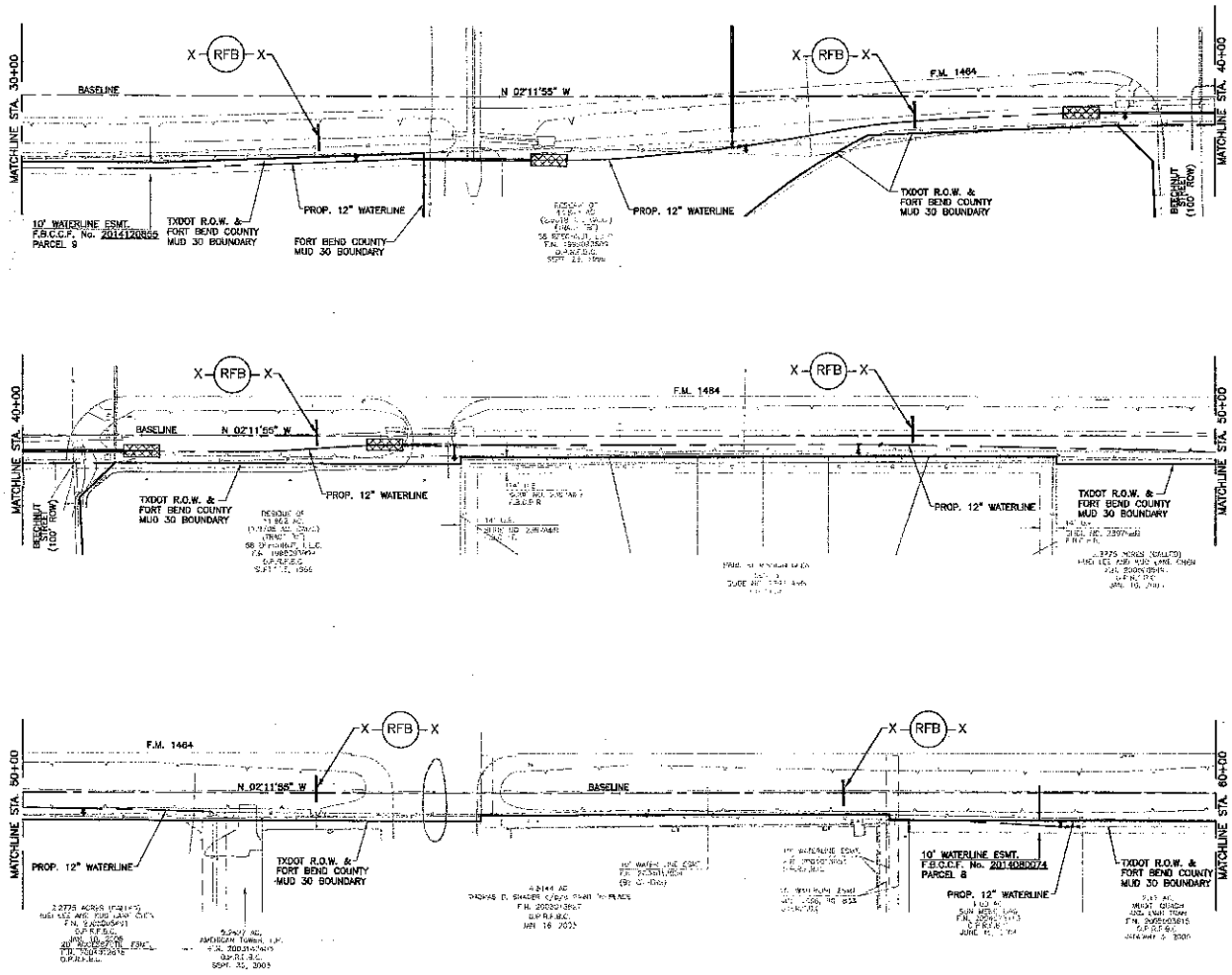
DRAWING SCALE 1"=50'

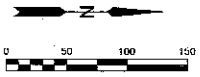
SHEET No: 31 OF 42

FOR CITY OF HOUSTON USE ONLY

58731

P:\Active\F003\1009\Plans PHASE 1\Layouts\31 SWPPP1.dwg - 7/18/2017 12:22:15 PM - Maritza F. Rodriguez





LEGEND:

X—(RFB)—X = REINFORCED FILTER FABRIC BARRIER

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REVISIONS

MARKUP	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES ENGINEERING, INC.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS
STORMWATER POLLUTION PREVENTION PLAN
STA. 30+00 TO STA. 60+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE: 9-13-17 TRAFFIC & TRANSPORTATION
DATE: 9-13-17 STORM WATER QUALITY
DATE: 9-13-17 WATER & WASTEWATER
STREET & DRAINAGE

FILE NO: F003-1009

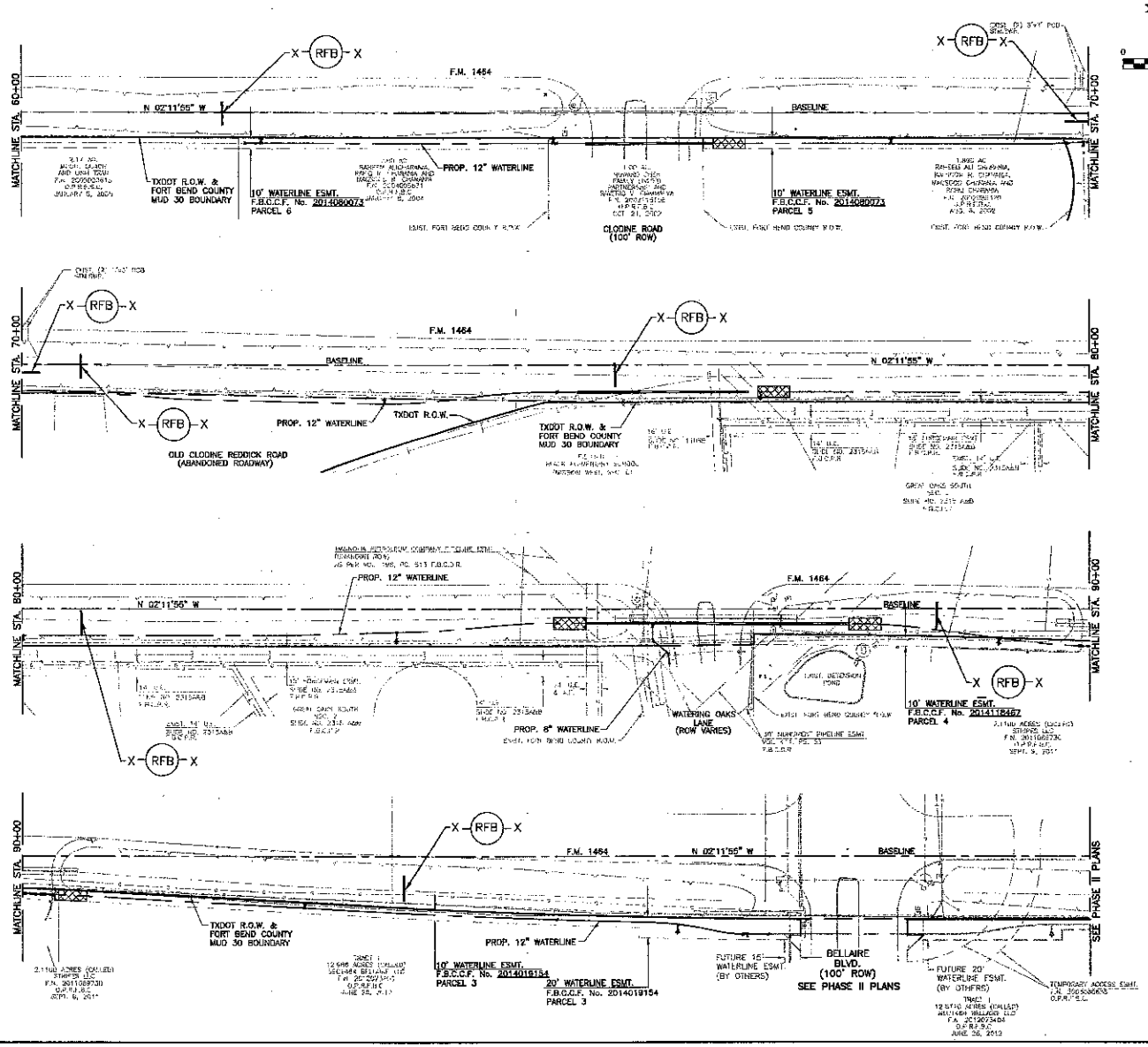
DRAWING SCALE: 1"=50'

SHEET No: 32 OF 42

FOR CITY OF HOUSTON USE ONLY

58731

P:\Active\F003\1009\Plans PHASE 1\Layouts\32 SWPPP2.dwg ~ 7/18/2017 12:23:19 PM ~ Maritza F. Rodriguez



0 50 100 150

LEGEND:

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CAUTION: UNDERGROUND GAS FACILITIES LOCATION OF GAS LINES ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 713-223-4567 OR 1-800-669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK AND AGREE TO BE FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATED AND PRESERVE THESE UNDERGROUND FACILITIES.

WARNING:
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REVISIONS			
NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

STORMWATER POLLUTION PREVENTION PLAN
STA. 60+00 TO STA. 100+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DIRECTOR & TRANSPORTATION — 9-3-17
DIRECTOR WATER QUALITY — 9-3-17
PARKS
STREET & BRIDGE

FILE NO: F003-1009

DRAWING SCALE: 1"=50'

SHEET No: 33 OF 42

FOR CITY OF HOUSTON USE ONLY

68731

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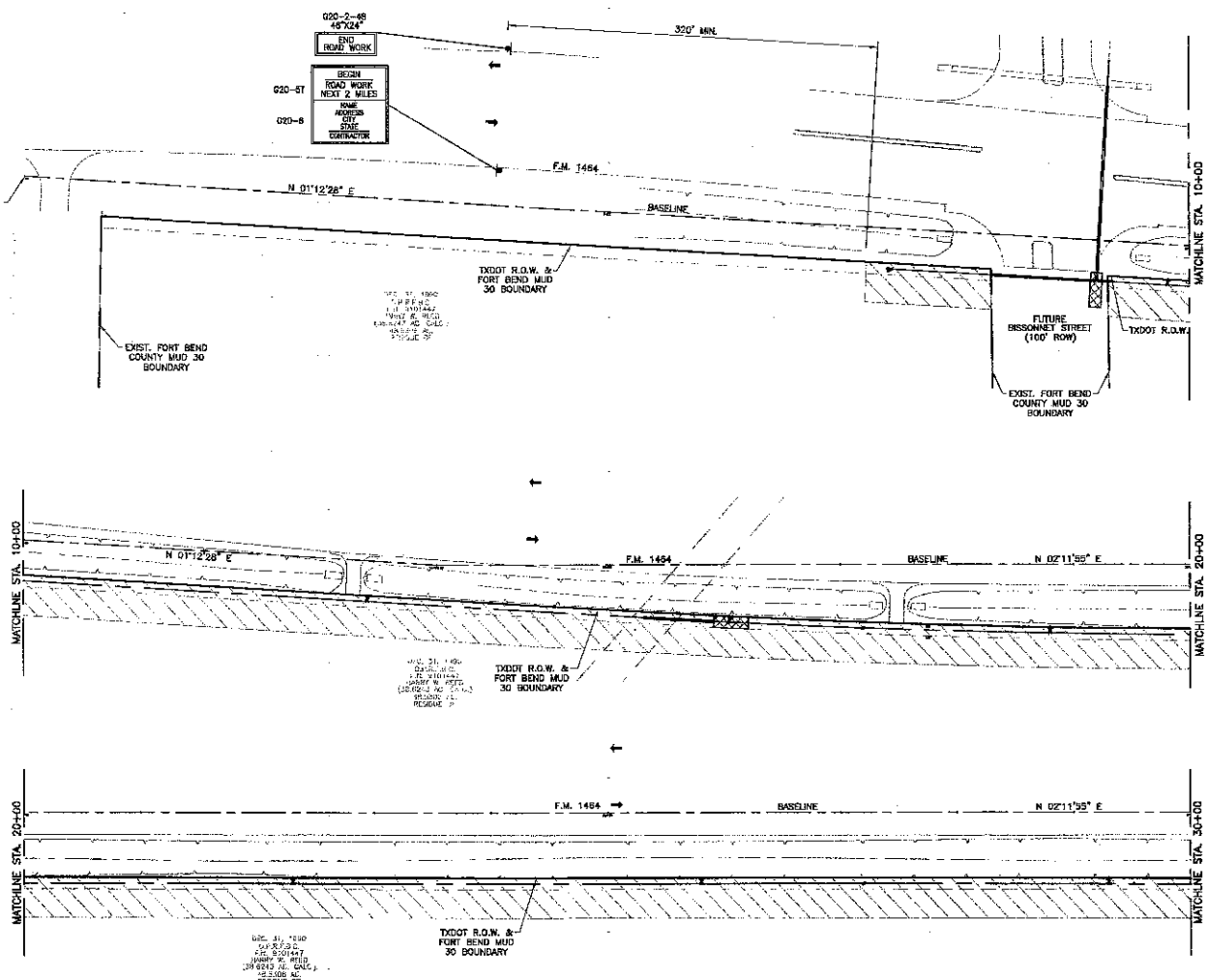

N

0 50 100 150

LEGEND

- CHANNELIZING DEVICE
- TRAFFIC FLOW ARROW
- SIGN
- WORK ZONE

NOTES:

1. ALL WORK SHALL BE DONE WITHIN TXDOT R.O.W. OR PROPOSED EASEMENT LIMITS. NO PARKING OF VEHICLES SHALL BE ALLOWED ON SHOULDER. REFER TO TXDOT STANDARD TCP (1-1)-12.
2. SIDEWALK CLOSURES SHALL BE TEMPORARY AND ONLY DURING BUSINESS HOURS.

SEQUENCE OF CONSTRUCTION:

1. RE-STAKE LIMITS OF RIGHT-OF-WAY, CLEARING & GRUBBING, THEN STAKING OF ALIGNMENT.
2. SET UP ADVANCED WARNING SIGNS AND CHANNELIZING DEVICES FROM BEGINNING TO END OF PROJECT AND AT SIDE STREETS, AS NEEDED.
3. PLACE STORM WATER POLLUTION PREVENTION PLAN SILT FENCES.
4. SET CONSTRUCTION ENTRANCE NEAR BELLAIRE BLVD.
5. ENSURE ALL SW3P IS INSPECTED REGULARLY AND THAT IT HAS BEEN PROPERLY INSTALLED TO PROTECT STORM SEWER AND DITCHES ON F.M 1464.
6. BORE UNDER INTERSECTIONS AND PIPELINES AND CONSTRUCT WATERLINE.
7. REMOVE TCP DEVICES, SIGNING, SW3P SILT FENCE.

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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/2/17

J.A. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

TRAFFIC CONTROL PLAN
STA. 0+00 TO STA. 30+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & TRANSPORTATION
WASTEWATER — NATURAL WATER QUALITY
STORM — FACILITIES
STREET & DRAINAGE

FILE NO: F003-1009

DRAWING SCALE: 1"=50'

SHEET No: 34 OF 42

FOR CITY OF HOUSTON USE ONLY

58731

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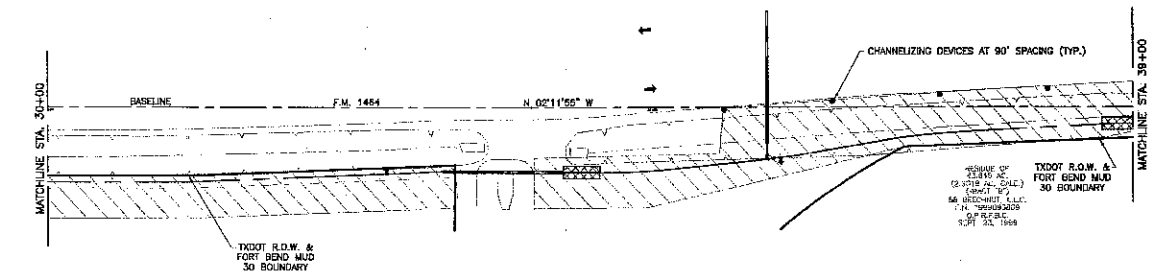

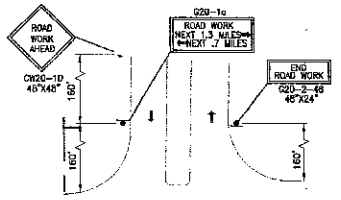

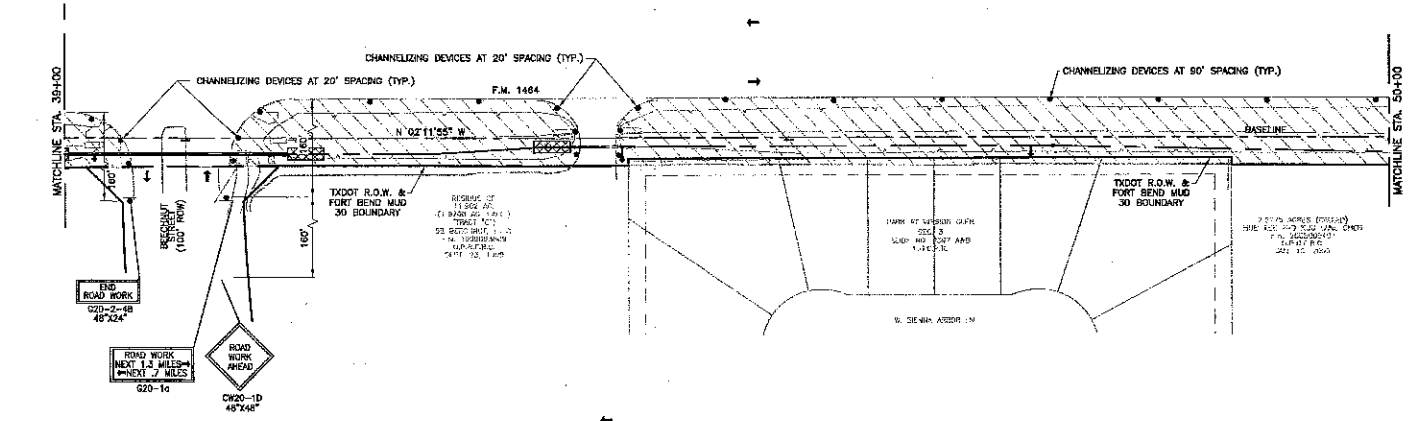

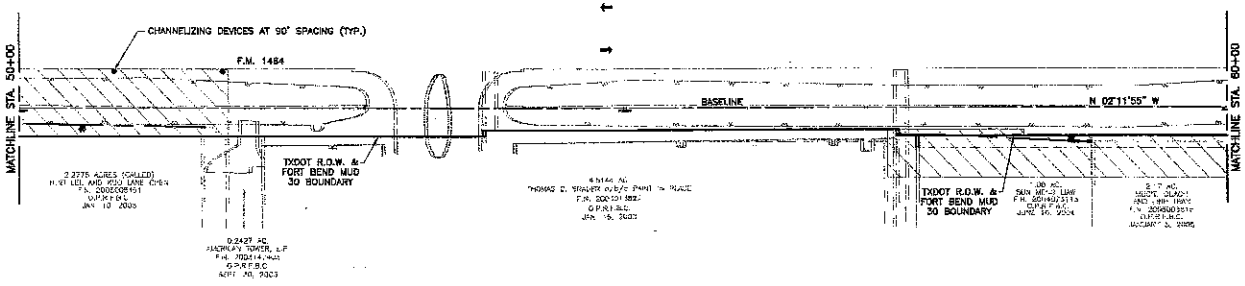

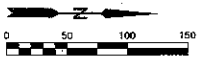

LEGEND

- CHANNELIZING DEVICE
- TRAFFIC FLOW ARROW
- SIGN
- WORK ZONE

NOTES:

1. ALL WORK SHALL BE DONE WITHIN TXDOT R.O.W. OR PROPOSED EASEMENT LIMITS. NO PARKING OF VEHICLES SHALL BE ALLOWED ON SHOULDER. REFER TO TXDOT STANDARD TCP (1-1)-12.
2. SIDEWALK CLOSURES SHALL BE TEMPORARY AND ONLY DURING BUSINESS HOURS.

SEQUENCE OF CONSTRUCTION:

1. RE-STAKE LIMITS OF RIGHT-OF-WAY, CLEARING & GRUBBING, THEN STAKING OF ALIGNMENT.
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5. ENSURE ALL SW3P IS INSPECTED REGULARLY AND THAT IT HAS BEEN PROPERLY INSTALLED TO PROTECT STORM SEWER AND DITCHES ON F.M 1464.
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7. REMOVE TCP DEVICES, SIGNING, SW3P SILT FENCE.

UTILITY NOTES

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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES CONSULTING ENGINEERS, INC.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

TRAFFIC CONTROL PLAN
STA. 30+00 TO STA.60+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE: 9-13-17 TRAFFIC & TRANSPORTATION
DATE: 9-13-17 STORM WATER QUALITY
DATE: 9-14-17 FACILITIES
CHIEF & ENGR.

FILE NO: F003-1009

DRAWING SCALE 1"=50'

SHEET No: 35 OF 42

FOR CITY OF HOUSTON USE ONLY

68731

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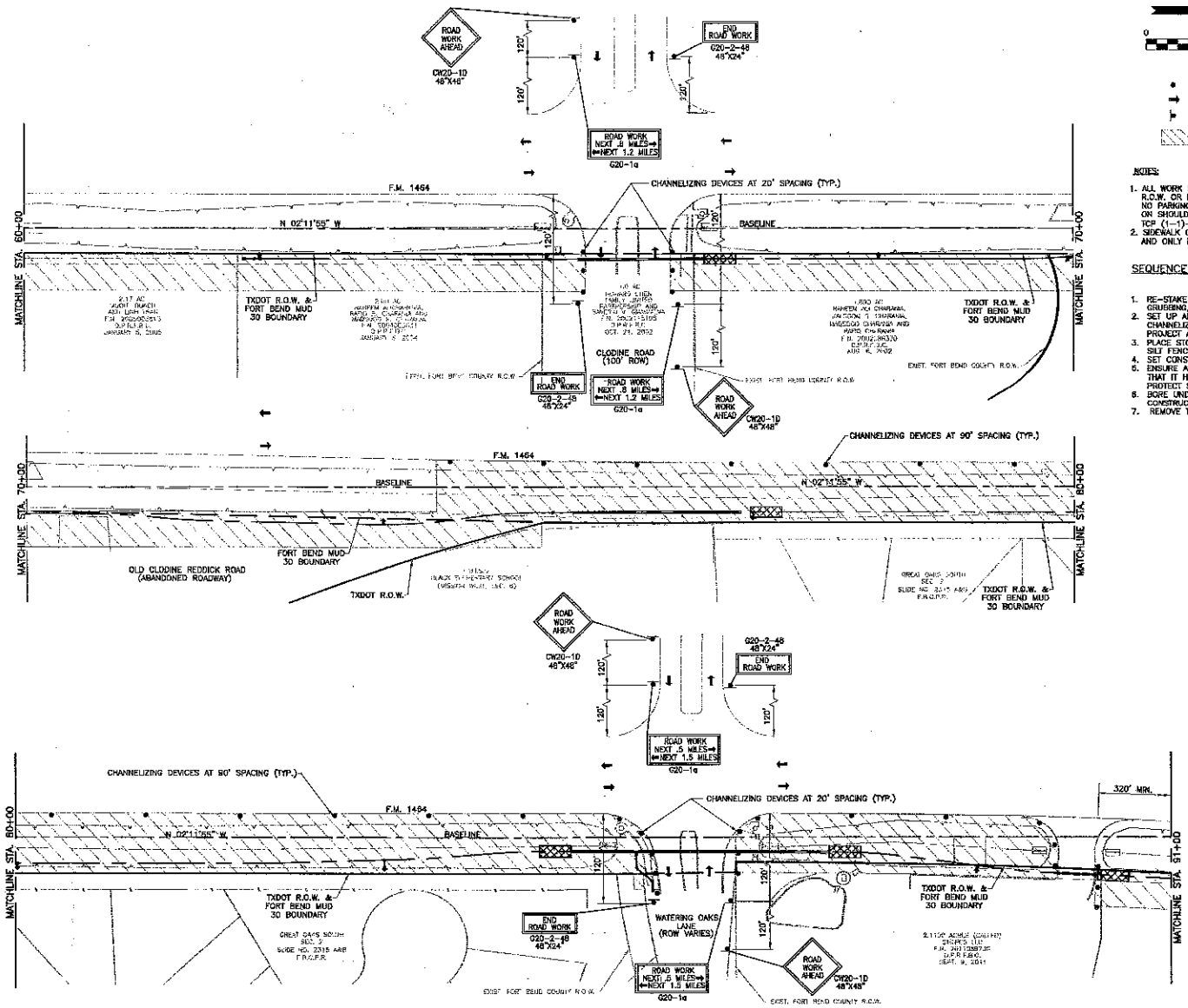

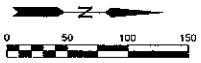

LEGEND

- CHANNELIZING DEVICE
- TRAFFIC FLOW ARROW
- SIGN
- WORK ZONE

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REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

TRAFFIC CONTROL PLAN
STA. 60+00 TO STA. 91+00

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER — TRAFFIC & TRANSPORTATION
WASTEWATER — STORM WATER QUALITY
STREET — FACILITIES
STREET & BRIDGE

FILE NO: F003-1009

DRAWING SCALE: 1"=50'

SHEET No: 38 OF 42

FOR CITY OF HOUSTON USE ONLY

68731

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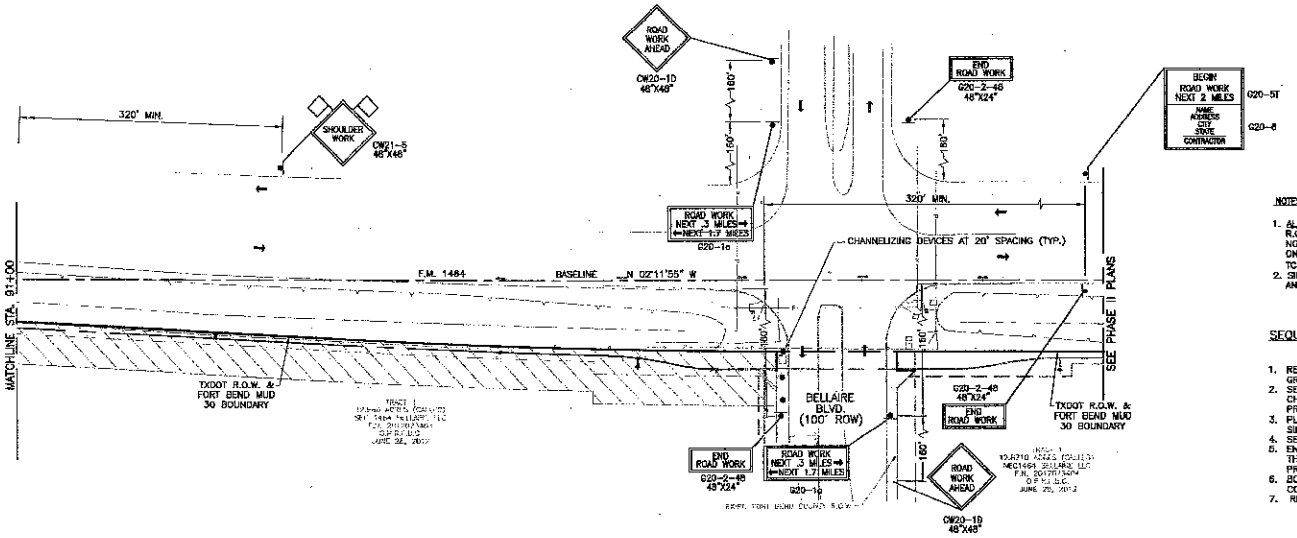

N

0 50 100 150

LEGEND

- CHANNELIZING DEVICE
- TRAFFIC FLOW ARROW
- SIGN
- WORK ZONE

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REVISIONS

MARK	DESCRIPTION	DATE	APVD

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

TRAFFIC CONTROL PLAN
STA. 91+00 TO END OF PROJECT

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE	TRAFFIC & TRANSPORTATION
9-7-17	STORM WATER QUALITY
9-7-17	FACILITIES
	STREET & DRAINAGE

FILE NO: F003-1009	FOR CITY OF HOUSTON USE ONLY
DRAWING SCALE 1"=50'	68731
SHEET No: 37 OF 42	

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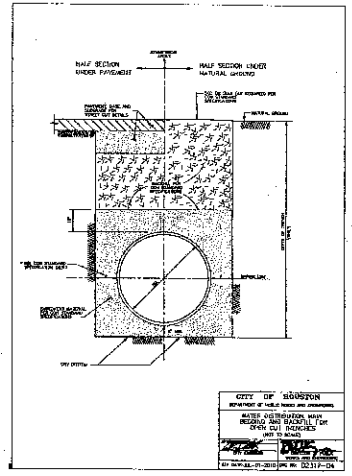
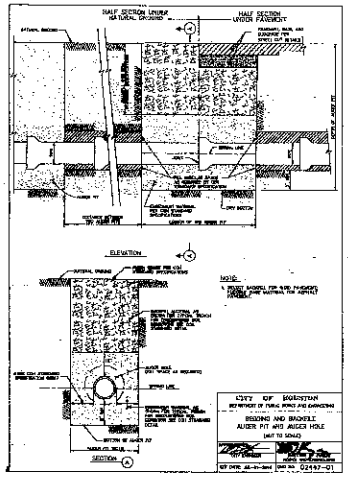
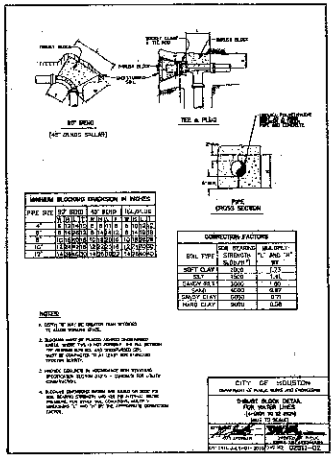
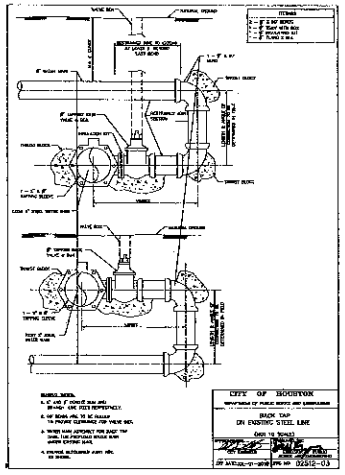
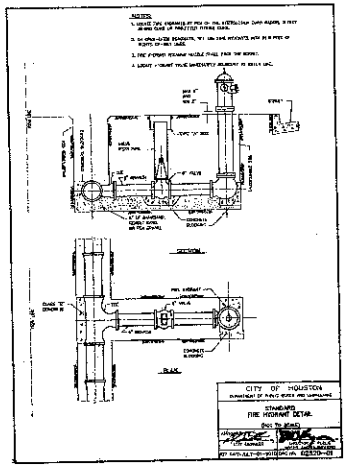
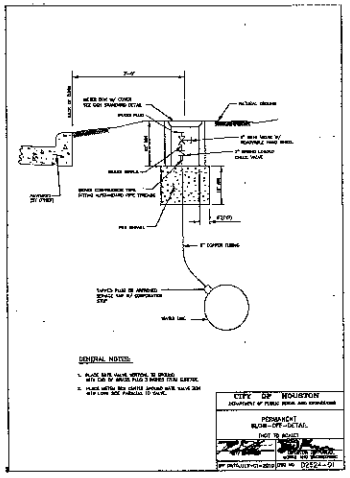


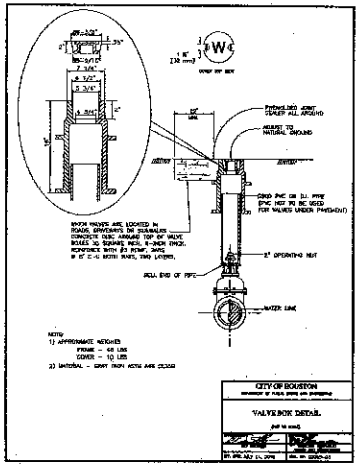


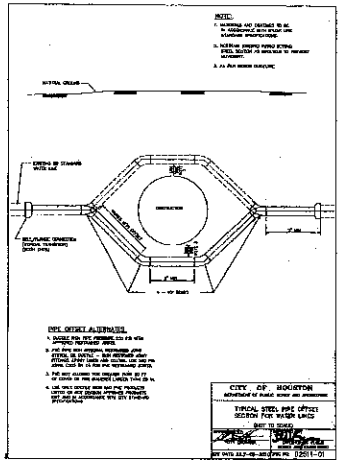












REVISIONS

NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J.A. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

WATERLINE DETAILS

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

WATER | TRAFFIC & TRANSPORTATION
CONTROL | STORM WATER QUALITY
DESIGN | FACILITIES
STREET & ROAD

FILE NO: F003-1009

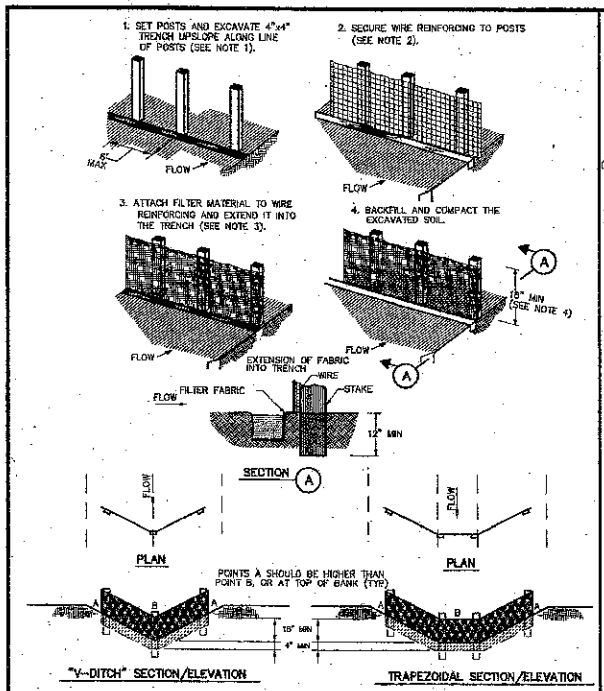
DRAWING SCALE: N.T.S.

SHEET No: 38 OF 42

FOR CITY OF HOUSTON USE ONLY

68781

P:\Active\F003\1009\Plans PHASE 1\Details\38 Water COH Details.dwg ~ 7/18/2017 10:20:55 AM ~ Mariza F. Rodriguez

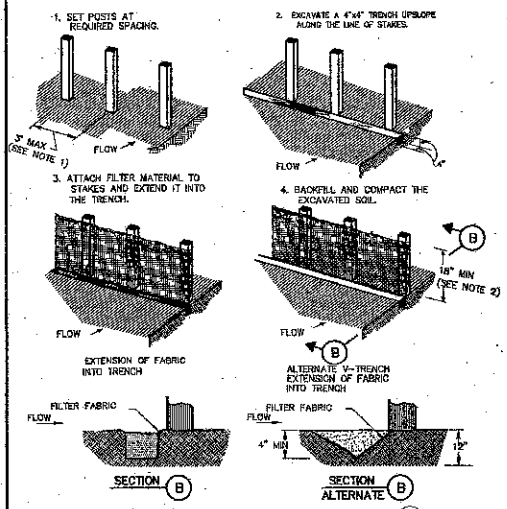


CONSTRUCTION NOTES:

1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE REINFORCING TO BE FASTENED SECURELY TO BARRIER POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE REINFORCING, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
4. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
6. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

X—(RFB)—X
SYMBOL

REINFORCED FILTER FABRIC BARRIER

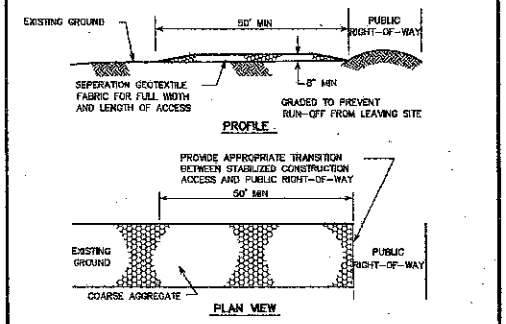


X—(FF)—X
SYMBOL

CONSTRUCTION NOTES:

1. 2 INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED BARRIER WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAX.
2. ATTACH FILTER FABRIC TO WOODEN STAKES. FILTER FABRIC BARRIER SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
4. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC BARRIER.

FILTER FABRIC BARRIER

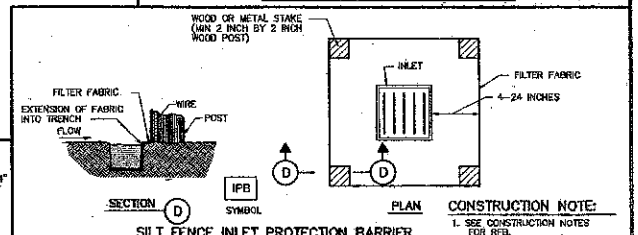


CONSTRUCTION NOTES:

1. LENGTH SHALL BE AS SHOWN ON THE CONSTRUCTION DRAWINGS, BUT NOT LESS THAN 50 FEET.
2. THICKNESS SHALL BE NOT LESS THAN 8 INCHES.
3. WIDTH SHALL BE NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
4. STABILIZATION FOR OTHER AREAS SHALL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION ACCESS, UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS.
5. STABILIZED AREA MAY BE WIDENED OR LENGTHENED TO ACCOMODATE A WASHING AREA. AN OUTLET SEDIMENT TRAP MUST BE PROVIDED FOR THE WASHING AREA.
6. COH STANDARD SPECIFICATION FOR STABILIZED CONSTRUCTION ACCESS.
7. STABILIZED CONSTRUCTION ACCESS SHALL BE MAINTAINED FREE OF SEDIMENT FOR THE DURATION OF THE PROJECT.

(SC)
SYMBOL

STABILIZED CONSTRUCTION ACCESS

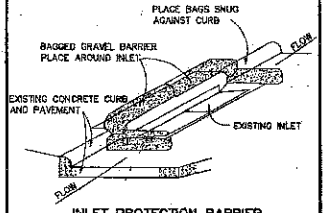


IPB
SYMBOL

SILT FENCE INLET PROTECTION BARRIER

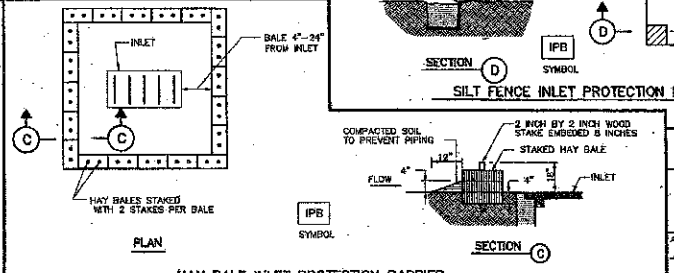
CONSTRUCTION NOTE:

1. SEE CONSTRUCTION NOTES FOR RFB.



INLET PROTECTION BARRIER

(FOR STAGE II INLETS)
BAGGED GRAVEL BARRIER



IPB
SYMBOL

HAY BALE INLET PROTECTION BARRIER

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

STORM WATER POLLUTION PREVENTION PLAN DETAILS

(NOT TO SCALE)

CITY ENGINEER | DIRECTOR OF PUBLIC WORKS AND ENGINEERING

EFF DATE: JULY-01-2010 | DWG NO: 01571-01

REVISIONS			
REVISION	DESCRIPTION	DATE	DRAWN

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

J. COSTANZA & ASSOCIATES ENGINEERING, INC.

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

STORMWATER POLLUTION PREVENTION PLAN DETAILS

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

BUILDER | TRAFFIC & TRANSPORTATION | STORM WATER QUALITY | FACILITIES | STREET & DRAINAGE

FILE NO: F003-1009

DRAWING SCALE: N.T.S.

SHEET No: 39 OF 42

FOR CITY OF HOUSTON USE ONLY

58731

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P:\Active\F003\1008\Plans PHASE 1\Details\40 TXDOT DETAILS1.dwg ~ 7/18/2017 8:48:01 AM ~ Maritza F. Rodriguez

BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended for short typical durations for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.
4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not alter or change the operational condition of any device without the approval of the Engineer.
5. Geometric design of lane shifts and tapers should, when possible, meet the multilane design criteria contained in manuals such as the AASHTO "A Policy on Geometric Design of Highways and Streets", the TxDOT "Roadway Design Manual" or engineering judgment.
6. When projects shall, the Engineer may omit the BAD ROAD WORK, TRAFFIC FINES DOUBLE, and other seasonal warning signs if the signing would be confusing or misleading to the motorist. Omission of these signs, if the Engineer judges it appropriate, and the corresponding necessary warning signs as shown on these sheets, and TCP shown on the plans, shall be at the Engineer's discretion. The BAD ROAD WORK and TRAFFIC FINES DOUBLE signs shall be placed to show appropriate work zone distances.
7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas", latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.
9. The temporary traffic control devices shown in the illustrations in the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices for the work.
10. As shown on BC(1), the ONE WORKING SIGNS STATE LAW sign and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. However, the TRAFFIC FINES DOUBLE sign will not be required on projects consisting solely of mobile operation work, such as striping or setting adjacent concrete sections. The BEGIN ROAD WORK and/or a BEGIN CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.
11. Signs for projects required by note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.
12. The Engineer has the final decision on the location of all traffic control devices.
13. Inactive equipment and work vehicles, including workers' private vehicles must be parked safe from moving traffic. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY APPAREL NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear garments that meet requirements for Class 2 of the American National Standards Institute (ANSI) 107-2004 standard performance for High Visibility Apparel. Flaggers should be considered for High Traffic Volume work areas or night time work.

Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their engineer and may be found online at the web address: ground below or by contacting:

Texas Department of Transportation
Traffic Operations Division - PE
Phone (512) 416-3126

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
PREQUALIFIED MATERIAL SPECIFICATIONS (CMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS ONLINE MANUALS"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

SHEET 1 OF 12

Texas Department of Transportation

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-13

FILE: bc1-13.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CP: TxDOT | FS: 1:1

TYPICAL LOCATION OF CROSSROAD SIGNS

T-INTERSECTION

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING

SIZE

Sign Number or Series	Conventional Road	Expressway/ Freeway
CW21, CW23, CW24, CW25, CW26	48" x 48"	48" x 48"
CW1, CW2, CW7, CW8, CW9, CW10, CW11	36" x 36"	48" x 48"
W20, CW3, CW4, CW5, CW6, W21, CW13	48" x 48"	48" x 48"
W20, CW3, CW4, CW5, CW6, W21, CW13, CW02, CW02		

SPACING

Posted Speed	Sign Spacing*
MPH	Feet
30	120
35	160
40	240
45	320
50	400
55	560**
60	720**
65	760**
70	880**
75	1320**
80	1560**

* For optimal sign spacing on multi-lane roads, contact the Traffic Safety Division, Work Zone Section. Contact Traffic Safety Division, Work Zone Section at TRF-WZ@dot.state.tx.us.

** Signs spaced 880 feet or more apart may be placed in a manner that allows the sign to be seen from a distance greater than the sign spacing.

GENERAL NOTES

1. Smaller or larger size signs may be used as necessary.
2. Minimum spacing signs should be increased or decreased to take into account actual conditions.
3. Minimum spacing signs should be increased or decreased to take into account actual conditions.
4. 36" x 36" CW21 series and CW24 series signs may be used on two lane roadways in the vicinity of the jobsite, but only if such "Typical Location of Crossroad Signs".
5. Only diagonal mounted warning sign blanks are indicated.
6. Use other sign blanks in "TRAFFIC" Sign Supports or the "Standard Highway Sign Designs for Texas" manual for additional sign support sizes.

SHEET 2 OF 12

Texas Department of Transportation

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-13

FILE: bc2-13.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CP: TxDOT | FS: 1:1

WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS

LEGEND

NOTES

TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

ATTACHMENT FOR SIGN SUPPORTS

Notes shall NOT be allowed. Base sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Bend supports shall not be extended or reshaped by splicing or other means.

SIDEPLACEMENT PADDLES

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

SHEET 4 OF 12

Texas Department of Transportation

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-13

FILE: bc4-13.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CP: TxDOT | FS: 1:1

SKID MOUNTED WOOD SIGN SUPPORTS

LONG/INTERMEDIATE TERM STAFFORDAY - PORTABLE SKID MOUNTED SIGN SUPPORTS

GROUND MOUNTED SIGN SUPPORTS

WEDGE ANCHORS

OTHER DESIGNS

SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

SHEET 5 OF 12

Texas Department of Transportation

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-13

FILE: bc5-13.dgn | DN: TxDOT | CK: TxDOT | DW: TxDOT | CP: TxDOT | FS: 1:1

REVISIONS			
NUMBER	DESCRIPTION	DATE	INITIALS

APPROVED: DEVELOPMENT COORDINATOR

DATE: 9/7/17

JA COSTANZA & ASSOCIATES
TBPE FIRM REGISTRATION NO. F-2452
TBPLS FIRM REGISTRATION NO. 10064 [illegible]

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

TXDOT STANDARDS

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

DATE: 9-5-17

DATE: 9-5-17

DATE: 9-5-17

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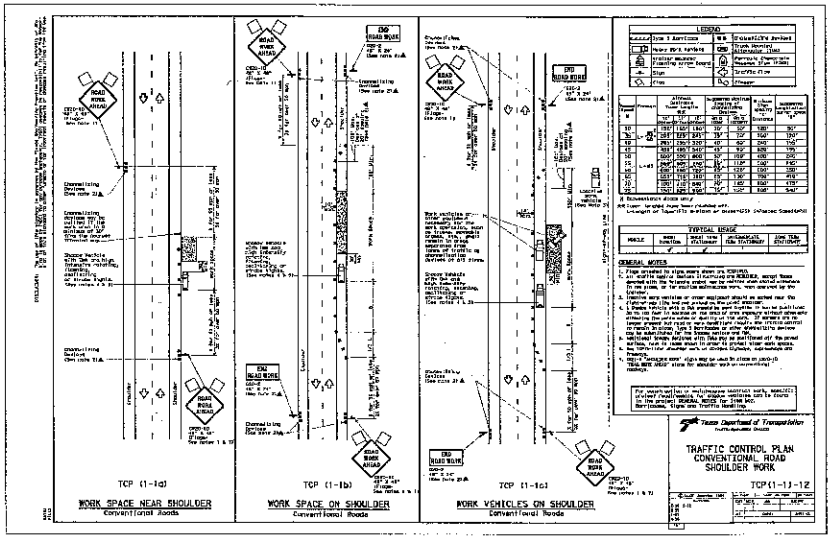
CHANNELIZING DEVICES
BARRICADE AND CONSTRUCTION
BC(8)-13
SHEET 8 OF 15
CHANNELIZING DEVICES
BARRICADE AND CONSTRUCTION
BC(10)-13
SHEET 9 OF 15
BC(9)-13
SHEET 10 OF 15
BC(1)-13
SHEET 11 OF 15
BC(1)-13
SHEET 12 OF 15
SERVICE ROADWAY TRAFFIC SIGNAL
SHEET 13 OF 15
STATE OF TEXAS
CITY OF HOUSTON
PUBLIC WORKS & ENGINEERING
DESIGN ENGINEERING DIV. SIGNAL DESIGN SECTION
TRAFFIC SIGNAL DESIGN
TXDOT STANDARDS
SUMMERWOOD LANE - 1 BEAR - 1 MILE
FOR FEDERAL COUNTY ID. NO. 36
CONTRACTS & ASSOCIATES
DATE
APPROVED
DEPUTY DIRECTOR, DESIGN ENGINEERING DIV.
APPROVED
DEPUTY DIRECTOR, PUBLIC WORKS
REVISIONS
DATE
DATE
DATE



REVISIONS			
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J. COSTANZA & ASSOCIATES

FORT BEND COUNTY M.U.D. NO. 30
FM 1464 - PHASE I
12" WATERLINE IMPROVEMENTS

TXDOT STANDARDS

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

CITY OF HOUSTON
DEPARTMENT OF PUBLIC WORKS AND ENGINEERING

PROJECT MANAGER: PUBLIC WORKS & TRANSPORTATION
INSPECTOR: 9/5/17 URBAN WATER QUALITY
DESIGNER: 9/5/17 CONSULTED
STREET & BRIDGE

FILE NO: F003-1009

DRAWING SCALE: N.T.S.

SHEET No: 42 OF 42

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