



**EL PASO WATER UTILITIES
PUBLIC SERVICE BOARD**

ADDENDUM NO. 5

FOR

**MCGREGOR 16-INCH WATER LINE, FRANKLIN EAST 24-INCH WATERLINE
EXTENSION PHASE II AND NORTHEAST DYER INTERCEPTOR PHASE IV**

BID NO. 11-23

JULY 10, 2023

In accordance with the Instruction to Bidders of the Contract Documents, the following revision to the Plans and/or Specifications shall become part of the Contract Documents and the Bidders shall acknowledge receipt thereof on their Bid Proposal.

EL PASO WATER UTILITIES

BROCK & BUSTILLOS INC.



Mirtha Solis
Senior Purchasing Agent
July 10, 2023

Hector Martinez, P.E.
Project Manager
July 10, 2023

*The EPWater representative's signature certifies that this Document shall become part of the Contract Documents for the referenced project. The signature is not a representation that the content of this document is technically correct.

**MCGREGOR 16-INCH WATER LINE
FRANKLIN EAST 24-INCH WATER LINE EXTENSION PHASE II
AND NORTHEAST DYER INTERCEPTOR PHASE IV**

BID NUMBER 11-23

ADDENDUM NO. 5

NOTICE:

1. Deadline to receive bids for the McGregor 16-inch Water Line, Franklin East 24-inch Water Line Extension Phase II and Northeast Dyer Interceptor Phase IV (Bid No. 11-23) has been **EXTENDED** to no later than **1:30 P.M. (local time) August 1, 2023**. Bids received will be publicly opened and read aloud at **2:00 p.m. (local time) August 1, 2023**.

VOLUME 1 – CONTRACT DOCUMENTS

00010-1 – INFORMAL NOTICE

1. In first paragraph, **DELETE** –“...until 1:30 p.m., local time, July 13th, 2023 and at that time and place will be publicly opened and read aloud at 2:00 p.m. ...” and **REPLACE** with “...until 1:30 p.m., local time, August 1st, 2023 and at that time and place will be publicly opened and read aloud at 2:00 p.m. ...”.

00020-1 – INVITATION TO BID

1. In first paragraph, **DELETE** –“...until 1:30 p.m., local time, July 13nd, 2023 and at that time and place will be publicly opened and read aloud at 2:00 p.m. ...” and **REPLACE** with “...until 1:30 p.m., local time, August 1st, 2023 and at that time and place will be publicly opened and read aloud at 2:00 p.m. ...”.

****END OF ADDENDUM NO. 5****



**EL PASO WATER UTILITIES
PUBLIC SERVICE BOARD**

ADDENDUM NO. 6

FOR

**MCGREGOR 16-INCH WATER LINE, FRANKLIN EAST 24-INCH WATERLINE
EXTENSION PHASE II AND NORTHEAST DYER INTERCEPTOR PHASE IV**

BID NO. 11-23

JULY 25, 2023

In accordance with the Instruction to Bidders of the Contract Documents, the following revision to the Plans and/or Specifications shall become part of the Contract Documents and the Bidders shall acknowledge receipt thereof on their Bid Proposal.

EL PASO WATER UTILITIES

BROCK & BUSTILLOS INC.

Mirtha Solis
Senior Purchasing Agent
July 25, 2023



Hector Martinez, P.E.
Project Manager
July 21, 2023

*The EPWater representative's signature certifies that this Document shall become part of the Contract Documents for the referenced project. The signature is not a representation that the content of this document is technically correct.

Receipt of this Addendum must be acknowledged in writing to El Paso Water Utilities as required by the bid documents.

BID MILESTONES – No Changes

BID ADVERTISEMENT – No Changes

VOLUME 1 – CONTRACT DOCUMENTS

BIDDING REQUIREMENTS, CONTRACT FORMS, AND CONDITIONS OF THE CONTRACT

AD-1.01. SECTION 00300 – BID FORM

- A. REMOVE Section 00300 in its entirety and REPLACE with the revised Section 00300, attached to this Addendum.

AD-1.02. SECTION 00304 – STATEMENT OF NONDIVESTMENT FROM ISRAEL

- A. Insert Section 00304 after section 00303, attached to this Addendum.

TECHNICAL SPECIFICATIONS

AD-1.03. SECTION 01025 – MEASUREMENT AND PAYMENT

- A. REMOVE Section 01025 in its entirety and REPLACE it with the revised Section 01025, attached to this Addendum.

AD-1.04. SECTION 02331 – CRUSHED STONE BASE COURSE

- A. REMOVE Section 02331 in its entirety and REPLACE it with the revised Section 02331, attached to this Addendum.

VOLUME 2 – DRAWINGS

AD-1.05. BASE BID I – MCGREGOR 16-INCH WATERLINE

- A. REMOVE and REPLACE the following sheets in their entirety, with the sheets attached to this Addendum.
 - a. C1R,
 - b. C3R,
 - c. C4R through C16R,
 - d. C20R, and
- B. ADD sheet C23 immediately after sheet C22.

AD-1.06. BASE BID II – FRANKLIN EAST 24-INCH WATERLINE

- A. REMOVE and REPLACE the following sheets in their entirety, with the sheets attached to this Addendum.
- a. C1R,
 - b. C2.1R,
 - c. C3.1R through C3.6R,
 - d. C4.1R through C4.14R, and
 - e. C6.1R

SUBMITTED QUESTIONS AND ANSWERS

The following are answers to questions that were received prior to the cutoff date for questions.

Q-1.01. Is the annular space in casings to be filled? If so with what material?

A-1.01. The annular space between the pipe and the casing will not be required to be filled.

Q-1.02. Are mechanical joint fittings with Mega-Lugs (or equal) allowed for fittings restraint on ductile iron pipe?

A-1.02. Yes, Mega-Lugs or approved equals are allowed.

Q-1.03. Is there a table or detail for the length of pipe restraint required? If not, what is the requirement to determine restraint lengths?

A-1.03. No table is provided, the contractor to follow manufacturer recommendations based on selected type of restraint joint to be used.

Q-1.04. Can anode details be provided for Base Bid 1 and Base Bid 2?

A-1.04. Anodes will not be required only Potential Test Stations. Sheets have been updated to reflect this.

Q-1.05. Will the 3 portions be awarded to one bidder based off the combined bid totals or individual base bids?

A-1.05. One contractor will be awarded all 3 base bids.

Q-1.06. Will the contractor be responsible for paying for the material testing?

A-1.06. The contractor will be responsible for all waterline-related testing (pressure). The owner will be responsible for all soil-materials related testing.

Q-1.07. Is there any water sources close to the project for construction water?

- A-1.07. The closest fire hydrant to the project is located at the intersection of Dyer Street and O'Donnell Street. The contractor will need to obtain a temporary water meter from EPWater.
- Q-1.08. Can a bid item be added for clearing & grubbing?
- A-1.08. No, the area has been rough graded by the developer.
- Q-1.09. Will any re-seeding/re-vegetating be required for the project?
- A-1.09. No re-vegetation will be needed as it will be paved by the developer.
- Q-1.10. What are the construction working limit widths for the project?
- A-1.10. EPWater holds a 64-foot easement for the installation of the water pipes and a 30-foot easement for the US-54 crossings.
- Q-1.11. What permits will the contractor be required to obtain for the project?
- A-1.11. From the City of El Paso a Traffic control Permit and a pavement cut permit. From TxDOT a Traffic Control Permit, the Utility Permits have been approved and attached to the technical specifications.
- Q-1.12. It appears that the new 24-inch and 16-inch waterlines are to be installed on a percent of slope similar to that of a sewer line. Is this correct, or do the waterlines just require a minimum bury depth and will not be required to be installed per the slope call outs on the plans?
- A-1.12. The waterlines will need to be installed per grades shown on plans as a new road and utility improvements will be installed by the subdivision developer.
- Q-1.13. The new sewer line appears to vary from 5 feet to 9 feet from the edge of the asphalt roadway on Stan Roberts. When installing the new sewer line our excavator track will have to ride on the asphalt and as a result will likely cause damage to the roadway. What will be required of the contractor to repair the roadway if this damage occurs?
- A-1.13. Any damaged pavement will need to be replaced in accordance with the City of El Paso Ordinances at contractor's expense.
- Q-1.14. Are we to follow the plan details and specifications for the bedding and backfill of the new pipelines or do we follow the geotechnical report?
- A-1.14. Contractor to follow the plans and specifications.
- Q-1.15. Will the contractor be allowed to close Stan Roberts for the utility installation, or will the road have to have a lane closure and flagging operation for the utility installation?
- A-1.15. We anticipate a shoulder work/lane closure configuration will be required for

the utility installations.

Q-1.16 Will TMA's (truck mounted attenuators) be required for the traffic control?

A-1.16. It is not expected for Stan Roberts, but it is possible TXDOT or COEP will require them.

Q-1.17 Will Native material be acceptable for all bedding and backfilling of the new utilities for the project?

A-1.17. Refer to detail 171 for pipe embedment. Generally, sand or gravel is accepted as bedding, with native material as backfilling. Soil samples will be collected and tested by Owner to verify its suitability.

Q-1.18 What size of openings are required in the cones for the pre-cast?

A-1.18. The top conic section of the manholes has a 30-inch opening per detail 370-1, and a standard diameter of 48-inches.

Q-1.19 Base Bid I- Sheet C5 Plan View. Near the end of the 30-Inch Steel Casing by Open Cut STA 15+30 it appears to be another existing Manhole in conflict with new 16-Inch waterline.

A-1.19. Yes, the additional manhole was marked on Sheet C5R, as part of Addendum #3.

Q-1.20 Base Bid I- Bid Item #6 calls for the removal of existing 12-24 Inch Dia. Pipe. Referencing the plans, it is not clear the extends of the removal. Can you please clarify the extends of the removal. What Station?

A-1.20. There exists two 12-inch stub-outs of pipe (approximately 20-LF total) that will no longer be used, as well as a 24-inch stub-out (approximately 100-LF) will be removed up to station 20+49.87 of the new 24-inch pipe alignment.

Q-1.21 Base Bid I- Sheet C9. Waterline section seems to be missing on Profile View STA 50+00 to 53+50.

A-1.21. The waterline is shown with approximate 9-feet of cover.

Q-1.22 Base Bid III- Item #7. Per our pipe suppliers 21-Inch PVC C900 does not exist. According to them existing size can be 21-Inch SDR26 or close size in C900 can be 20-Inch or 24-Inch C900 DR18 or D25.

A-1.22. Addendum #1 replaced the C900 portion of pipe to be SDR 26 with a steel casing.

Q-1.23 Base Bid III- Cured-in-place liners are mentioned in the qualifications and there is also a section on the technical specifications. Manhole details and plans do not call for any

CIP liners. Manhole type A standard detail Sheet C 15 Note #7 calls for Manholes below ground water to be externally and internally coated with bituminous coating. Also, there is no bid item for these CIP liners. Can you please clarify if CIP liners will be required on this project or if any internal coating and what type.

A-1.23. Triplex Liner or approved equal will be required and are incidental to the manhole items, and additional vertical foot line items.

Q-1.24 Station 32+68.43 shows installing a 48" observation manhole with 24x24x24" tee. Please provide a detail, and please add a bid item for 48" observation manholes?

A-1.24. The manhole is part of the Vertical Gate Valve line item not for an observation manhole. Sheet C7R shows the revised label.

Q-1.25 Base Bid II - Bid Item #9 has a quantity of 271 each, please change to 271 LF

A-1.25. Yes, the correct unit of measure is LF not EACH.

Q-1.26 Can you please provide form 00100/00304 – Statement of Non-Divestment from Israel from. Can you confirm if the Safety Record – Section 00100/00301 is required with the bid.

A-1.26. Yes, section 00304 is attached to this addendum.

Q-1.27 Does any of the piping inside the casing on this job need to be restrained joint or are standard gasketed joints acceptable?

A-1.27. Pipe restraints, per pipe manufacturer's recommendation, will be required inside the casing.

Q-1.28 Are there additional Typical Drawings for Cathodic Details. The only Typical detail drawing shows a Monitoring (MTS Test Station). Sequence C6.1 does not have any MTS Test Stations listed on the Schedule. It has ITS Test Stations, PTS Test Stations, and ATS Test Stations. There are no Specifications for what type of test stations requested (Big Fink, Testox, Cristy Box etc.), test station cable, reference electrodes (if requested) how many anodes are needed per each test station. Can the specs be updated to show what types of each we will need.

A-1.28. Only Monitoring Test Stations will be required for the waterlines. There is no pre-approved manufacture for the test stations. The sheet schedule was updated to reflect this.

ATTACHMENTS:

- Attachment No. 1.01 – SECTION 00300 – BID FORM,
- Attachment No. 1.02 – SECTION 00304 – STATEMENT OF NONDIVESTMENT FROM ISRAEL
- Attachment No. 1.03 – SECTION 01025 – MEASUREMENT AND PAYMENT
- Attachment No. 1.04 – SECTION 02331 – CRUSHED STONE BASE COURSE
- Attachment No. 1.05 – BASE BID I – MCGREGOR 16-INCH WATELINE
- Attachment No. 1.06 – BASE BID II – FRANKLIN EAST 24-INCH WATERLINE

Addendum No. 6, pages 1 through 68, shall become part of the Contract and all provisions of the Contract shall apply thereto. The time provided for completion of the Contract **is not** changed. Bidders shall acknowledge receipt of all Addenda by number in the space provided in the Proposal.

*****END OF ADDENDUM NO. 6*****

SECTION 00300

BID FORM

PROJECT IDENTIFICATION: El Paso Water Utilities

McGregor 16-inch Water Line, Franklin East 24-inch Water Line
Extension Phase II, and Northeast Dyer Interceptor Phase IV

BID NO.: 11-23

Name and Address of OWNER:

El Paso Water Utilities
Public Service Board
1154 Hawkins Boulevard
P. O. Box 511
El Paso, Texas 79961

Name and Address of BIDDER:

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an agreement with OWNER in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for ninety days after the day of Bid opening. In the case of State, Federal, or NADBank-funded projects, all Bids will remain subject to acceptance for 90 days or such reasonable time as the funding agency may require. BIDDER will sign and submit the Agreement with the Bonds and other documents required by the Bidding Requirements within ten days after the date of OWNER's Notice of Award.
3. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:
 - A. BIDDER has examined copies of all the Bidding Documents and of the following Addenda **(receipt of all which is hereby acknowledged)**:

Date	Number

- B. BIDDER has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance, or furnishing of the Work.
 - C. BIDDER has studied carefully all reports and drawings of subsurface conditions and drawings of physical conditions which are identified in the Supplementary Conditions as provided in Paragraph 5.03 of the General Conditions, and accepts the determination set forth in Paragraph SC-5.03 of the Supplementary Conditions of the extent of the technical data contained in such reports and drawings.
 - D. BIDDER has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests and studies (in addition to or to supplement those referred to in "C." above) which pertain to the subsurface or physical conditions at the site or otherwise may affect the cost, progress, performance or furnishing of the Work as BIDDER considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Paragraph 5.03 of the General Conditions.
 - E. BIDDER has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities.
 - F. BIDDER has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents.
 - G. BIDDER has given ENGINEER written notice of all conflicts, errors, or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to BIDDER.
 - H. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
 - I. All price quotes by the bidder shall be entirely in United States Currency (U.S. Dollars).
4. Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

***** HIGH IMPORTANCE *****

**TEXAS ETHICS COMMISSION
REQUIREMENT**

*****IN THE EVENT YOU RECEIVE AN AWARD OF THIS CONTRACT*****

Reference: FORM 1295 (revised 12/22/17) "Certificate of Interested Parties"

**A business entity must file Form 1295 electronically with the Texas Ethics Commission using the Commission's online filing application, which can be found at:
https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm**

SEE INSTRUCTIONS: Form 1295 and Sample Form 1295 (Section 00302)

Base Bid 1: McGregor 16-inch Water Line

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>UOM</u>	<u>Brief Description of Item</u>	<u>Unit Bid Price</u>	<u>Extended Amount (Qty. x Unit Price)</u>
1.	1	L.S.	Insurance, Bonds, and Move-In Related Expenses, Not to Exceed 5% of Bid Item Nos. 2 through 17. If Item No. 1 exceeds 5%, bid may be deemed non-responsive).	\$ _____	\$ _____
2.	12,700	L.F.	Furnish and Install 16-in D.I. Pressure Pipe Waterline Class 350, including valves, appurtenances, and fittings, complete in place.	\$ _____	\$ _____
3.	16	EACH	Furnish and Install 16-inch Vertical Gate Valve with Manhole Assembly Including any appurtenances and fittings, complete in place.	\$ _____	\$ _____
4.	15	EACH	Furnish and Install 3-inch Air/Vacuum Combination Valve assembly including any appurtenances and fittings, complete in place	\$ _____	\$ _____
5.	3	EACH	Furnish and Install Blow-Off Valve with Manhole assembly including any appurtenances and fittings, complete in place	\$ _____	\$ _____
6.	1	L.S.	Remove and salvage existing 12-to-24-inch diameter pipe and appurtenances.	\$ _____	\$ _____
7.	160	L.F.	Furnish and Install 30-inch diameter steel casing by Open-Cut Method	\$ _____	\$ _____
8.	12,700	L.F.	Trench Safety System, Trench Box Method or Shoring, Sheet piling and Bracing Method	\$ _____	\$ _____

9.	65	S.Y.	Remove and Replace 2-inch Hot Mix Asphaltic Concrete Pavement (HMAC) to include 12-in 2-sack cement bridge, tack coat, complete in place.	\$ _____	\$ _____
10.	5	EACH	Potholing in Street	\$ _____	\$ _____
11.	1	L.S.	Preconstruction Video of Existing Site Conditions	\$ _____	\$ _____
12.	1	L.S.	Storm Sewer Prevention Plan	\$ _____	\$ _____
13.	1	L.S.	Traffic Control	\$ _____	\$ _____
14.	5	EACH	Remove and Salvage Existing Manhole Assembly for Existing 24-inch Vertical Gate Valve. Remove and dispose of existing MH base.	\$ _____	\$ _____
15.	5	EACH	Furnish and Install New Manhole Assembly for existing 24-inch gate valve including relocating existing piping, appurtenances, and fittings, complete in place.	\$ _____	\$ _____
16.	1	L.S.	Cathodic Protection and Corrosion Monitoring Test Stations, including all appurtenances necessary as applicable to item 2.	\$ _____	\$ _____
17.	8,538	S.Y.	8-inch Crushed Basecourse Type A, Grade 1 or 2, complete in place.	\$ _____	\$ _____
18.	8,538	S.Y.	2-inch HMAC TxDOT Type C, complete in place.	\$ _____	\$ _____
19.	40	L.F.	Furnish and Install 30-inch diameter steel casing by Boring Method	\$ _____	\$ _____

TOTAL BASE BID 1 PRICE (ITEMS 1 THROUGH 19) \$ _____

Base Bid 2: Franklin East 24-inch Water Line Extension Phase II

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>UOM</u>	<u>Brief Description of Item</u>	<u>Unit Bid Price</u>	<u>Extended Amount (Qty. x Unit Price)</u>
1.	1	L.S.	Insurance, Bonds, and Move-In Related Expenses, Not to Exceed 5% of Bid Item Nos. 2 through 15. If Item No. 1 exceeds 5%, bid may be deemed non-responsive).	\$ _____	\$ _____
2.	19,013	L.F.	24-inch Ductile Iron Pipe, including all fittings and appurtenances	\$ _____	\$ _____
3.	971	L.F.	8-inch PVC Pressure Pipe Class 305	\$ _____	\$ _____
4.	22	EACH	24-inch Vertical Gate Valve with Manhole assembly	\$ _____	\$ _____
5.	9	EACH	6-inch Air/Vacuum Combination Valve Assembly	\$ _____	\$ _____
6.	7	EACH	6-inch Blow-off Valve Assembly with Manhole	\$ _____	\$ _____
7.	5	EACH	Furnish and Install and Observation Manhole assembly, including appurtenances and fittings, complete in place.	\$ _____	\$ _____
8.	132	L.F.	Furnish and Install 48-inch diameter steel casing by boring method.	\$ _____	\$ _____
9.	271	L.F.	48-inch Diameter Steel casing by open-cut method	\$ _____	\$ _____
10.	19,984	L.F.	Trench Safety System, Trench Box Method or Shoring, Sheeting Method	\$ _____	\$ _____
11.	1	L.S.	Cathodic Protection and Corrosion Monitoring Test Stations, including all appurtenances necessary as applicable to item 2.	\$ _____	\$ _____

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>UOM</u>	<u>Brief Description of Item</u>	<u>Unit Bid Price</u>	<u>Extended Amount (Qty. x Unit Price)</u>
12.	66	S.Y.	Remove and Replace 2-inch Hot Mix Asphaltic Concrete Pavement (HMAC) to include 12-in 2-sack cement bridge, tack coat, complete in place.	\$ _____	\$ _____
13.	1	L.S.	Video Recording	\$ _____	\$ _____
14.	1	L.S.	SWPPP	\$ _____	\$ _____
15.	1	L.S.	Traffic Control	\$ _____	\$ _____

TOTAL BASE BID 2 PRICE (ITEMS 1 THROUGH 15) \$ _____

Base Bid 3: Northeast Dyer Interceptor Phase IV

<u>Item No.</u>	<u>Estimated Quantity</u>	<u>UOM</u>	<u>Brief Description of Item</u>	<u>Unit Bid Price</u>	<u>Extended Amount (Qty. x Unit Price)</u>
1.	1	L.S.	Insurance, Bonds, and Move-In Related Expenses, Not to Exceed 5% of Bid Item Nos. 2 through 15. If Item No. 1 exceeds 5%, bid may be deemed non-responsive).	\$ _____	\$ _____
2.	1	L.S.	Video Recording.	\$ _____	\$ _____
3.	1	L.S.	Traffic Control and Traffic Safety System.	\$ _____	\$ _____
4.	1,125	L.F.	Furnish and Install 12-inch PVC SDR 35 Sanitary Sewer Line, backfill and compaction to finished subgrade complete in place.	\$ _____	\$ _____
5.	8,262	L.F.	Furnish and Install 15-inch PVC SDR 26 Sanitary Sewer Line, backfill and compaction to finished subgrade complete in place.	\$ _____	\$ _____
6.	5,010	L.F.	Furnish and Install 21-inch PVC SDR 26 Sanitary Sewer Line, backfill and compaction to finished subgrade complete in place.	\$ _____	\$ _____

7.	0	L.F.	Furnish and Install 21-inch PVC C900 Sanitary Sewer Line, backfill and compaction to finished subgrade complete in place.	\$ _____	\$ _____
8.	14,397	L.F.	Trench Safety System: Trench Box Method or Shoring, Sheeting, and Bracing Method.	\$ _____	\$ _____
9.	133	L.F.	Furnish and Install 48-inch diameter steel casing by boring method.	\$ _____	\$ _____
10.	291	L.F.	Furnish and Install 48-inch diameter steel casing by Open-cut method.	\$ _____	\$ _____
11.	30	EACH	48-inch Standard Manhole to a maximum depth of 6-ft complete in place.	\$ _____	\$ _____
12.	135	V.F.	48-inch Standard Manhole additional depth beyond 6-ft complete in place.	\$ _____	\$ _____
13.	1	EACH	72-inch Manhole, complete in place.	\$ _____	\$ _____
14.	715	S.Y.	Remove and Replace 2-inch Hot Mix Asphaltic Concrete Pavement (HMAC) to include 12-in 2-sack cement bridge, tack coat, complete in place.	\$ _____	\$ _____
15.	1	L.S.	Storm Water Pollution Prevention Plan	\$ _____	\$ _____

TOTAL BASE BID 3 PRICE (ITEMS 1 THROUGH 15) \$ _____

TOTAL BID PRICE (Base Bid 1 + Base Bid 2 + Base Bid 3) \$ _____

Quantities are not guaranteed.

If multiple awards are contemplated under a single bid document, an additional breakdown of bid amounts, subcontractors, and suppliers is required. It will also be necessary to adjust the MWBE Certification and Participation Summary Form accordingly.

In accordance with Section 151.311 of the Texas Tax Code (V.A.T.C.S.), regarding taxes on materials and services, and requiring a separated contract, the following is the breakdown of cost for materials and cost for labor for this bid:

MATERIALS TO BE INCORPORATED IN PROJECT NOT SUBJECT TO SALES TAX: \$ _____

LABOR TO BE INCORPORATED IN PROJECT NOT SUBJECT TO SALES TAX: \$ _____

RENTAL EQUIPMENT

AND OTHER TAXABLE ITEMS: \$ _____

**OTHER (I.E. BONDS, INSURANCE,
CAPITAL EQUIPMENT, ETC.)** \$ _____

***TOTAL CONTRACT:** \$ _____
***(TOTAL MUST EQUAL TOTAL BID PRICE)**

5. BIDDER agrees that the Work will be Substantially completed within 620 Calendar Days from the date when the Contract Time commences to run as provided in Paragraph 2.03 of the General Conditions, and as revised in Supplementary Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions, and as revised in the Supplementary Conditions, within 650 calendar days. Final completion includes CONTRACTOR'S resolution of all punch list items and CONTRACTOR'S submission of required close-out documentation. Any failure of the CONTRACTOR to complete the project within the contract time will be considered a material breach of this contract.

BIDDER accepts the provisions of the Supplementary Conditions and the Agreement as to liquidated damages in the event of failure to complete the Work on time.

6. BIDDER MUST ANSWER THE FOLLOWING QUESTIONS: (Refer to INSTRUCTIONS TO BIDDERS for definitions.)

- A. Is the bidder that is making and submitting this bid a "RESIDENT BIDDER" or a "NONRESIDENT BIDDER"?

Answer: _____

- B. If the bidder is a "NONRESIDENT BIDDER", does the state in which the Nonresident Bidder's principal place of business is located have a law requiring a Nonresident Bidder of that state to bid a certain amount of percentage under the bid or a Resident Bidder of that state in order for the nonresident bidder of that state to be awarded a contract on his or her bid in such state?

Answer: _____

- C. If the answer to the question in Paragraph 6B above is "yes", then what amount or percentage must a Texas Resident Bidder bid under the bid of a Resident Bidder of that state in order to be awarded a contract on such bid in said state?

Answer: _____

7. The following documents are attached to and made a condition of this Bid:

- A. Required Bid Security in the form of _____

- B. A tabulation of all Subcontractors who will provide labor at the site of the work or render services to the CONTRACTOR in or about the construction of the work and Suppliers and other persons and organizations is required to be identified in this Bid. Complete the

following table, designating each as Small Locally-Owned Business Enterprise (SLBE), Minority Business Enterprise (MBE), Women-Owned Business Enterprise (WBE), or Other (not either SLBE, WBE, or MBE) is required. Only one category may be checked. Include the work item and value of work to be provided by the Prime Contractor, as well as its category.

Tabulation of Subcontractors and Suppliers

SUBCONTRACTOR/SUPPLIER	WORK ITEM	SUBCONTRACT OR PURCHASE ORDER VALUE (If value is unknown, please list <i>Pending</i>)	S L B E	M B E	W B E
Prime Contractor:					

C. Will the Contractor meet the Small Locally Owned Business Enterprise, Minority Business Enterprise and Women-Owned Business Enterprise goals as required by these contract documents and the funding agencies?

YES _____ NO _____

If "YES", include above each of the firms to be used, their business status as a SLBE, MBE, or WBE, the proposed dollar value and type of work to be performed.

If "NO", documentation supporting good faith effort is required.

8. Communications concerning this Bid shall be addressed to the following named individual, address, telephone number, facsimile number, and e-mail address:

Name: _____

Address: _____

Phone: _____ Fax: _____ E-mail: _____

9. The terms used in this Bid which are defined in the General Conditions of the Construction Contract

included as part of the Contract Documents have the meanings assigned to them in the General Conditions.

SUBMITTED on _____, 20__.

If BIDDER is:

An Individual

By _____ (SEAL)
(Name of Bidder)

(Title) (Signature)

doing business as _____

Business Address: _____

Phone No.: _____

A Partnership

By _____ (SEAL)
(Firm Name)

(Signature - general partner)

Business Address: _____

Phone No.: _____

A Corporation (Revised 10/12/92, 1/7/93, 4/13, 3/1/22)

By _____
(Corporation Name)

(State of Incorporation and State of Principal Place of Business)

By _____
(Name of Person Authorized to Sign)

(Title) (Signature)

(Corporate Seal)

Attest _____
(Secretary)

Business Address: _____

Phone No.: _____

Federal Tax Identification Number: _____

When proposing as a Corporation, Bidder swears and affirms by signing this Bid that the proposing Corporation is currently in existence, is currently authorized to do business in the State of Texas (or State of incorporation) and that no franchise tax reports or payments are delinquent as of the date of this Bid Proposal. The Bidder will provide a Certificate of Account Status with the signed Contract Documents. See Section 00510, for the sample form which is to be obtained by the successful Contractor from the Texas (or other state) Comptroller of Public Accounts and submitted as part of the final, executed Contract Documents.

CERTIFICATION OF INSURANCE AVAILABILITY

Date _____

I, _____ (Name of Insurance Agent), certify that I have reviewed the insurance requirements listed in Article 5 of the Supplementary Conditions of the specifications for the McGregor 16-inch Water Line, Franklin East 24-inch Water Line Extension Phase II, and Northeast Dyer Interceptor Phase IV, Bid No. 11-23, and further certify that _____ (Name of Bidder) has or can obtain the insurance coverage required by this Project so that a certificate of insurance and a copy(s) for the actual insurance policies can be submitted to the Owner within ten (10) days of the Notice of Award.

Signed _____

Title _____

Insurance Agency _____

Address _____

Telephone _____

**MINORITY CERTIFICATION
AND
PARTICIPATION SUMMARY**
(EPWU CIP FUNDED PROJECTS)

BID NUMBER: _____

BID TITLE: _____

I certify that the Small Locally-Owned Businesses (SLBE), Minority (MBE) and Women's Business Enterprises (WBE) participating in this project are qualified in accordance with the Minority requirements included in the above listed Bid Documents and that we will ensure all consultants, contractors, suppliers, and subcontractors will comply with the Minority guidelines. Definitions of each category are found in the 00100, Instructions to Bidders Section. Attached are:

Solicitation Documents: _____

Proposed Subcontracts for the below listed firms: _____

SLBE, MBE, or WBE FIRM NAME	ADDRESS	PHONE	CONTRACT AMOUNT	SLBE	MBE	WBE

The attached documents outline the Good Faith Effort taken in complying with the Minority Guidelines.

CONTRACTOR

SIGNATURE OF AUTHORIZED REPRESENTATIVE

DATE

PRINTED NAME OF AUTHORIZED REPRESENTATIVE

**MINORITY CERTIFICATION
AND
PARTICIPATION SUMMARY**
(TWDB FUNDED PROJECTS)

BID NUMBER: _____

BID TITLE: _____

I certify that the Minority (MBE) and Women's Business Enterprises (WBE), Small Business Enterprises (SBE), and Small Business in Rural Area (SBRA) participating in this project are qualified in accordance with the Minority requirements included in the above listed Bid Documents and that we will ensure all consultants, contractors, suppliers, and subcontractors will comply with the Minority guidelines. Definitions of each category are found in the 00100, Instructions to Bidders Section. Attached are:

Solicitation Documents: _____

Proposed Subcontracts for the below listed firms: _____

MBE, WBE, SBE or SBRA FIRM NAME	ADDRESS	PHONE	CONTRACT AMOUNT	MBE	WBE	SBE	SBRA

The attached documents outline the Good Faith effort taken in complying with the Minority Guidelines.

CONTRACTOR

SIGNATURE OF AUTHORIZED REPRESENTATIVE

DATE

PRINTED NAME OF AUTHORIZED REPRESENTATIVE

SECTION 01025 – MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 REQUIREMENTS INCLUDED

- A. The construction plans and specifications include estimated material quantities per street. These quantities were included to facilitate the preparation of an estimate of the construction cost.

The Contractor should not rely solely on these quantities to prepare his or her bid, but should prepare his or her own estimate of the materials required to complete the project.

- B. Measurement and payment shall be as specified in this Section. Information regarding measurement and payment is further supplemented in each technical specification section. Work to be performed under this contract will be paid for on the basis specified under the appropriate Bid Items on the Bid Form.
- C. The Contractor shall, within fifteen (15) days of receipt of Notice of Award, submit a complete breakdown of lump sum and other bid items showing the value assigned to each part of the Work including overhead and profit. Payment for materials delivered but not fully incorporated in the Work will be made only if such materials are listed, insured and assigned a value in the Contractor's submittal, a paid receipt is provided, and the application for payment has been approved. The Engineer will review and approve the schedule of values prior to Owner's issuance of a Notice to Proceed.
- D. General Scope of Work under each Bid Item includes labor, materials, and all incidental costs required for the construction of a completely functional and operational facility as detailed on the Drawing and in these Specifications.

1.2 ITEM DESCRIPTION

This is a description of the work included and the method of measurement and payment to be applied for the work in each proposal item. Measurement will be for work in place with no allowance for waste.

A. Base Bid 1, McGregor 16-inch Water Line, potable water main

Bid Item 1, Insurance, Bonds, and Move-In Related Expenses: This line item covers the costs for mobilization and demobilization, insurance and contractual documents, and cannot exceed 5% of the total bid price. Payment shall be made at 50% its value at initial mobilization and 50% after substantial completion milestone.

Bid Item 2, 16-inch DI Pressure Pipe (Class 350) Waterline: Measurement and payment shall be made at the stated unit price per linear foot of 16-in DI Pressure Pipe Class 350 furnished and installed as called for in the plans and specifications. This shall include but not be limited to trenching, pipe, piping connections, valves, fittings, tapping sleeves, appurtenances, pipe embedment and backfill, replacement of sanitary sewer with pressure rated PVC pipe, detection tape, concrete blocking, labor, equipment, traffic control, disinfection, testing and any other incidental items, not specifically mentioned in the specifications which are necessary for proper operation of the water main. The Engineer and/or Resident Project Representative may approve the installation of up to 50 linear feet of water pipes in addition to the estimated bid quantities, if it is required on the project.

Installation of water pipe may be required within close proximity to other utilities and/or structures and may not provide ample room for the use of large construction equipment. In these cases, the Contractor shall hand dig the trench in order to install the water pipe. This shall be especially evident for installation of water pipe near existing utilities.

There are several locations in which crossings of sanitary sewer lines will be necessary and encasement, sewer line replacement with pressure rated pipe, ductile iron potable pipeline segments, and soils cement backfill will be required. Contractor to account for this cost and include in Bid Item No. 2 unit price. There shall be no separate payment for this work and shall be considered incidental to this Bid Item No. 2.

Bid Item 3, 16-inch Vertical Gate Valve Assembly with Manhole: Work under this item shall include furnishing all labor, material, equipment and performing all operations required to install gate valve, manholes and associated assembly as shown on the drawings and specifications.

Manholes of standard precast or cast-in place bases shall be measured for each type installed to a depth as shown in plans for related manholes, including bases, pipe penetrations, grout, concrete, sealant, protective coatings, frames, covers, concrete collars, testing and other appurtenances as shown on the drawings. The additional depth of manhole risers shall be included in this item and will not be paid separate.

This item will be measured for payment per each installed and accepted.

Bid Item 4, Combination 3-inch Air Release/Vacuum Valve Assembly: Work under this item shall include all costs associated with furnishing, labor, materials, equipment, additional removal and replacement of asphaltic pavement structure; restoration of concrete sidewalk and curb and gutter; and incidentals to install combination air release/vacuum valves, manholes and associated assembly as shown on the drawings and specifications.

Manholes of standard precast or cast-in-place bases shall be measured for each type installed to a depth as shown in plans for 48-inch and/or 72-inch diameter manholes, including bases, pipe penetrations, grout, concrete, sealant, protective coatings, frames, covers, concrete collars, testing and other appurtenances as shown on the drawings and in accordance with EPW requirements. The additional depth of manhole risers shall be included in this item and will not be paid separate.

This item will be measured for payment per each valve installed and accepted.

Bid Item 5, Blow-off Valve with Manhole Assembly: Work under this item shall include all costs associated with furnishing labor, materials, equipment, additional removal and replacement of asphaltic pavement structure; restoration of concrete sidewalk and curb and gutter; and incidentals to install Blow-Off Valves, manholes and associated assembly as shown on the drawings and specifications.

Manholes of standard precast or cast-in-place bases shall be measured for each type installed to a depth as shown in plans for 48-inch and/or 72-inch diameter manholes, including bases, pipe penetrations, grout, concrete, sealant, protective coatings, frames, covers, concrete collars, testing and other appurtenances as shown on the drawings and in accordance with EPWU requirements. The additional depth of manhole risers shall be included in this item and will not be paid separate.

This item will be measured for payment per each.

Bid Item 6, Remove and Salvage Existing 12-to-24-inch Diameter Pipe and Appurtenances: Measurement and payment shall be made at the stated unit price for each linear foot of waterline removed and properly salvaged and returned to El Paso Water as called for in the plans and specifications. The removal and salvage work includes a valve, cross, bend, and all other appurtenances. This work shall include but not be limited to excavation, backfill, labor, complete disassembly of connections and fittings, and transportation for delivery to El Paso Water facility. The concrete thrust block shall be properly disposed of.

Bid Item 7, 30-inch Diameter Steel Casing by Boring Method: Work under this item shall include all costs associated with furnishing labor, materials, equipment, required to install 30-inch diameter steel casing by boring method. This bid item shall include casing and required vent piping, casing insulators, end seals, pits and related shoring, pipe supports, pipe restraints, skids, and other incidental work required to complete the work.

This item will be measured for payment per linear foot.

Bid Item 8, Trench Safety System, Trench Box Method or Shoring, Sheet Piling Method: Measurement and payment shall be made at the stated unit price per linear foot to include all labor, materials, equipment, and incidentals required for the installation of trench safety system for the construction of water lines in accordance with the technical specifications and OSHA requirements as applicable. Work, time and fees for the required submittals associated with this item shall be included herein. There shall be no separate payment for this work and shall be considered incidental to this Bid Item No. 8.

Bid Item 9, 2-inch HMAC Pavement Removal and Replacement including 12-inches 2-sack soil cement: Measurement and payment shall be made at the stated unit price per square yards. This shall include but not be limited to HMAC removal and replacement, labor, equipment, saw cutting, resurfacing existing base course, tack coat application of 0.15 gal/sy, heater scarifying any resulting edges where required, pavement markings replacements, and any other incidental items not specifically mentioned in the specifications which are necessary for the pavement of the street that was excavated. This bid item also includes 12-inches of 2-sack soil cement as shown on the plans.

No additional payment will be made for pavement removal and replacement beyond that required by the City's ordinance due to damages beyond required limits, intentionally or accidentally by the Contractor's activities. In addition, final determination of pavement replacement quantities will be made if, in the opinion of the Engineer or upon evidence furnished by the Contractor, substantial variations exist between quantities shown on the plans and actual quantities due to changes in cross sections, apparent errors, or poor pavement conditions that are beyond the control of the Contractor. Contractor shall notify Engineer of poor pavement conditions at existing adjoining edge, prior to saw cut edge, that could result in difficulty staying within the established limits to allow coordination with City of El Paso officials and determine resolution prior to saw cutting and milling operations. Contractor shall notify Engineer of poor existing drainage conditions prior to pavement removal to inform and coordinate with City of El Paso and avoid conflicts with improper drainage caused by pavement replacement operations.

Bid Item 10, Potholing in Streets and Alleys: Measurement and payment shall be made at the stated unit price per each pothole. This shall include all material, equipment, tools, and labor necessary to excavate and backfill the pothole if construction in the area will not follow immediately. Potholing shall be performed to verify location and material type of existing water main.

Bid Item 11, Videotaping: Measurement and payment shall be made per lump sum to include all labor and materials required to video-record the pipeline route prior to

construction. Also to include cost to convert master video recording to DVD format. Contractor will provide owner with one (1) copy of the video recording and one (1) DVD. The Engineer will be provided with one (1) copy of the video recording and the Contractor will also keep one (1) copy of the video recording.

Bid Item 12, Stormwater Pollution Prevention Plan (SWPPP): Measurement and payment shall be made per lump sum to include all labor, materials and equipment required to implement all storm water pollution prevention (SWPPP) and environmental protection measures as required by TPDES, TCEQ and City of El Paso. This includes but is not limited to SWPPP development, filter fabric fence installation and removal, construction entrances, erosion control, inlet protection installation and removal, maintenance of SWPPP, application for and obtaining the required TPDES permit, NOI and NOT, and all ancillary requirements necessary to satisfactorily complete the Work.

Bid Item 13, Traffic Control: The Traffic Control Plan shall be measured by month. Payment for the TCP shall include preparation of a formal TCP by a Texas Licensed Professional Engineer; submitting and obtaining approval of the formal TCP from the required governing agencies; furnishing, installing, and maintaining the approved TCP complete for the duration of the project. Implementing and maintaining the TCP in conformance to the specifications and principles given in the "Texas Manual on Uniform Traffic Control Devices" over the entire project area; and all other incidentals required for Contractor to complete, implement, and maintain the TCP requirements. Conflicting pavement markings/signs must be removed/covered for long-term projects. Work-zone markings must be installed where needed. Original markings/signs that are removed must be replaced upon completion. All costs for installation, maintenance, adjustments, replacements, removal, materials, equipment, labor, tools, and incidentals shall be compensated under this pay item.

Bid Item 14, Remove and Salvage Existing Manhole Related to Existing 24-inch Vertical Gate Valve: Measurement and payment shall be made at the stated unit price for each manhole removed, salvaged, and returned to El Paso Water as called for in the plans and specifications. This shall include but not be limited to excavation, disassembly of manhole sections, and transportation for delivery to El Paso Water facility. Salvaged manhole will include the ring and cover and joint gaskets. This bid item includes backfill, labor, equipment, removal and disposal of the existing manhole base, and any other incidental items not specifically mentioned which are necessary for the proper removal, salvage, and delivery of the manhole.

Bid Item 15, Furnish and Install New Manhole Assembly for Existing 24-inch Gate Valve using Existing Piping to be Relocated: Work under this item shall include furnishing all labor, material, equipment and performing all operations required to relocate the existing assembly piping, including shutting off relevant section of the existing 24-inch pipe, all appurtenances, and fittings, and installation of a new manhole, complete in place, as shown in the plans and specifications and in El Paso Water detail 261-4.

Manholes of standard precast or cast-in place bases shall be measured for each type installed to a depth as shown in plans for related manholes, including bases, pipe penetrations, grout, concrete, sealant, protective coatings, frames, covers, concrete collars, testing and other appurtenances as shown on the drawings. The additional depth of manhole risers shall be included in this item and will not be paid separate.

This item will be measured for payment per each installed and accepted.

Bid Item 16, Cathodic Protection and Corrosion Monitoring Test Stations: Measurement and payment for this item shall be made at the stated lump sum price. Work

under this item shall include furnishing all labor, material, equipment and tools required to install corrosion monitoring and cathodic protection systems to the 24-inch water line, including corrosion test stations (CTS), wiring, connections, concrete/HMAC restoration, landscaping, all permits required, and all other appurtenances as shown on the drawings to complete the work. This item will be measured for payment per lump sum.

Bid Item 17, 8-inch Crushed Basecourse Type A: Measurement and payment shall be made at the stated unit price per square yards. Payment for furnishing and installing 8-inch crushed stone course (Type A Grade 1 or 2) shall include: basecourse, compaction as specified, equipment, testing, labor, tools, prime coat placement, preparation of 12-inch subgrade scarification, blended and compacted subgrade materials, testing for subgrade compaction and incidentals. Contractor shall be responsible for the repair of damages or distress to adjacent properties, structures, and utilities caused by these operations. All costs for this work shall be compensated under this pay item.

Bid Item 18, 2" HMAC TXDOT Type C: Measurement and payment shall be made at the stated unit price per square yard. This shall include but not be limited to furnishing and installing 2 inches of HMAC, including neat saw cut of the existing asphalt, removing, and disposing of the removed asphalt, the new asphalt, materials, application of seal coat at 0.15 gal/sy, thermoplastic pavement markings, adjustment of existing valves, meters, and manholes, joints to existing pavements, equipment, labor tools, and incidentals. The contractor shall be responsible for the repair of damage or distress to adjacent properties, structures, and utilities caused by these operations. All costs for this work shall be compensated under this bid item.

Bid Item 19, 30-inch Diameter Steel Casing by Boring Method: This item will be measured for payment per linear foot successfully installed. Work under this item shall include all costs associated with furnishing labor, materials, equipment, required to install 30-inch diameter steel casing by boring method. This bid item shall include casing and required vent piping, casing insulators, end seals, pits and related shoring, pipe supports, pipe restraints, skids, and other incidental work required to complete the work.

B. Base Bid 2, Franklin East 24-inch Water Line Extension Phase II, potable water main

Bid Item 1, Insurance, Bonds, and Move-In Related Expenses: This line item covers the costs for mobilization and demobilization, insurance and contractual documents, and cannot exceed 5% of the total bid price. Payment shall be made at 50% its value at initial mobilization and 50% after substantial completion milestone.

Bid Item 2, 24-inch DI Waterline Class 350: Measurement and payment shall be made at the stated unit price per linear foot of pipe furnished and installed as called for in the plans and specifications. This shall include but not be limited to trenching, pipe, piping connections, fittings, tapping sleeves, appurtenances, pipe embedment and backfill, detection tape, concrete blocking, labor, equipment, traffic control, disinfection, testing and any other incidental items, not specifically mentioned in the specifications which are necessary for proper operation of the water main. The Engineer and/or Resident Project Representative may approve the installation of up to 50 linear feet of water pipes in addition to the estimated bid quantities, if it is required on the project.

Installation of water pipe may be required within close proximity to other utilities and/or structures and may not provide ample room for the use of large construction equipment. In these cases, the Contractor shall hand dig the trench in order to install the water pipe.

There are several locations in which crossings of sanitary sewer lines will be necessary and encasement, sewer line replacement with pressure rated pipe, ductile iron potable pipeline

segments, and soils cement backfill will be required. Contractor to account for this cost and include in Bid Item No. 2 unit price. There shall be no separate payment for this work and shall be considered incidental to this Bid Item No. 2.

Bid Item 3, 8-inch PVC Pressure Pipe Class 305: Measurement and payment shall be made at the stated unit price per linear foot of blue pipe furnished and installed as called for in the plans and specifications. This shall include but not be limited to trenching, pipe, piping connections, valves, fittings, tapping sleeves, appurtenances, pipe embedment and backfill, replacement of sanitary sewer with pressure rated PVC pipe, detection tape, concrete blocking, labor, equipment, traffic control, disinfection, testing and any other incidental items, not specifically mentioned in the specifications which are necessary for proper operation of the water main. The Engineer and/or Resident Project Representative may approve the installation of up to 50 linear feet of PVC water pipes in addition to the estimated bid quantities, if it is required on the project.

Installation of water pipe may be required within close proximity to other utilities and/or structures and may not provide ample room for the use of large construction equipment. In these cases, the Contractor shall hand dig the trench in order to install the water pipe. This shall be especially evident for installation of water pipe within the alley ways.

There are several locations in which crossings of sanitary sewer lines will be necessary and encasement, sewer line replacement with pressure rated pipe, ductile iron potable pipeline segments, and soils cement backfill will be required. Contractor to account for this cost and include in Bid Item No. 3 unit price. There shall be no separate payment for this work and shall be considered incidental to this Bid Item No. 3.

Bid Item 4, 24-inch Vertical Gate Valve Assembly with Manhole: Work under this item shall include furnishing all labor, material, equipment and performing all operations required to install gate valve, manholes and associated assembly as shown on the drawings and specifications.

Manholes of standard precast or cast-in place bases shall be measured for each type installed to a depth as shown in plans for related manholes, including bases, pipe penetrations, grout, concrete, sealant, protective coatings, frames, covers, concrete collars, testing and other appurtenances as shown on the drawings. The additional depth of manhole risers shall be included in this item and will not be paid separate.

This item will be measured for payment per each installed and accepted.

Bid Item 5, Combination 6-inch Air Release/Vacuum Valve Assembly: Work under this item shall include all costs associated with furnishing, labor, materials, equipment, additional removal and replacement of asphaltic pavement structure; restoration of concrete sidewalk and curb and gutter; and incidentals to install combination air release/vacuum valves, manholes and associated assembly as shown on the drawings and specifications.

Manholes of standard precast or cast-in-place bases shall be measured for each type installed to a depth as shown in plans for 48-inch and/or 72-inch diameter manholes, including bases, pipe penetrations, grout, concrete, sealant, protective coatings, frames, covers, concrete collars, testing and other appurtenances as shown on the drawings and in accordance with EPW requirements. The additional depth of manhole risers shall be included in this item and will not be paid separate.

This item will be measured for payment per each valve installed and accepted.

Bid Item 6, Blow-off Valve Assembly for 24-inch Waterline with Manhole: Work under this item shall include all costs associated with furnishing labor, materials,

equipment, additional removal and replacement of asphaltic pavement structure; restoration of concrete sidewalk and curb and gutter; and incidentals to install Blow-Off Valves, manholes and associated assembly as shown on the drawings and specifications.

Manholes of standard precast or cast-in-place bases shall be measured for each type installed to a depth as shown in plans for 48-inch and/or 72-inch diameter manholes, including bases, pipe penetrations, grout, concrete, sealant, protective coatings, frames, covers, concrete collars, testing and other appurtenances as shown on the drawings and in accordance with EPWU requirements. The additional depth of manhole risers shall be included in this item and will not be paid separate.

This item will be measured for payment per each.

Bid Item 7, Observation Manhole Assembly: Work under this item shall include all costs associated with furnishing labor, materials, equipment, additional removal and replacement of asphaltic pavement structure; restoration of concrete sidewalk and curb and gutter; and incidentals to install Observation Manhole, including but not limited to manhole, rebar, concrete collar, tee fitting, blind flange, neoprene fabric, gravel well and associated assembly as shown on the drawings and specifications.

Manholes of standard precast or cast-in-place bases shall be measured for each type installed to a depth as shown in plans for 48-inch and/or 72-inch diameter manholes, including bases, pipe penetrations, grout, concrete, sealant, protective coatings, frames, covers, concrete collars, testing and other appurtenances as shown on the drawings and in accordance with EPWU requirements. The additional depth of manhole risers shall be included in this item and will not be paid separate.

This item will be measured for payment per each.

Bid Item 8, 48-inch Diameter Steel Casing by Boring Method: Work under this item shall include all costs associated with furnishing labor, materials, equipment, required to install 48-inch diameter steel casing by boring method. This bid item shall include casing and required vent piping, casing insulators, end seals, pits and related shoring, pipe supports, pipe restraints, skids, and other incidental work required to complete the work.

This item will be measured for payment per linear foot.

Bid Item 9, 48-inch Diameter Steel Casing by Open Cut Method: Work under this item shall include all costs associated with furnishing labor, materials, equipment, required to install 48-inch diameter steel casing by open cut method. This bid item shall include casing and required vent piping, casing insulators, end seals, pits and related shoring, pipe supports, pipe restraints, skids, and other incidental work required to complete the work.

This item will be measured for payment per linear foot.

Bid Item 10, Trench Safety System, Trench Box Method or Shoring, Sheeting Method: Measurement and payment shall be made at the stated unit price per linear foot to include all labor, materials, equipment, and incidentals required for the installation of trench safety system for the construction of water lines in accordance to the technical specifications and OSHA requirements as applicable. Work, time, and fees for the required submittals associated with this item shall be included herein.

This item will be measured for payment per linear foot.

Bid Item 11, Cathodic Protection and Corrosion Monitoring Test Stations: Measurement and payment for this item shall be made at the stated lump sum price. Work

under this item shall include furnishing all labor, material, equipment and tools required to install corrosion monitoring and cathodic protection systems to the 24-inch water line, including corrosion test stations (CTS), sacrificial anodes, wiring, connections, concrete/HMAC restoration, landscaping, all permits required, and all other appurtenances as shown on the drawings to complete the work.

This item will be measured for payment per lump sum.

Bid Item 12, 2-inch HMAC Pavement Removal and Replacement including 12-inches 2-sack soil cement: Measurement and payment shall be made at the stated unit price per square yards. This shall include but not be limited to HMAC removal and replacement, labor, equipment, saw cutting, resurfacing existing base course, tack coat application of 0.15 gal/sy, heater scarifying any resulting edges where required, pavement markings replacements, and any other incidental items not specifically mentioned in the specifications which are necessary for the pavement of the street that was excavated. This bid item also includes 12-inches of 2-sack soil cement as shown on the plans.

No additional payment will be made for pavement removal and replacement beyond that required by the City's ordinance due to damages beyond required limits, intentionally or accidentally by the Contractor's activities. In addition, final determination of pavement replacement quantities will be made if, in the opinion of the Engineer or upon evidence furnished by the Contractor, substantial variations exist between quantities shown on the plans and actual quantities due to changes in cross sections, apparent errors, or poor pavement conditions that are beyond the control of the Contractor. Contractor shall notify Engineer of poor pavement conditions at existing adjoining edge, prior to saw cut edge, that could result in difficulty staying within the established limits to allow coordination with City of El Paso officials and determine resolution prior to saw cutting and milling operations. Contractor shall notify Engineer of poor existing drainage conditions prior to pavement removal to inform and coordinate with City of El Paso and avoid conflicts with improper drainage caused by pavement replacement operations.

Bid Item 13, Videotaping: Measurement and payment shall be made per lump sum to include all labor and materials required to video-record the pipeline route prior to construction. Also to include cost to convert master video recording to DVD format. Contractor will provide owner with one (1) copy of the video recording and one (1) DVD. The Engineer will be provided with one (1) copy of the video recording and the Contractor will also keep one (1) copy of the video recording.

This item will be measured for payment per lump sum.

Bid Item 14, Stormwater Pollution Prevention Plan (SWPPP): Measurement and payment shall be made per lump sum to include all labor, materials and equipment required to implement all storm water pollution prevention (SWPPP) and environmental protection measures as required by TPDES, TCEQ and City of El Paso. This includes but is not limited to SWPPP development, filter fabric fence installation and removal, construction entrances, erosion control, inlet protection installation and removal, maintenance of SWPPP, application for and obtaining the required TPDES permit, NOI and NOT, and all ancillary requirements necessary to satisfactorily complete the Work.

This item will be measured for payment per lump sum.

Bid Item 15, Traffic Control: Measurement and payment shall be made per month to include all labor, materials and equipment required to implement all traffic control measures as required by TXDOT and the City of El Paso. This includes but is not limited to signs, advanced warning signs, barricades, detours, permit costs, and all ancillary requirements necessary to satisfactorily complete the Work.

This item will be measured for payment per month.

C. Base Bid 3, Northeast Dyer Interceptor Phase IV, wastewater main

Bid Item 1, Insurance, Bonds, and Move-In Related Expenses: This line item covers the costs for mobilization and demobilization, insurance and contractual documents, and cannot exceed 5% of the total bid price. Payment shall be made at 50% its value at initial mobilization and 50% after substantial completion milestone.

Bid Item 2, Videotaping: Measurement and payment shall be made per lump sum to include all labor and materials required to video-record the pipeline route prior to construction. Also to include cost to convert master video recording to DVD format. Contractor will provide owner with one (1) copy of the video recording and one (1) DVD. The Engineer will be provided with one (1) copy of the video recording and the Contractor will also keep one (1) copy of the video recording.

This item will be measured for payment per lump sum.

Bid Item 3, Traffic Control: Measurement and payment shall be made per month to include all labor, materials and equipment required to implement all traffic control measures as required by TXDOT and the City of El Paso. This includes but is not limited to signs, advanced warning signs, barricades, detours, permit costs, and all ancillary requirements necessary to satisfactorily complete the Work.

This item will be measured for payment per month.

Bid Item 4, 12-inch PVC SDR 35 Sanitary Sewer Line: Measurement and payment shall be made per linear foot of 12-inch diameter sewer line installed by open cut method. Payment shall be for furnishing and installing 12-in diameter PVC pipe and fittings by open cut and is considered to include but is not limited to: excavation, bedding, compaction, backfill, disposal, protection of existing structures, subsidiary items noted in the drawings, and other ancillary costs required to successfully complete the work.

Bid Item 5, 15-inch PVC SDR 26 Sanitary Sewer Line: Measurement and payment shall be made per linear foot of 15-inch diameter sewer line installed by open cut method. Payment shall be for furnishing and installing 15-in diameter PVC pipe and fittings by open cut and is considered to include but is not limited to: excavation, bedding, compaction, backfill, disposal, protection of existing structures, subsidiary items noted in the drawings, and other ancillary costs required to successfully complete the work.

Bid Item 6, 21-inch PVC SDR 26 Sanitary Sewer Line: Measurement and payment shall be made per linear foot of 21-inch diameter sewer line installed by open cut method. Payment shall be for furnishing and installing 21-in diameter PVC pipe and fittings by open cut and is considered to include but is not limited to: excavation, bedding, compaction, backfill, disposal, protection of existing structures, subsidiary items noted in the drawings, and other ancillary costs required to successfully complete the work.

Bid Item 7, 21-inch PVC C900 Sanitary Sewer Line: Item will not be used. ~~Measurement and payment shall be made per linear foot of 21-inch diameter sewer line installed by open cut method. Payment shall be for furnishing and installing 21-in diameter PVC pipe and fittings by open cut and is considered to include but is not limited to: excavation, bedding, compaction, backfill, disposal, protection of existing structures, subsidiary items noted in the drawings, and other ancillary costs required to successfully complete the work.~~

Bid Item 8, Trench Safety System, Trench Box Method or Shoring, Sheeting Method:

Measurement and payment shall be made at the stated unit price per linear foot to include all labor, materials, equipment, and incidentals required for the installation of trench safety system for the construction of water lines in accordance to the technical specifications and OSHA requirements as applicable. Work, time, and fees for the required submittals associated with this item shall be included herein.

This item will be measured for payment per linear foot.

Bid Item 9, 48-inch Diameter Steel Casing by Boring Method: Work under this item shall include all costs associated with furnishing labor, materials, equipment, required to install 48-inch diameter steel casing by boring method. This bid item shall include casing and required vent piping, casing insulators, end seals, pits and related shoring, pipe supports, pipe restraints, skids, and other incidental work required to complete the work.

This item will be measured for payment per linear foot.

Bid Item 10, 48-inch Diameter Steel Casing by Open Cut Method: Work under this item shall include all costs associated with furnishing labor, materials, equipment, required to install 48-inch diameter steel casing by open cut method. This bid item shall include casing and required vent piping, casing insulators, end seals, pits and related shoring, pipe supports, pipe restraints, skids, and other incidental work required to complete the work.

This item will be measured for payment per linear foot.

Bid Item 11, 48-inch Diameter Standard Manhole: Measurement for 48-inch diameter standard manholes will be made per each furnished and installed manhole.

Payment shall be for 6-feet deep, or less, 48-inch diameter standard manhole furnished and installed, complete in place, and is considered to include but not limited to: excavation, bedding, backfilling, compaction, site disposal, protection of existing structures, utility relocation and protection, external drop connections, and other ancillary costs required to successfully complete the work including internal coating with Triplex Liner or approved equal, complete in place.

Bid Item 12, 48-inch Diameter Standard Manhole Additional Depth Beyond 6-feet:

Measurement for 48-inch diameter standard manholes deeper than 6-feet will be made per additional vertical linear foot of depth additional to the standard 6-ft of depth.

Payment for the additional depth of 48-inch diameter manholes more than 6 feet, complete in place, and is considered to include but not limited to: excavation, bedding, backfilling, compaction, site disposal, protection of existing structures, utility relocation and protection, and other ancillary costs required to complete the work including internal coating with Triplex Liner or approved equal.

Bid Item 13, 72-inch Diameter Standard Manhole: Measurement for 72-inch diameter standard manholes will be made per each furnished and installed manhole.

Payment shall be for 6-feet deep, or less, 72-inch diameter standard manhole furnished and installed, complete in place, and is considered to include but not limited to: excavation, bedding, backfilling, compaction, site disposal, protection of existing structures, utility relocation and protection, external drop connections, and other ancillary costs required to successfully complete the work including internal coating with Triplex Liner or approved equal, complete in place.

Bid Item 14, 2-inch HMAC Pavement Removal and Replacement including 12-inches 2-sack soil cement: Measurement and payment shall be made at the stated unit price per square yards. This shall include but not be limited to HMAC removal and replacement, labor, equipment, saw cutting, resurfacing existing base course, tack coat application of 0.15 gal/sy, heater scarifying any resulting edges where required, pavement markings replacements, and any other incidental items not specifically mentioned in the specifications which are necessary for the pavement of the street that was excavated. This bid item also includes 12-inches of 2-sack soil cement as shown on the plans.

No additional payment will be made for pavement removal and replacement beyond that required by the City's ordinance due to damages beyond required limits, intentionally or accidentally by the Contractor's activities. In addition, final determination of pavement replacement quantities will be made if, in the opinion of the Engineer or upon evidence furnished by the Contractor, substantial variations exist between quantities shown on the plans and actual quantities due to changes in cross sections, apparent errors, or poor pavement conditions that are beyond the control of the Contractor. Contractor shall notify Engineer of poor pavement conditions at existing adjoining edge, prior to saw cut edge, that could result in difficulty staying within the established limits to allow coordination with City of El Paso officials and determine resolution prior to saw cutting and milling operations. Contractor shall notify Engineer of poor existing drainage conditions prior to pavement removal to inform and coordinate with City of El Paso and avoid conflicts with improper drainage caused by pavement replacement operations.

Bid Item 15, Stormwater Pollution Prevention Plan (SWPPP): Measurement and payment shall be made per lump sum to include all labor, materials and equipment required to implement all storm water pollution prevention (SWPPP) and environmental protection measures as required by TPDES, TCEQ and City of El Paso. This includes but is not limited to SWPPP development, filter fabric fence installation and removal, construction entrances, erosion control, inlet protection installation and removal, maintenance of SWPPP, application for and obtaining the required TPDES permit, NOI and NOT, and all ancillary requirements necessary to satisfactorily complete the Work.

This item will be measured for payment per lump sum.

END OF SECTION

SECTION 02331 – CRUSHED STONE BASE COURSE

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Crushed Stone Base Course.

1.2 REFERENCES

- A. ASTM D1557 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10 lb. (4.54 Kg) Rammer and 18-inch (457 mm) Drop.
- B. ASTM D2922 - Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
- C. ASTM D3017 - Test Methods for Moisture Content of Soil & Soil-Aggregate Mixtures.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. The Base Course shall have a minimum of 8-inch Crushed Stone Base: Conforming to Type A, Grade 1 or 2, Item 247 of the latest version of the Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify substrate has been inspected, gradients and elevations are correct, and are dry.

3.2 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place fill on soft, muddy, or frozen surfaces.
- C. To protect the underlying course and to ensure proper drainage, the spreading of the base shall begin along the centerline of the pavement on, a crowned section, or on the high side of the pavement with a one-way slope.

3.3 AGGREGATE PLACEMENT

- A. Spread aggregate over prepared substrate to a total compacted thickness as indicated on the Drawings.
- B. The aggregate, as spread, shall be of uniform gradation with no segregation or pockets of fine or coarse materials. The aggregate shall not be spread more than 2,000 square yards or 500 linear feet in advance of the rolling.
- C. Place aggregate in maximum 8-inch loose layers and compact to 100% maximum dry density and a moisture content within plus or minus 2%, in accordance with ASTM D1557. If more than one layer is required, the construction procedure described herein shall apply similarly to each layer.

- D. Level and contour surfaces to elevations and gradients indicated.
- E. Add small quantities of fine aggregate to coarse aggregate to assist compaction.
- F. Add water to assist compaction. If excess water is apparent, remove aggregate and aerate to reduce moisture content.
- G. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

3.4 **FINISHING AND COMPACTING**

- A. After spreading, the crushed aggregate shall be thoroughly compacted by rolling. The rolling shall progress gradually from the sides to the center of the lane under construction, or from one side toward previously placed material by lapping uniformly each preceding rear wheel track by one half the width of such track.
- B. Rolling shall continue until the rear wheels have rolled the entire area of the course. The rolling shall continue until the stone is thoroughly set, the interstices of the material reduced to a minimum, and until creeping of the stone ahead of the roller is no longer visible.
- C. The Crushed Stone Base Course shall be moisture conditioned and compacted to a minimum of 100 percent of maximum dry density as determined by ASTM D1557, unless otherwise indicated on drawings.
- D. The Crushed Stone Base Course for the full depth shall be within plus or minus 2 percent of optimum moisture content as determined by ASTM D1557.

3.5 **TOLERANCES**

- A. Flatness: Maximum variation of 1/4 inch measured with 16-foot straight edge when applied to the surface parallel with, and at right angles to, the centerline.
- B. Scheduled Compacted Thickness: Within 1/4 inch.

3.6 **FIELD QUALITY CONTROL**

- A. As per Section 02222 – Excavating, Backfilling and Compaction for Asphaltic Pavement and Pavement Replacement.

END OF SECTION

NOTES:

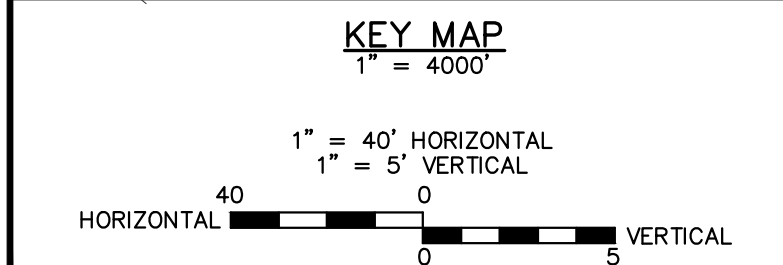
MCGREGOR ALIGNMENT TABLE										
LINE/CURVE	START STA.	END STA.	LINE/CHORD BEARING	LENGTH	DELTA ANGLE	RADIUS	CHORD LENGTH	TANGENT	BNE	ENE
L1	0+00.00	9+00.00	N51° 37' 46.97"E	900.00	-	-	-	-	N10734941.1944 E428203.4764	N10735499.8616 E428909.0903
L2	9+00.00	23+44.23	N51° 37' 46.97"E	1444.23	-	-	-	-	N10735499.8616 E428909.0903	N10736396.3517 E430041.3852
L3	23+44.23	43+72.31	S38° 21' 29.36"E	2028.08	-	-	-	-	N10736396.3517 E430041.3852	N10734806.0399 E431299.9616
C1	84+99.39	93+57.24	N27° 25' 45.29"E	857.86	48.4252	1015.00	832.551	456.427	N10737367.2041 E434536.2005	N10738106.1598 E434919.7173
L7	93+57.24	104+46.27	N3° 14' 29.53"E	1089.02	-	-	-	-	N10738106.1598 E434919.7173	N10739193.4391 E434981.2964
L8	104+46.27	126+78.18	S86° 45' 20.82"E	2231.91	-	-	-	-	N10739193.4391 E434981.2964	N10739067.1306 E437209.6338

MCGREGOR MANHOLES STRUCTURE TABLE		
STRUCTURE NAME:	STATION & COORDINATES	DETAILS:
MH-01	STA: 0+10.00 N: 10,734,947.4009 E: 428,211.3154	DIA. 48" RIM = 4029.56 SUMP = 4020.62 DEPTH = 8.94'
MH-02	STA: 5+40.03 N: 10,735,276.4122 E: 428,628.8668	DIA. 48" RIM = 4022.45 SUMP = 4013.03 DEPTH = 9.42'
MH-03	STA: 9+47.61 N: 10,735,538.5312 E: 428,939.2009	DIA. 48" RIM = 4016.26 SUMP = 4006.84 DEPTH = 9.42'
MH-04	STA: 12+91.19 N: 10,735,742.6876 E: 429,215.7872	DIA. 48" RIM = 4013.63 SUMP = 4004.59 DEPTH = 9.04'
MH-05	STA: 13+01.19 N: 10,735,745.3671 E: 429,226.4208	DIA. 48" RIM = 4013.51 SUMP = 4003.99 DEPTH = 9.52'
MH-06	STA: 15+22.18 N: 10,735,895.9715 E: 429,389.0581	DIA. 48" RIM = 4013.75 SUMP = 4004.33 DEPTH = 9.42'
MH-07	STA: 15+31.39 N: 10,735,987.4742 E: 429,407.5220	DIA. 48" RIM = 4013.43 SUMP = 3993.07 DEPTH = 20.35'
MH-08	STA: 15+79.06 N: 10,735,934.3844 E: 429,431.1846	DIA. 48" RIM = 4013.75 SUMP = 4004.33 DEPTH = 9.42'
MH-09	STA: 19+48.18 N: 10,736,163.5143 E: 429,720.5832	DIA. 48" RIM = 4013.75 SUMP = 4004.33 DEPTH = 9.42'
MH-10	STA: 19+58.17 N: 10,736,153.1884 E: 429,741.5049	DIA. 48" RIM = 4016.03 SUMP = 4006.76 DEPTH = 9.27'
MH-11	STA: 22+77.23 N: 10,736,351.2340 E: 429,991.6495	DIA. 48" RIM = 4018.71 SUMP = 4009.73 DEPTH = 8.98'
MH-12	STA: 23+40.80 N: 10,736,407.2283 E: 430,028.4011	DIA. 48" RIM = 4019.73 SUMP = 4010.31 DEPTH = 9.42'
MH-13	STA: 23+59.82 N: 10,736,384.1232 E: 430,051.0629	DIA. 48" RIM = 4019.41 SUMP = 4010.91 DEPTH = 8.50'
MH-14	STA: 26+86.88 N: 10,736,124.8638 E: 430,250.5025	DIA. 48" RIM = 4018.24 SUMP = 4006.45 DEPTH = 11.79'
MH-15	STA: 31+45.86 N: 10,735,767.7539 E: 430,538.8586	DIA. 48" RIM = 4014.52 SUMP = 4004.60 DEPTH = 9.92'
MH-16	STA: 32+68.43 N: 10,735,668.8468 E: 430,611.3951	DIA. 48" RIM = 4014.47 SUMP = 4004.56 DEPTH = 9.91'
MH-17	STA: 37+66.31 N: 10,735,278.4387 E: 430,920.3648	DIA. 48" RIM = 4014.48 SUMP = 4004.33 DEPTH = 10.15'
MH-18	STA: 37+95.86 N: 10,735,258.0584 E: 430,942.2325	DIA. 48" RIM = 4014.48 SUMP = 4004.15 DEPTH = 10.33'
MH-19	STA: 43+89.31 N: 10,734,813.0601 E: 431,316.0846	DIA. 48" RIM = 4014.05 SUMP = 4003.00 DEPTH = 11.05'
MH-20	STA: 45+84.87 N: 10,734,937.9531 E: 431,466.6455	DIA. 48" RIM = 4017.42 SUMP = 4002.97 DEPTH = 14.45'

MCGREGOR MANHOLES STRUCTURE TABLE		
STRUCTURE NAME:	STATION & COORDINATES	DETAILS:
MH-21	STA: 53+37.31 N: 10,735,398.9865 E: 432,061.3400	DIA. 48" RIM = 4011.85 SUMP = 3997.44 DEPTH = 14.41'
MH-22	STA: 53+74.90 N: 10,735,428.2245 E: 432,086.1431	DIA. 48" RIM = 4011.68 SUMP = 3997.03 DEPTH = 14.64'
MH-23	STA: 60+45.74 N: 10,735,838.2587 E: 432,617.1457	DIA. 48" RIM = 4009.24 SUMP = 3995.17 DEPTH = 14.07'
MH-24	STA: 63+28.31 N: 10,736,013.6109 E: 432,836.7175	DIA. 48" RIM = 4010.01 SUMP = 4001.00 DEPTH = 9.01'
MH-25	STA: 67+84.88 N: 10,736,303.2205 E: 433,191.7712	DIA. 48" RIM = 4016.24 SUMP = 4003.95 DEPTH = 12.29'
MH-26	STA: 73+81.29 N: 10,736,667.0699 E: 433,664.4156	DIA. 48" RIM = 4020.17 SUMP = 4006.24 DEPTH = 13.94'
MH-27	STA: 78+95.31 N: 10,736,992.3255 E: 434,062.5111	DIA. 48" RIM = 4021.17 SUMP = 4007.00 DEPTH = 14.17'
MH-28	STA: 81+72.27 N: 10,737,157.9268 E: 434,284.6544	DIA. 48" RIM = 4020.12 SUMP = 4004.28 DEPTH = 13.83'
MH-29	STA: 83+84.88 N: 10,737,296.1408 E: 434,446.4062	DIA. 48" RIM = 4018.86 SUMP = 4005.24 DEPTH = 13.62'
MH-30	STA: 88+40.34 N: 10,737,615.0333 E: 434,770.1089	DIA. 48" RIM = 4015.52 SUMP = 4003.75 DEPTH = 11.78'
MH-31	STA: 92+28.33 N: 10,737,976.7929 E: 434,912.2061	DIA. 48" RIM = 4014.56 SUMP = 4001.64 DEPTH = 12.92'
MH-32	STA: 97+07.36 N: 10,738,455.2672 E: 434,947.5024	DIA. 48" RIM = 4017.14 SUMP = 4004.00 DEPTH = 13.14'
MH-33	STA: 100+46.76 N: 10,738,794.5749 E: 434,958.7064	DIA. 48" RIM = 4018.67 SUMP = 4005.00 DEPTH = 13.67'
MH-34	STA: 102+75.74 N: 10,739,022.7343 E: 434,979.6415	DIA. 48" RIM = 4015.94 SUMP = 4004.13 DEPTH = 11.81'
MH-35	STA: 104+85.65 N: 10,739,191.2104 E: 435,020.6159	DIA. 48" RIM = 4012.74 SUMP = 4004.50 DEPTH = 8.24'
MH-36	STA: 113+85.65 N: 10,739,140.2775 E: 435,919.1736	DIA. 48" RIM = 4007.26 SUMP = 3999.06 DEPTH = 8.21'
MH-37	STA: 115+45.25 N: 10,739,135.7381 E: 436,078.7756	DIA. 48" RIM = 4005.60 SUMP = 3998.24 DEPTH = 7.36'
MH-38	STA: 124+85.65 N: 10,739,078.0263 E: 437,017.4107	DIA. 48" RIM = 4000.23 SUMP = 3993.46 DEPTH = 6.77'
MH-39	STA: 126+49.24 N: 10,739,073.2612 E: 437,180.9925	DIA. 48" RIM = 4000.59 SUMP = 3988.09 DEPTH = 12.50'

BENCHMARK:

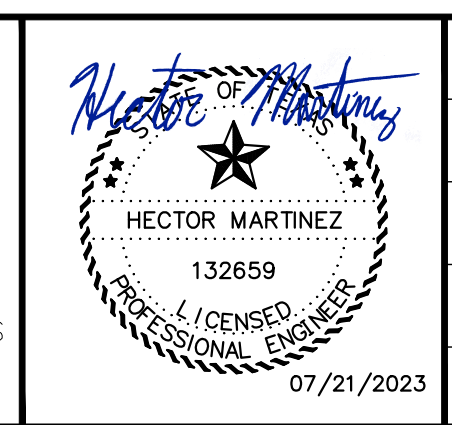
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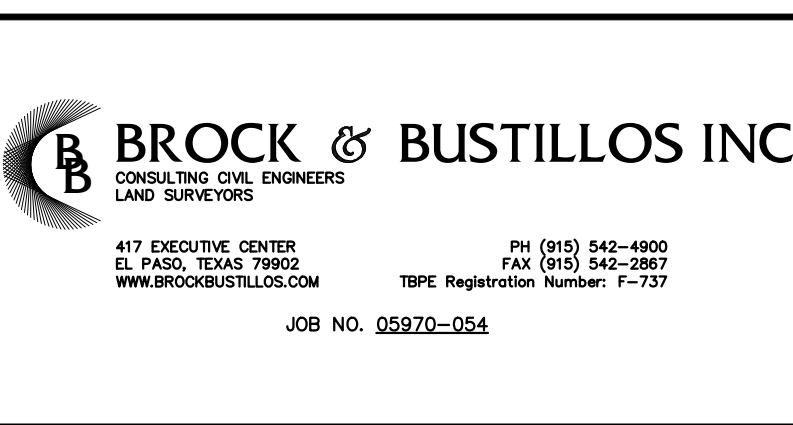
10/17/2022
S:\VP\DATA\05970 - EL PASO WATER - FB ENGINEERING\054 - MCGREGOR 16-INCH WATERLINE\DESIGN\3 - ALIGNMENT CONTROL & STRUCTURES TABLE.dwg

REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

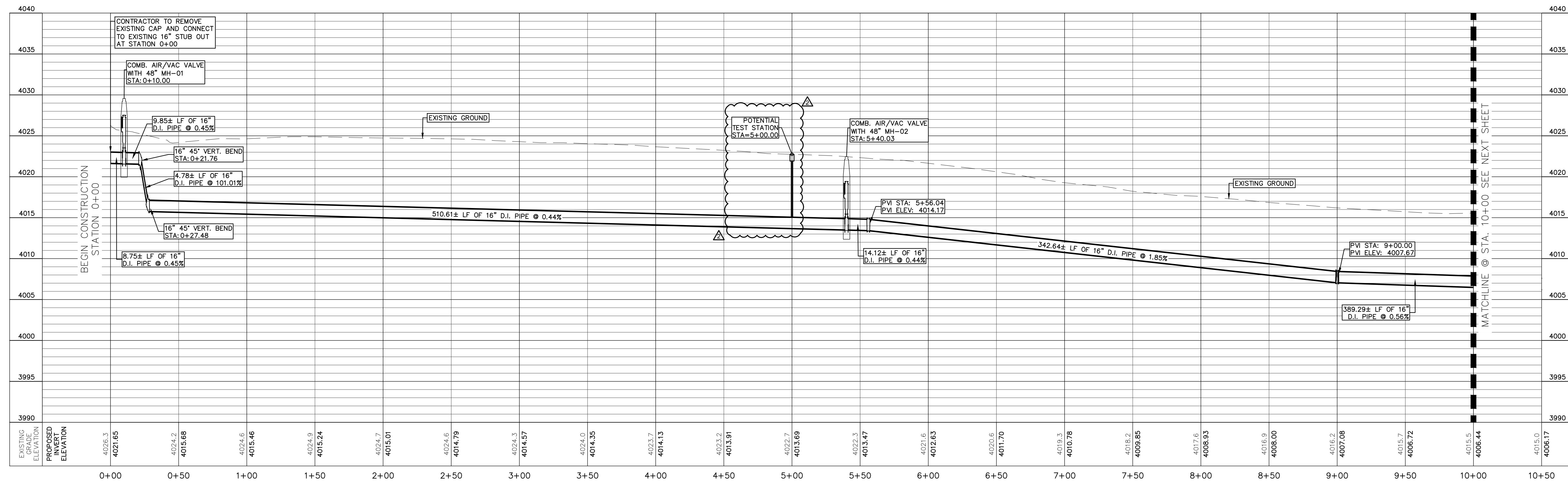
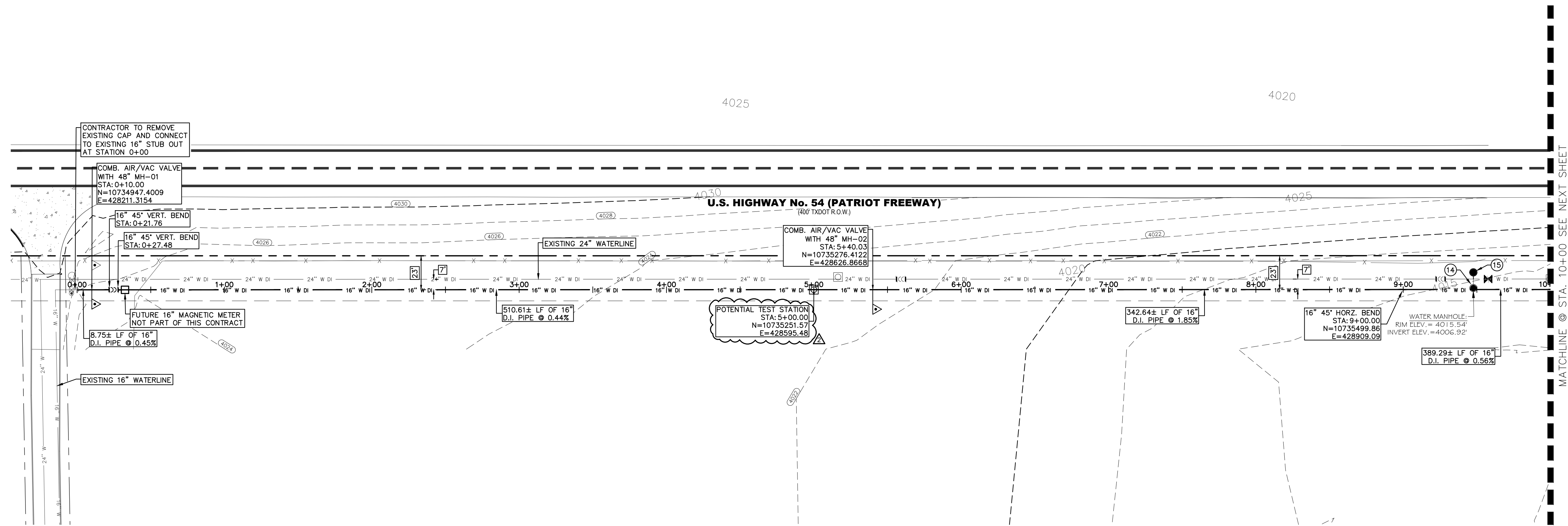


DESIGNED
H.M.
DRAWN
I.V., M.M.
CHECKED
S.J.A.
APPROVED
H.M.
DATE
07/21/2023



MCGREGOR 16-INCH WATERLINE
ALIGNMENT CONTROL AND STRUCTURES TABLE

JOB NO.
05970-054
SEQUENCE NO.
C3R
SHEET NO.
3 OF 23



NOTES:

GRAPHIC SCALE
40' 0 40'
(FEET)
PLAN

NO.	ITEM	STATION	ASBULT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
4	3" AIR/VAC COMBINATION VALVE			2 EA
8	TRENCH SAFETY SYSTEM			1000 LF
14	REMOVE AND SALVAGE MANHOLE			1 EA
15	NEW MANHOLE ASSEMBLY			1 EA

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GRID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



KEY MAP
1" = 4000'
1" = 40' HORIZONTAL
1" = 5' VERTICAL
HORIZONTAL 40 0 40 VERTICAL

REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES
 TIME WARNER COMMUNICATIONS (915) 775-7415
 EL PASO ELECTRIC COMPANY (915) 877-3400
 EL PASO WATER UTILITIES (915) 594-5500
 VERIZON COMMUNICATIONS (800) 624-9675
 HOLLY ENERGY PARTNERS (915) 494-0549
 TEXAS GAS SERVICE (800) 959-5325
 KINDER MORGAN (915) 843-2441
 AT&T GENERAL (915) 595-5151

STOP! CALL BEFORE YOU DIG

 FOR FIELD LOCATING EXISTING UTILITIES

Hector Martinez

 HECTOR MARTINEZ
 LICENSED PROFESSIONAL ENGINEER
 07/21/2023

DESIGNED
H.M. DRAWN
I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE 07/21/2023

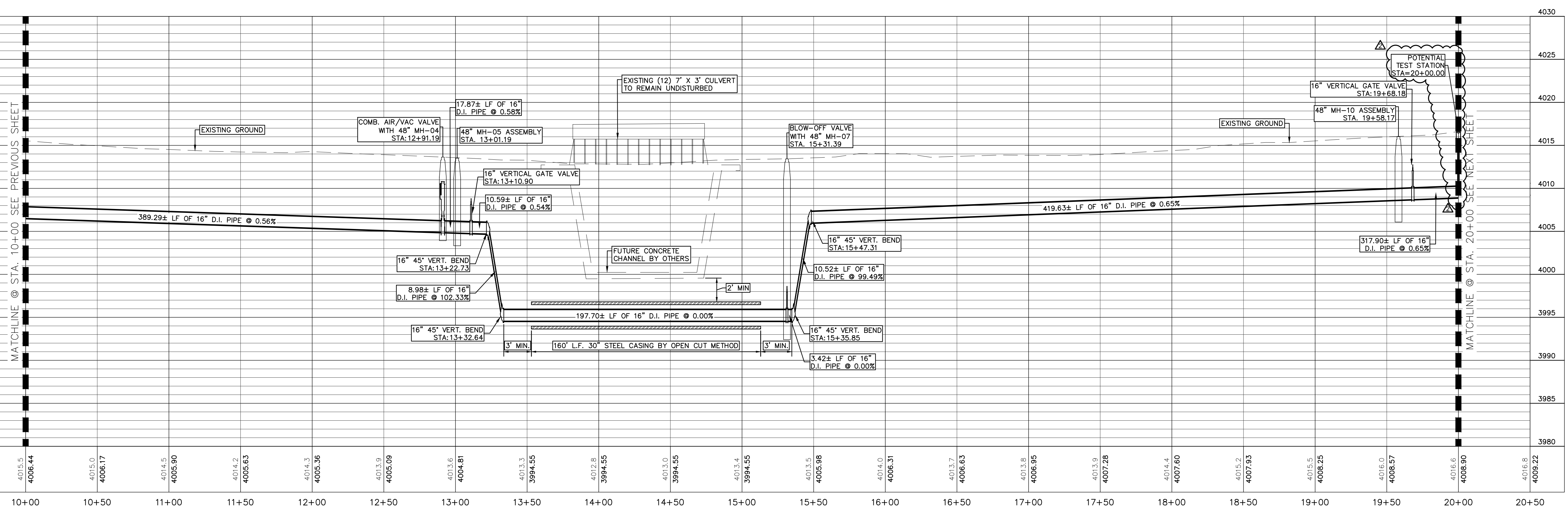
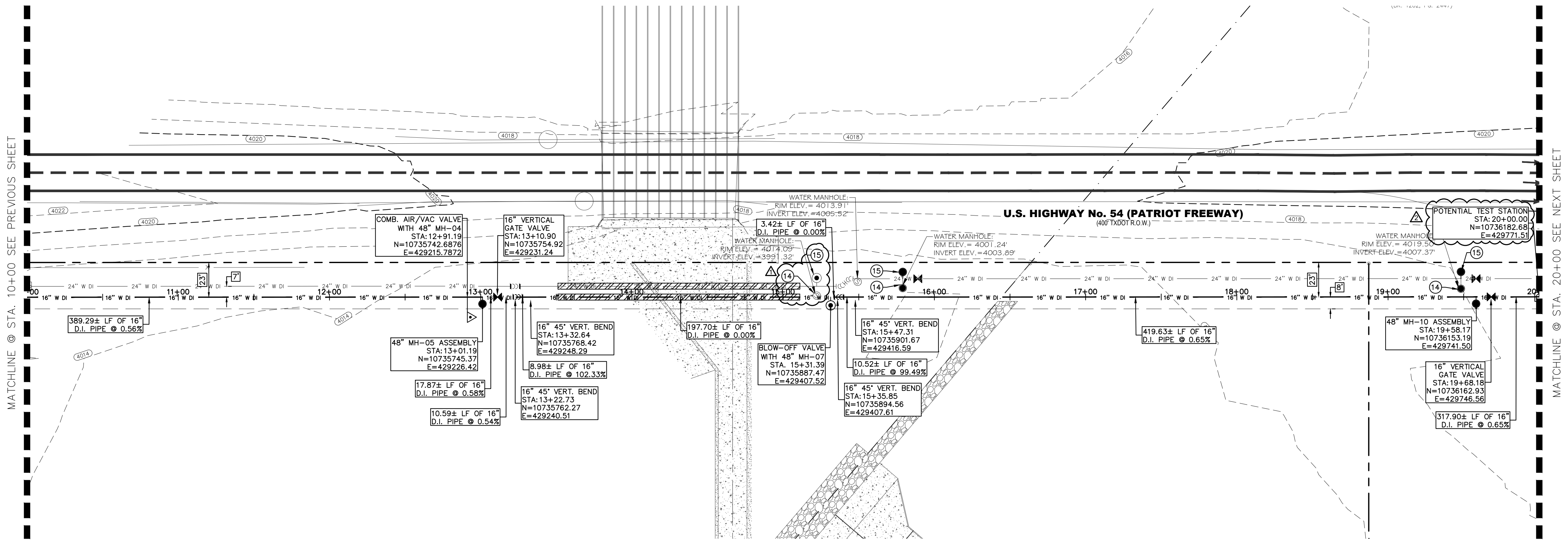
BROCK & BUSTILLOS INC.
 CONSULTING CIVIL ENGINEERS
 LAND SURVEYORS
 417 EXECUTIVE CENTER EL PASO, TEXAS 79902
 PH (915) 542-0950 FAX (915) 542-2907
 TBP# Registration Number: F-737
 JOB NO. 05970-054

el paso WATER

MCGREGOR 16-INCH WATERLINE
 SHEET TITLE: **US-54**
PLAN & PROFILE FROM STA. 0+00 TO 10+00

JOB NO. 05970-054
 SEQUENCE NO. C4R
 SHEET NO. 4 OF 23

10/17/2023
 S:\P\0410\05970 - EL PASO WATER - MCGREGOR 16-INCH WATERLINE\DESIGN\C4-C10 P&P.dwg



REV.	DATE	BY	DESCRIPTION
1	06/12/2023	V.C./A.C.	ADDED LABEL AND QUANTITIES REVISED
2	07/21/2023	I.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

STOP! CALL BEFORE YOU DIG

FOR FIELD LOCATING EXISTING UTILITIES

DESIGNED BY
H.M. DRAWN
I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE
07/21/2023

DESIGNED BY
H.M. DRAWN
I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE
07/21/2023

417 EXECUTIVE CENTER
EL PASO, TEXAS 79902
PH (915) 542-0900
FAX (915) 542-2907
WWW.BROCK&BUSTILLOS.COM
TBP# Registration Number: F-737
JOB NO. 05970-054

SHEET TITLE: GATEWAY NORTH BLVD.
PLAN & PROFILE FROM STA. 10+00 TO 20+00

JOB NO. 05970-054
SEQUENCE NO. C5R
SHEET NO. 5 OF 23

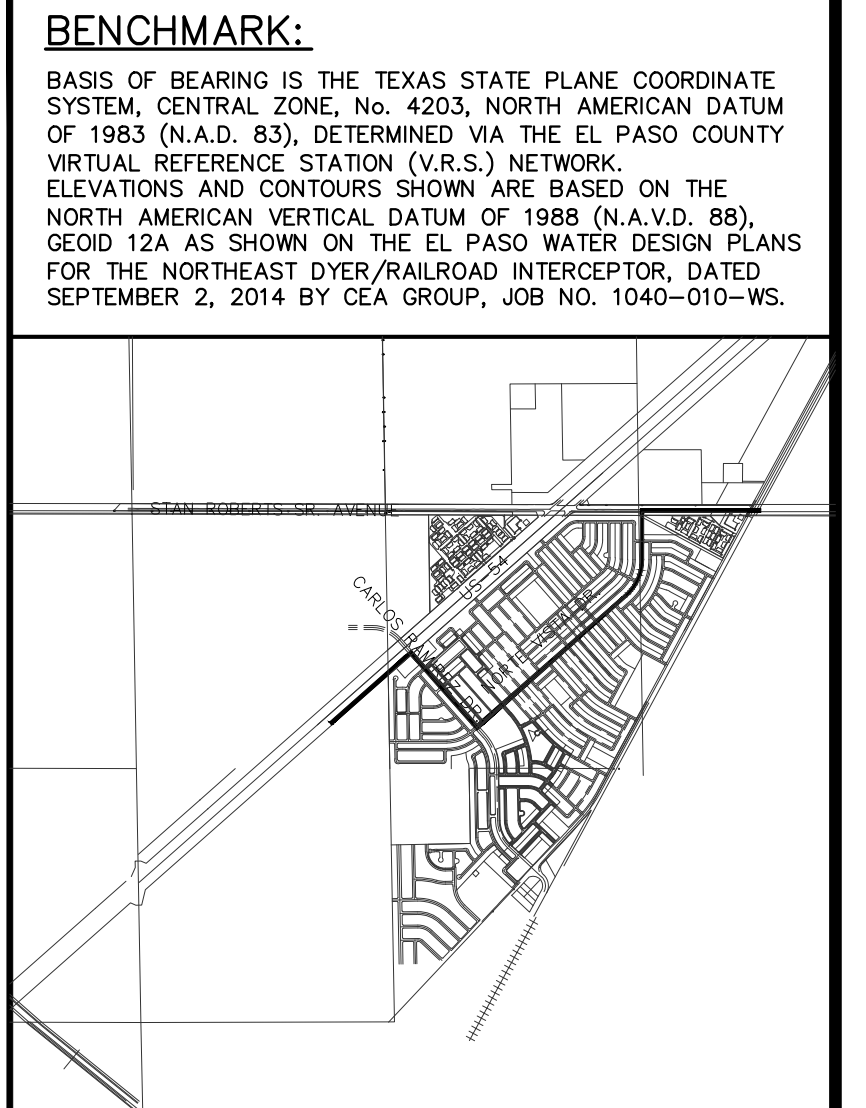
NOTES:

GRAPHIC SCALE
1" = 40'
(FEET)
PLAN

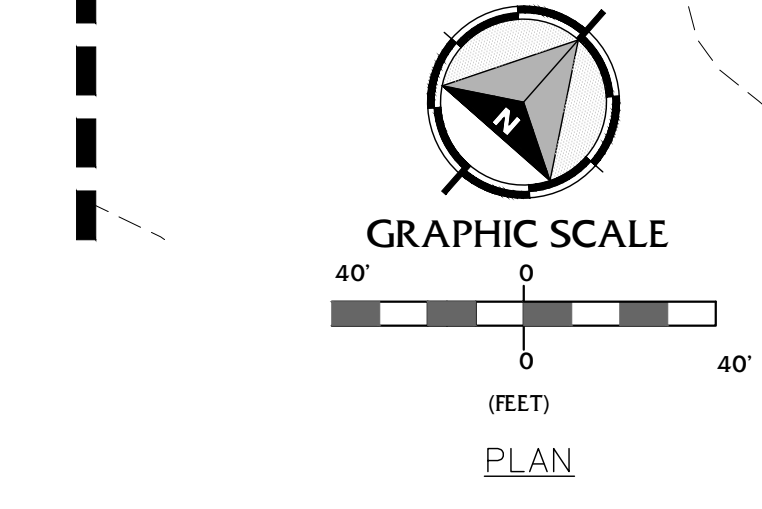
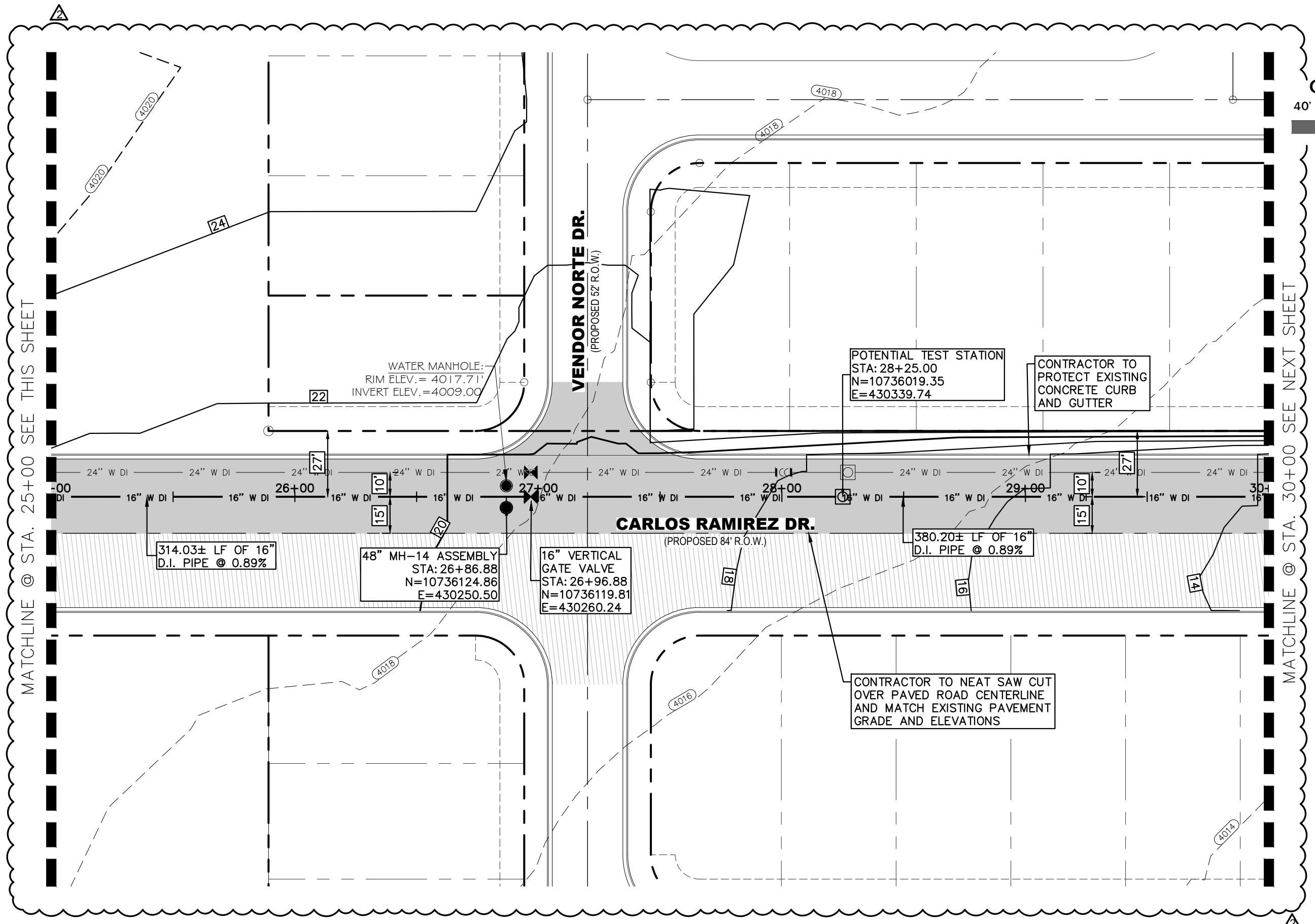
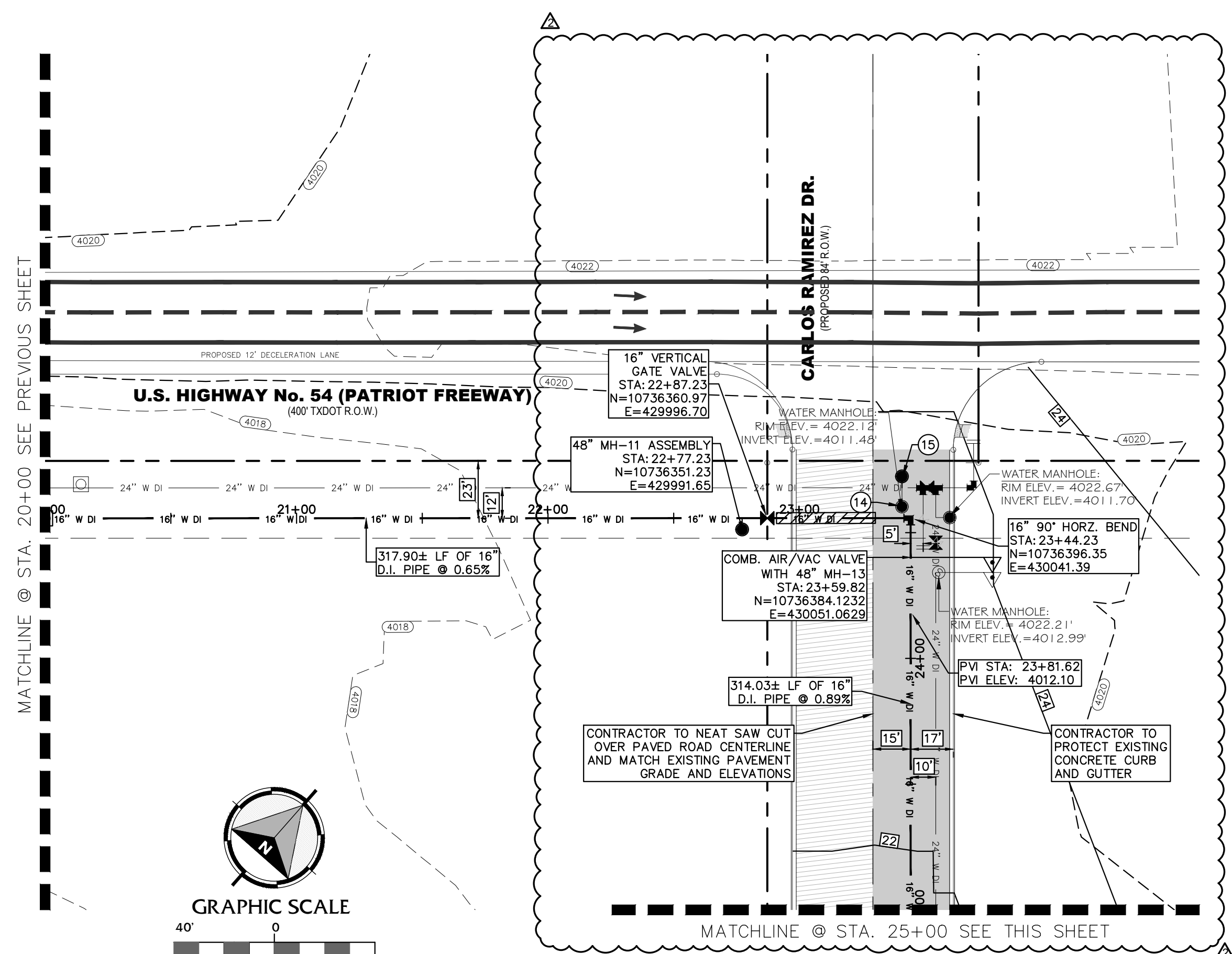
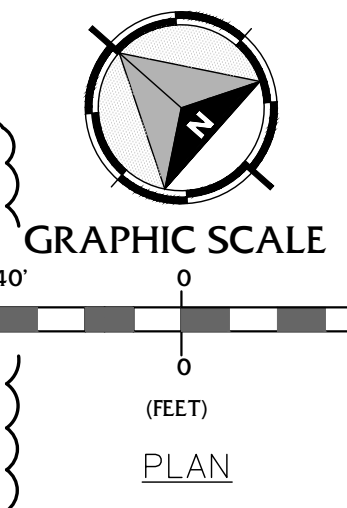
NO.	ITEM	STATION	ASBUILT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			2 EA
4	3" AIR/VAC COMBINATION VALVE			1 EA
5	6" BLOW-OFF VALVE ASSEMBLY			1 EA
7	30-INCH CASING BY OPEN-CUT METHOD			160 LF
8	TRENCH SAFETY SYSTEM			1000 LF
14	REMOVE AND SALVAGE MANHOLE			3 EA
15	NEW MANHOLE ASSEMBLY			3 EA

BENCHMARK:

BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VERTICAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88). GOOD 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.

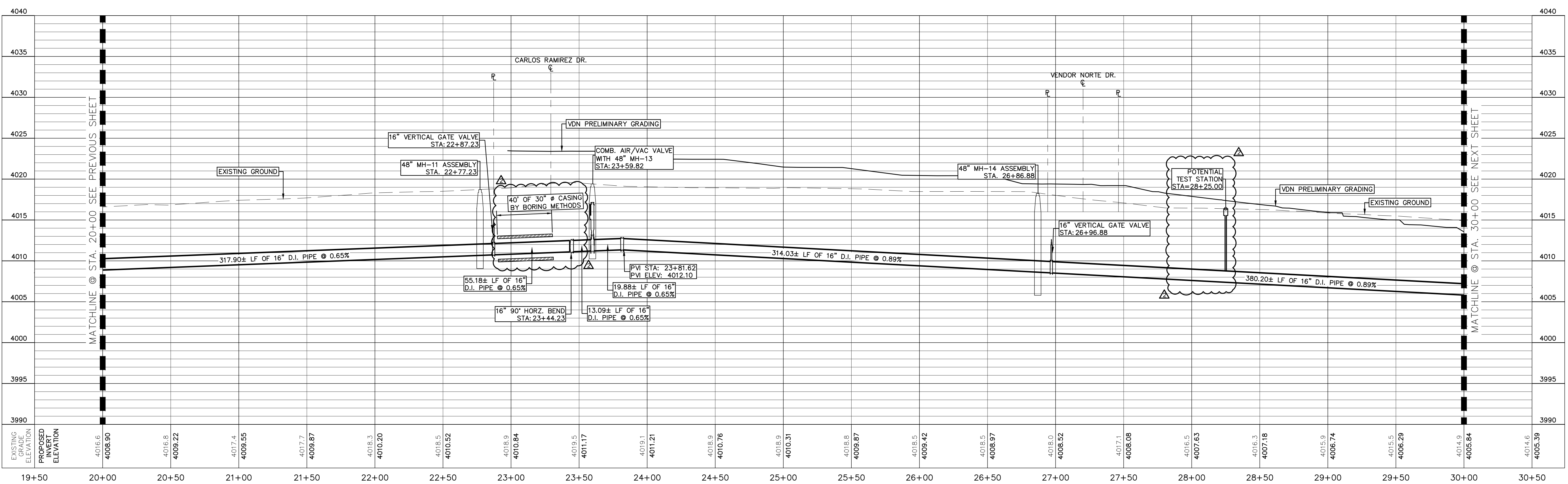


10/12/2023
S:\P\0410\05970 - EL PASO WATER - MCGREGOR 16-INCH WATERLINE\DESIGN\CAD\10 P&P.dwg

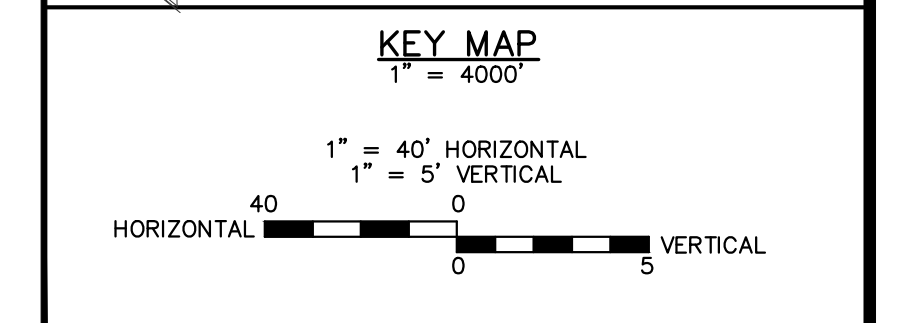


NOTES:
 • CONTRACTOR TO NEAT SAW CUT OVER PAVED ROAD AND MATCH EXISTING PAVEMENT GRADE AND ELEVATIONS

NO.	ITEM	STATION	ASBULT	QUANTITY	UNIT
2	16" DI APPROVED WATERLINE			1000	LF
3	16" VERTICAL GATE VALVE ASSEMBLY			2	EA
4	3" AIR/VAC COMBINATION VALVE			1	EA
8	TRENCH SAFETY SYSTEM			1000	LF
14	REMOVE AND SALVAGE MANHOLE			1	EA
15	NEW MANHOLE ASSEMBLY			1	EA
17	8" CRUSHED STONE BASE COURSE			2577	SY
18	2" HMAC TxDOT TYPE "C"			2577	SY
19	30" STEEL CASING BY BORING METHOD			40	LF

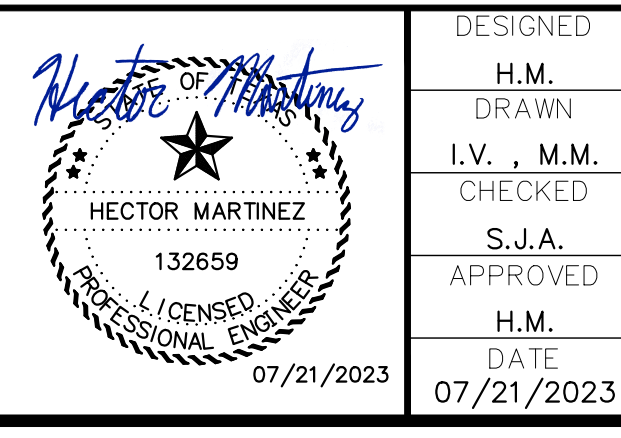


BENCHMARK:
 BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #6

UTILITY LOCATOR SERVICES
 TIME WARNER COMMUNICATIONS (915) 775-7415
 EL PASO ELECTRIC COMPANY (915) 877-3400
 EL PASO WATER UTILITIES (915) 594-5500
 VERIZON COMMUNICATIONS (800) 624-9675
 HOLLY ENERGY PARTNERS (915) 494-0549
 TEXAS GAS SERVICE (800) 959-5325
 KINDER MORGAN (915) 843-2441
 AT&T GENERAL (915) 595-5151



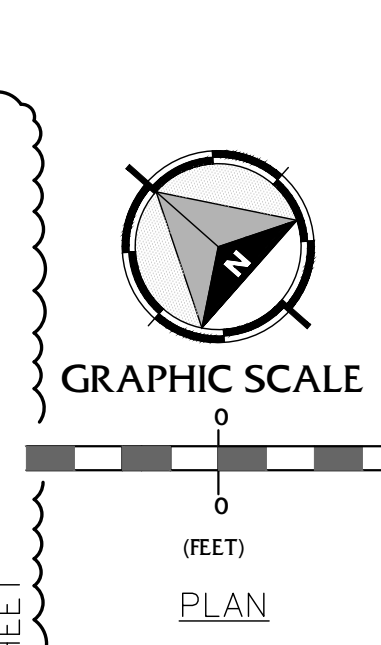
DESIGNED H.M.
 DRAWN I.V., M.M.
 CHECKED S.J.A.
 APPROVED H.M.
 DATE 07/21/2023

BROCK & BUSTILLOS INC.
 CONSULTING CIVIL ENGINEERS
 LAND SURVEYORS
 417 EXECUTIVE CENTER EL PASO, TEXAS 79902
 PH (915) 542-0950 FAX (915) 542-2907
 TBPB Registration Number: F-737
 JOB NO. 05970-054

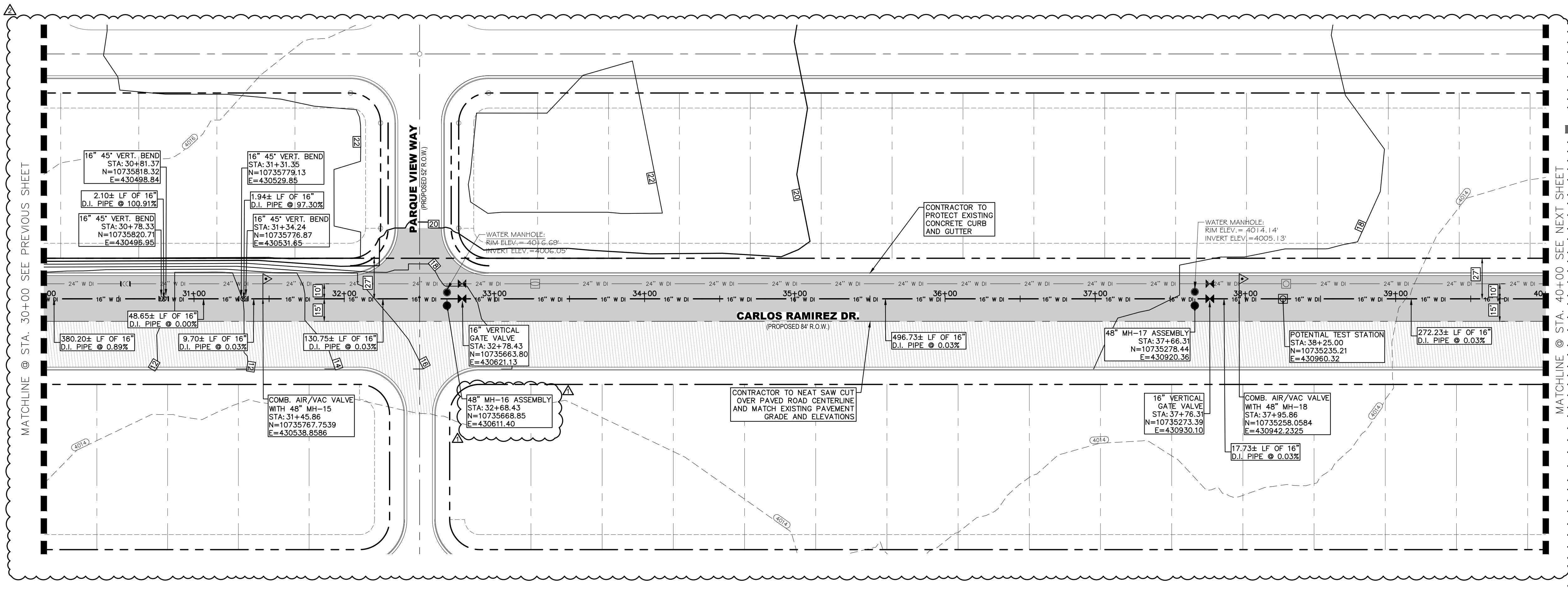


MCGREGOR 16-INCH WATERLINE
 SHEET TITLE:
 GATEWAY NORTH BLVD. & CARLOS RAMIREZ DR
 PLAN & PROFILE FROM STA. 20+00 TO 30+00

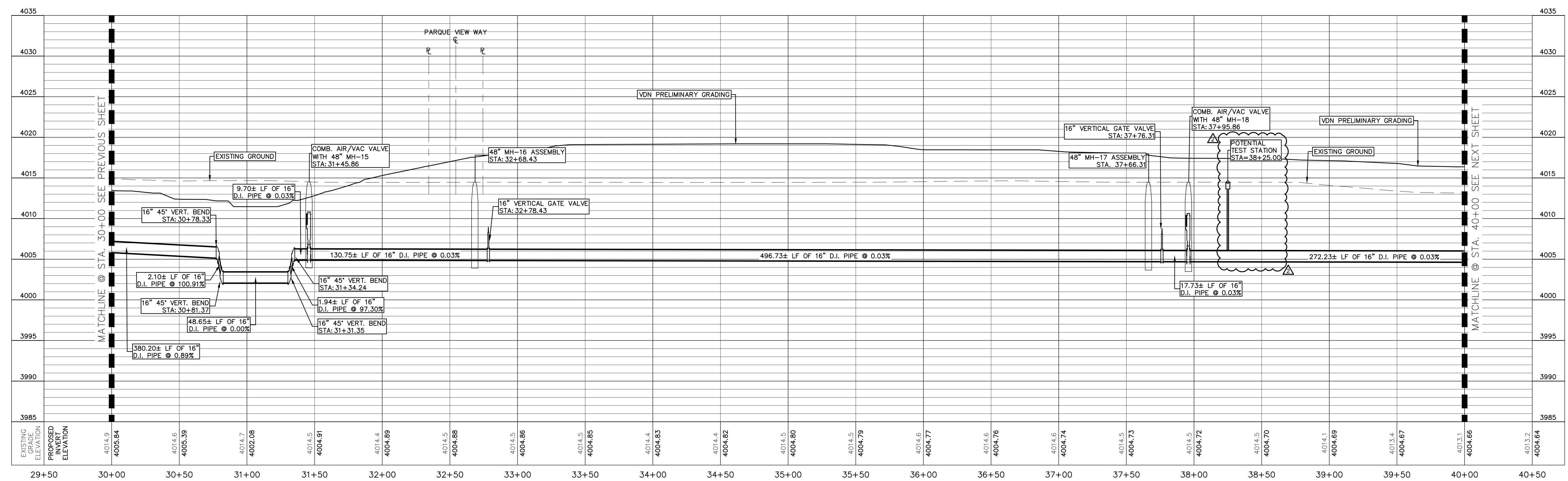
JOB NO.
 05970-054
 SEQUENCE NO.
 C6R
 SHEET NO.
 6 OF 23



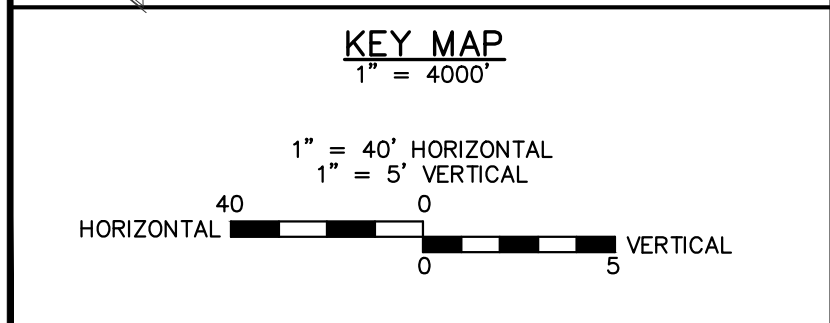
NOTES:
 • CONTRACTOR TO NEAT SAW CUT OVER PAVED ROAD AND MATCH EXISTING PAVEMENT GRADE AND ELEVATIONS



NO.	ITEM	STATION	ASBULT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			2 EA
4	3" AIR/VAC COMBINATION VALVE			2 EA
8	TRENCH SAFETY SYSTEM			1000 LF
17	8" CRUSHED STONE BASE COURSE			3705 SY
18	2" HMAC TYPDOT TYPE "C"			3705 SY

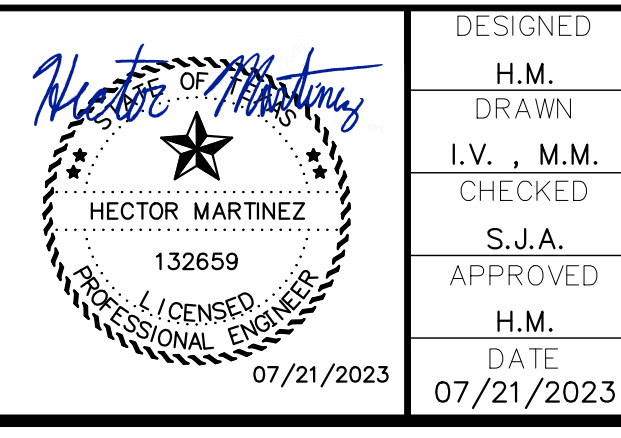


BENCHMARK:
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REV.	DATE	BY	DESCRIPTION
1	06/20/2023	LC	ADDED LABEL AND/OR QUANTITIES REVISED
2	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES
 TIME WARNER COMMUNICATIONS (915) 775-7415
 EL PASO ELECTRIC COMPANY (915) 877-3400
 EL PASO WATER UTILITIES (915) 594-5500
 VERIZON COMMUNICATIONS (800) 624-9675
 HOLLY ENERGY PARTNERS (915) 494-0549
 TEXAS GAS SERVICE (800) 959-5325
 KINDER MORGAN (915) 843-2441
 AT&T GENERAL (915) 595-5151



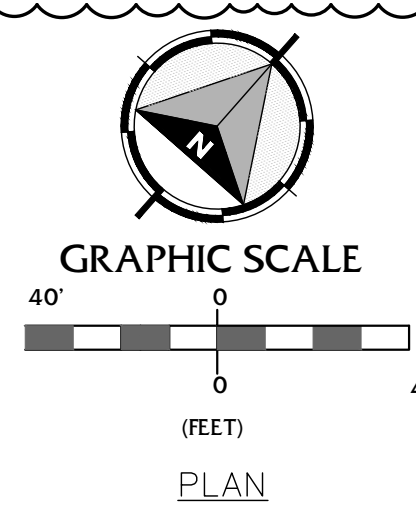
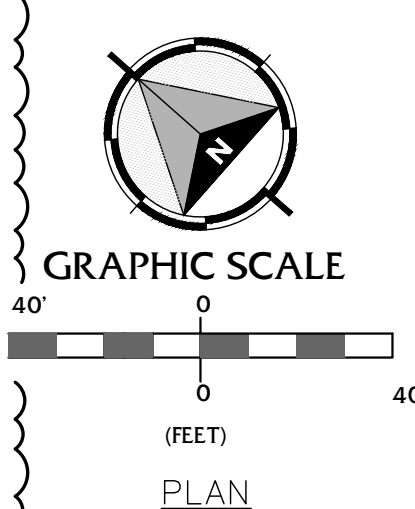
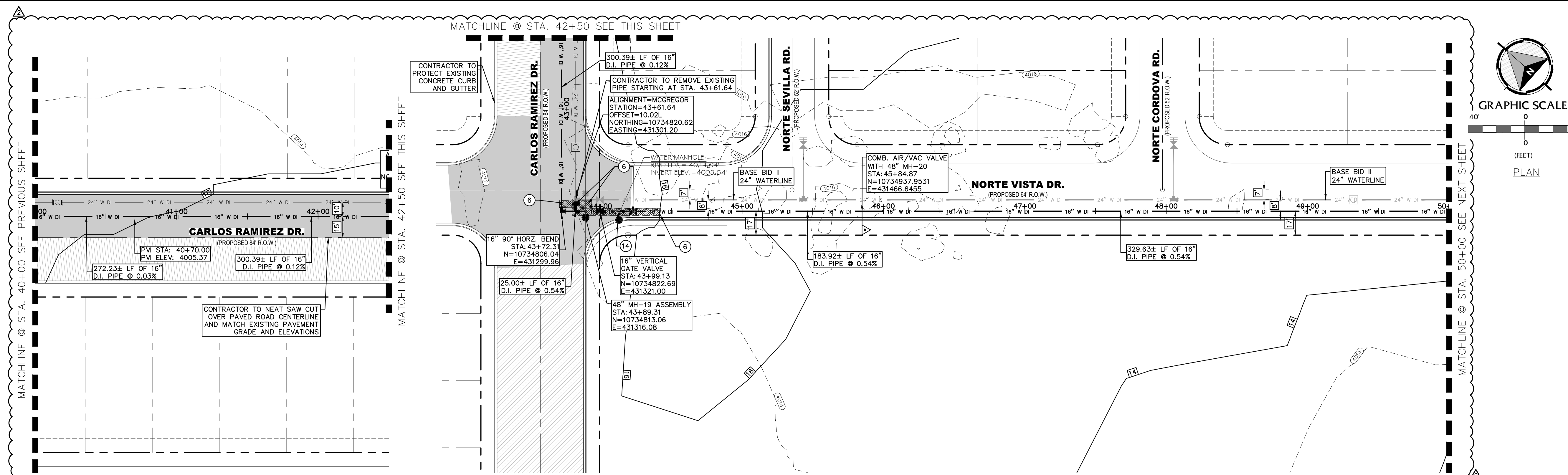
DESIGNED: H.M.
 DRAWN: I.V., M.M.
 CHECKED: S.J.A.
 APPROVED: H.M.
 DATE: 07/21/2023

BROCK & BUSTILLOS INC.
 CONSULTING CIVIL ENGINEERS
 LAND SURVEYORS
 417 EXECUTIVE CENTER EL PASO, TEXAS 79902
 PH (915) 542-0950 FAX (915) 542-2907
 TBPB Registration Number: F-737
 JOB NO. 05970-054



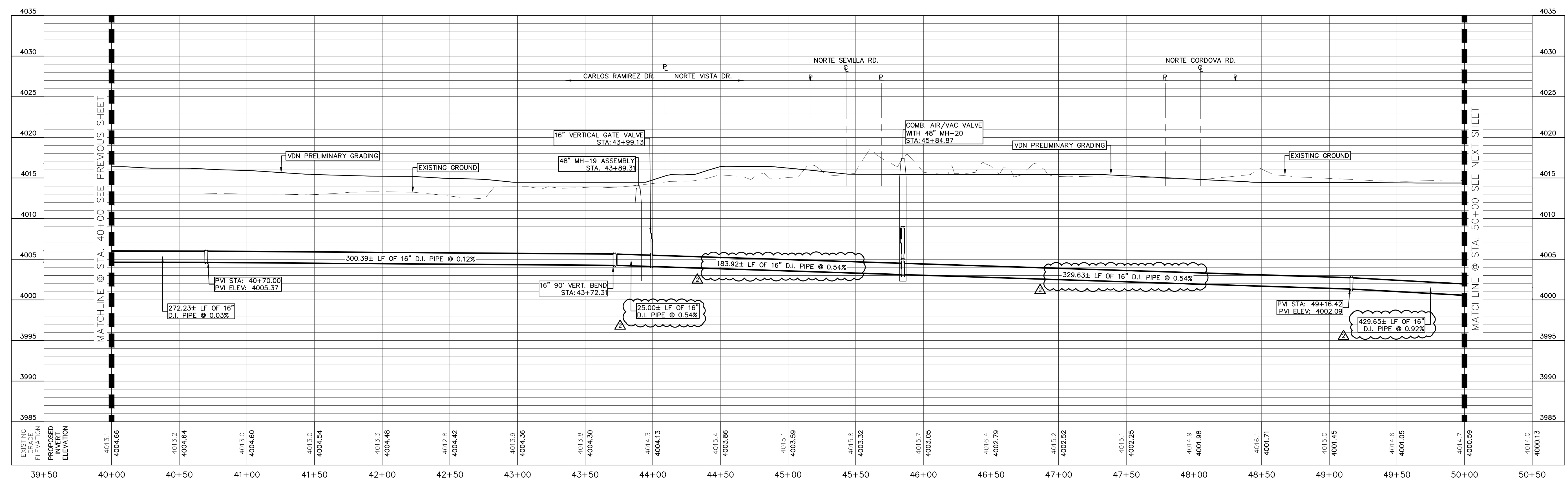
MCGREGOR 16-INCH WATERLINE
 SHEET TITLE: CARLOS RAMIREZ DR.
 PLAN & PROFILE FROM STA. 30+00 TO 40+00

JOB NO. 05970-054
 SEQUENCE NO. C7R
 SHEET NO. 7 OF 23

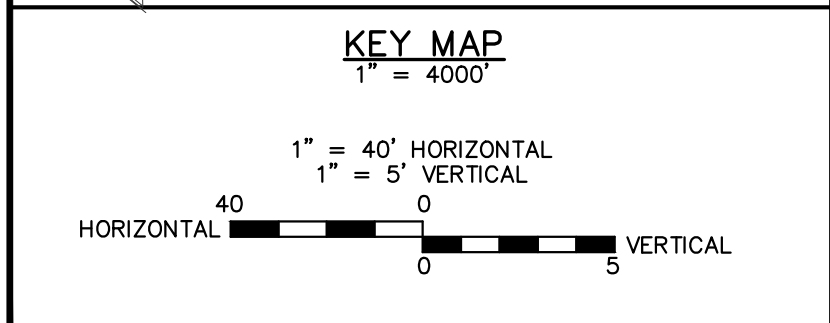


NOTES:
 • CONTRACTOR TO NEAT SAW CUT OVER PAVED ROAD AND MATCH EXISTING PAVEMENT GRADE AND ELEVATIONS

NO.	ITEM	STATION	ASBULT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			1 EA
4	3" AIR/VAC COMBINATION VALVE			1 EA
6	REMOVE AND SALVAGE PIPE			1 LS
8	TRENCH SAFETY SYSTEM			1000 LF
9	2" HMAC PAVEMENT REPLACEMENT			2256 SY
14	REMOVE AND SALVAGE MANHOLE			1 EA
17	8" CRUSHED STONE BASE COURSE			2256 SY
18	2" HMAC TXDOT TYPE "C"			2256 SY

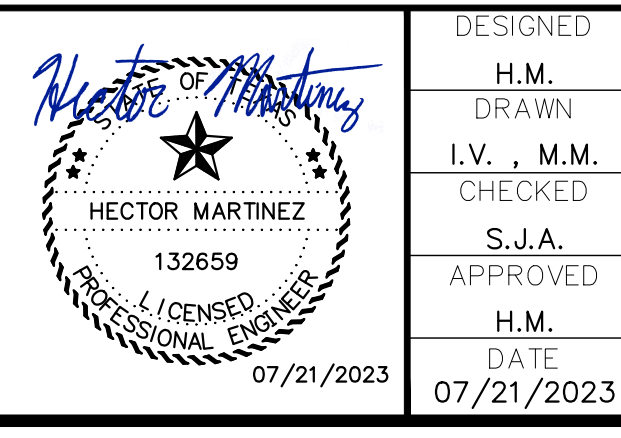


BENCHMARK:
 BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VERTICAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GRID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

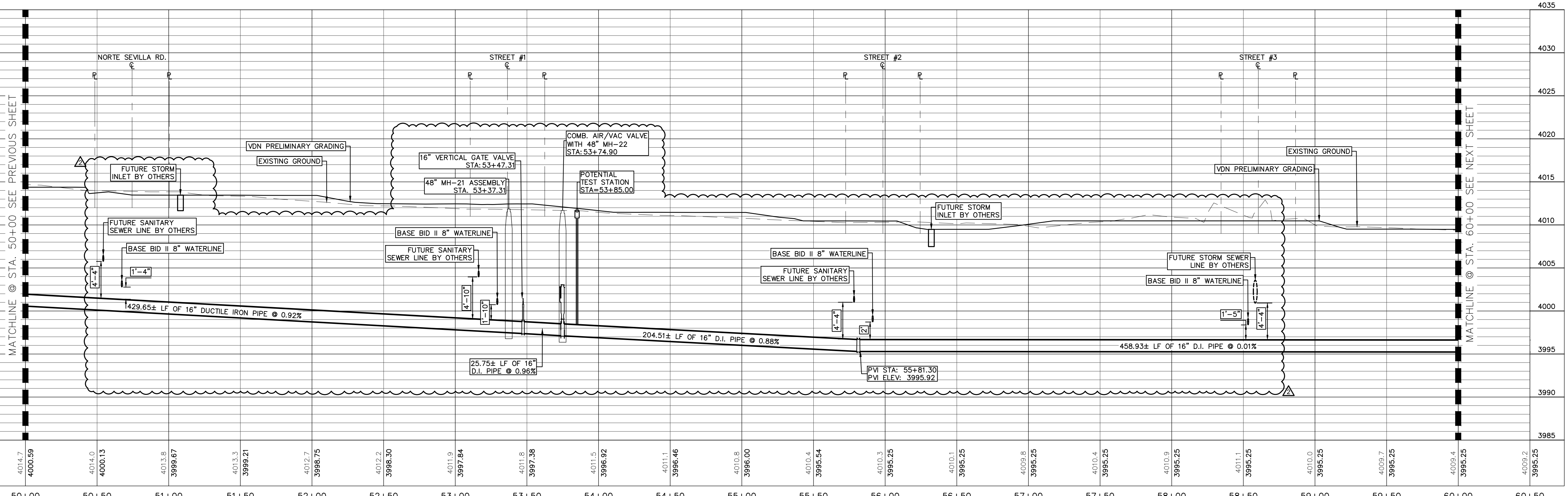
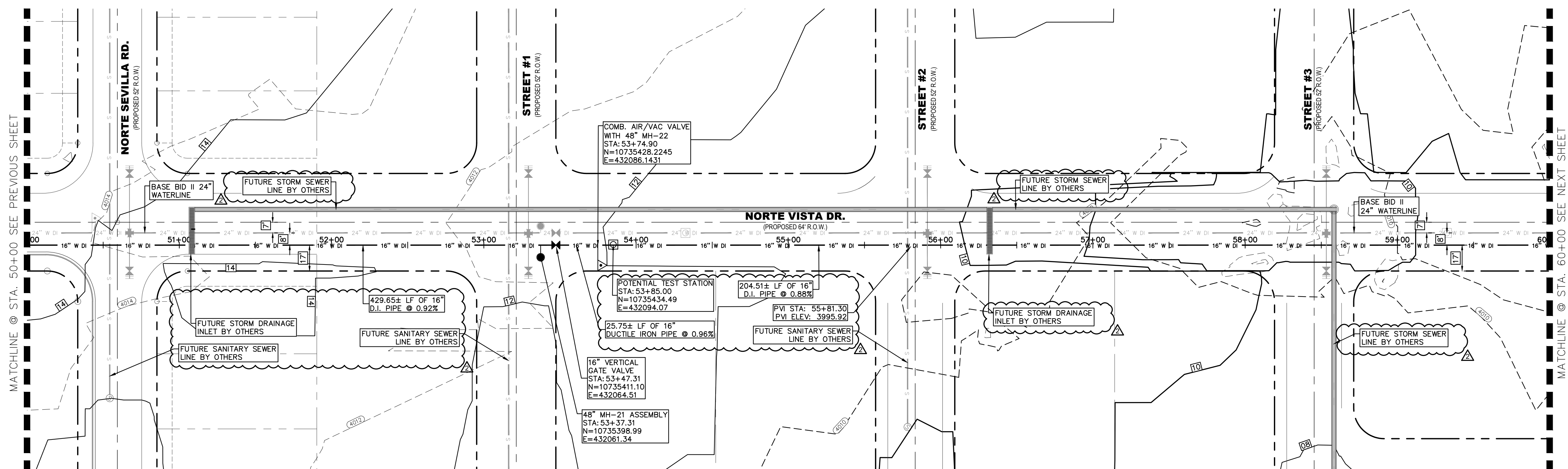


DESIGNED
H.M.
DRAWN
I.V., M.M.
CHECKED
S.J.A.
APPROVED
H.M.
DATE
07/21/2023



el paso WATER
 MCGREGOR 16-INCH WATERLINE
 SHEET TITLE:
 CARLOS RAMIREZ DR. & NORTE VISTA DR.
 PLAN & PROFILE FROM STA. 40+00 TO 50+00

JOB NO.
05970-054
 SEQUENCE NO.
C8R
 SHEET NO.
8 OF 23



REV.	DATE	BY	DESCRIPTION
1	07/21/2023	L.V.	ADDENDUM #8

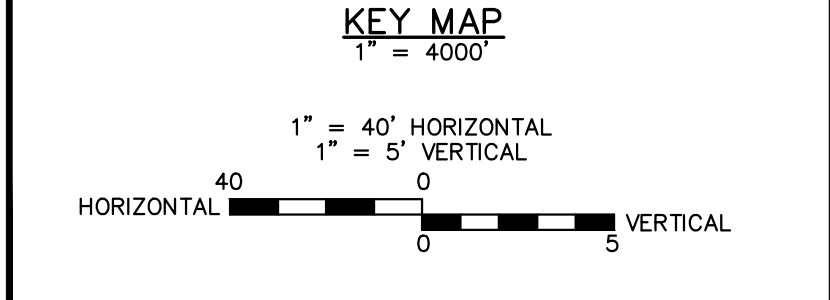
EXISTING GRADE ELEVATION	PROPOSED INVERT ELEVATION	DESCRIPTION
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4014.0	4000.13	
4013.8	3999.67	
4013.3	3999.21	
4012.7	3998.75	
4012.2	3998.30	
4011.9	3997.84	
4011.8	3997.38	
4011.5	3996.92	
4011.1	3996.46	
4010.8	3996.00	
4010.4	3995.54	
4010.3	3995.25	
4010.1	3995.25	
4009.8	3995.25	
4010.4	3995.25	
4010.9	3995.25	
4011.1	3995.25	
4010.0	3995.25	
4009.7	3995.25	
4009.4	3995.25	
4009.2	3995.25	

NOTES:

GRAPHIC SCALE
0 40'
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			1 EA
4	3" AIR/VAC COMBINATION VALVE			1 EA
8	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GRID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



10/17/2023
S:\Projects\2023\16-INCH WATERLINE\DESIGN\CAD P&P.dwg

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

STOP! CALL BEFORE YOU DIG

FOR FIELD LOCATING EXISTING UTILITIES

Nestor Martinez

HECTOR MARTINEZ
132659
PROFESSIONAL ENGINEER
07/21/2023

DESIGNED
H.M. DRAWN
I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE 07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS

417 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM

PH (915) 842-4800
FAX (915) 842-2867
TBP Registration Number: F-757
JOB NO. 05970-054

el paso WATER

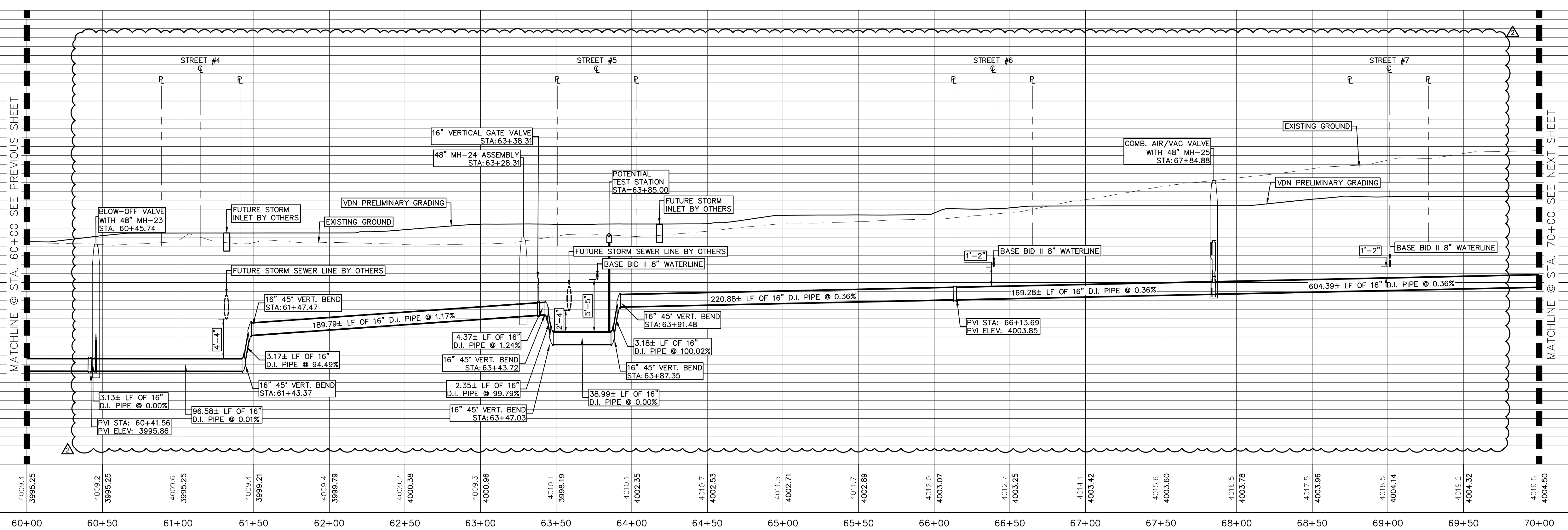
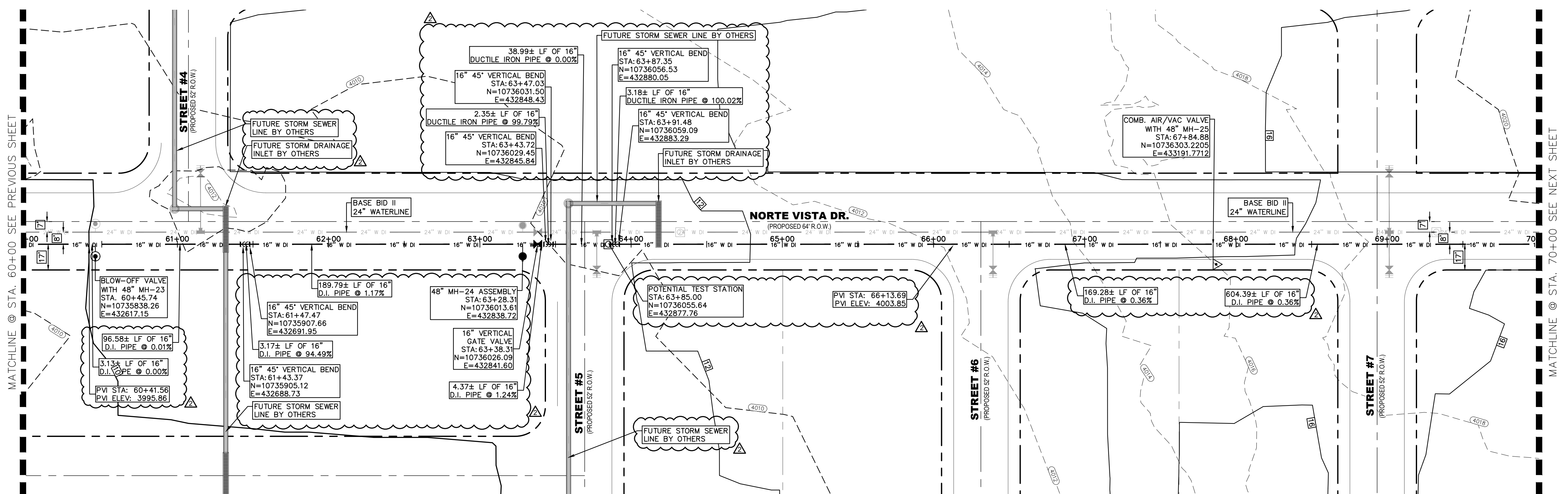
MCGREGOR 16-INCH WATERLINE

SHEET TITLE: NORTE VISTA DR.
PLAN & PROFILE FROM STA. 50+00 TO 60+00

JOB NO.
05970-054

SEQUENCE NO.
C9R

SHEET NO.
9 OF 23



REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

STOP!
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FOR FIELD LOCATING EXISTING UTILITIES

DESIGNED
H.M. DRAWN
I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE 07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS

417 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM

PH (915) 842-4800
FAX (915) 842-2867
TBP Registration Number: F-757
JOB NO. 05970-054

MCGREGOR 16-INCH WATERLINE

SHEET TITLE: NORTE VISTA DR.
PLAN & PROFILE FROM STA. 60+00 TO 70+00

JOB NO. 05970-054
SEQUENCE NO. C10R
SHEET NO. 10 OF 23

NOTES:

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			1 EA
4	3" AIR/VAC COMBINATION VALVE			1 EA
5	6" BLOW-OFF VALVE ASSEMBLY			1 EA
8	TRENCH SAFETY SYSTEM			1000 LF

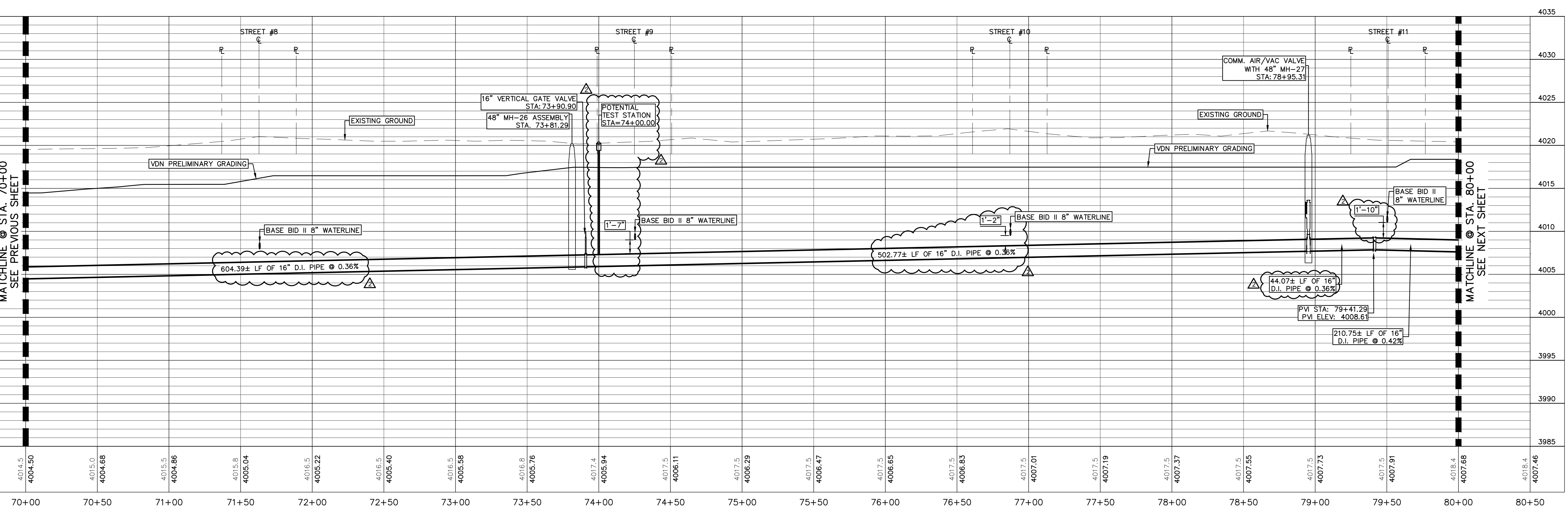
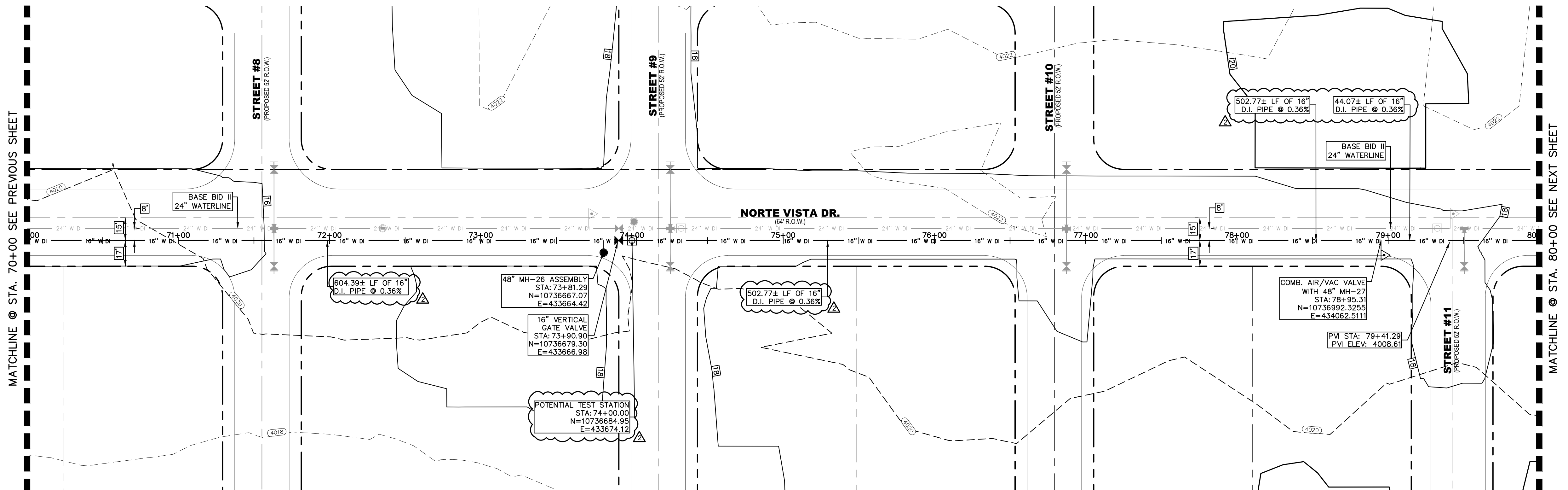
BENCHMARK:

BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88). GRID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.

KEY MAP
1" = 4000'

1" = 40' HORIZONTAL
1" = 5' VERTICAL

10/17/2023
S:\Projects\05970 - EL PASO WATER - MCGREGOR 16-INCH WATERLINE\DESIGN\CAD P&P.dwg

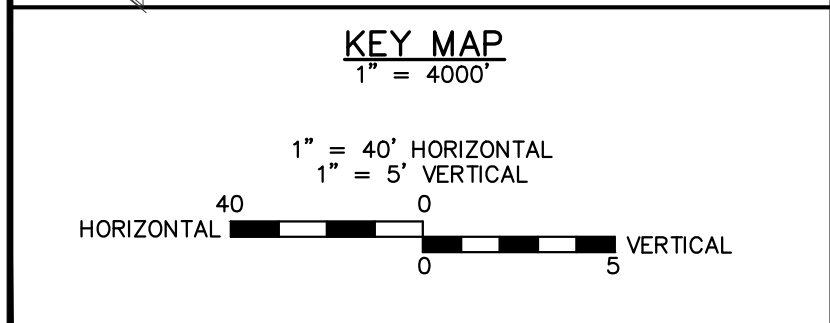


NOTES:

GRAPHIC SCALE
0 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBULT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			1 EA
4	3" AIR/VAC COMBINATION VALVE			1 EA
8	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VERTICAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GOOD 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS (915) 775-7415
 EL PASO ELECTRIC COMPANY (915) 877-3400
 EL PASO WATER UTILITIES (915) 594-5500
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 HOLLY ENERGY PARTNERS (915) 494-0549
 TEXAS GAS SERVICE (800) 959-5325
 KINDER MORGAN (915) 843-2441
 AT&T GENERAL (915) 595-5151

STOP! CALL BEFORE YOU DIG

FOR FIELD LOCATING EXISTING UTILITIES

Hector Martinez

HECTOR MARTINEZ
132659
PROFESSIONAL ENGINEER
07/21/2023

DESIGNED
H.M. DRAWN
I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE
07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS

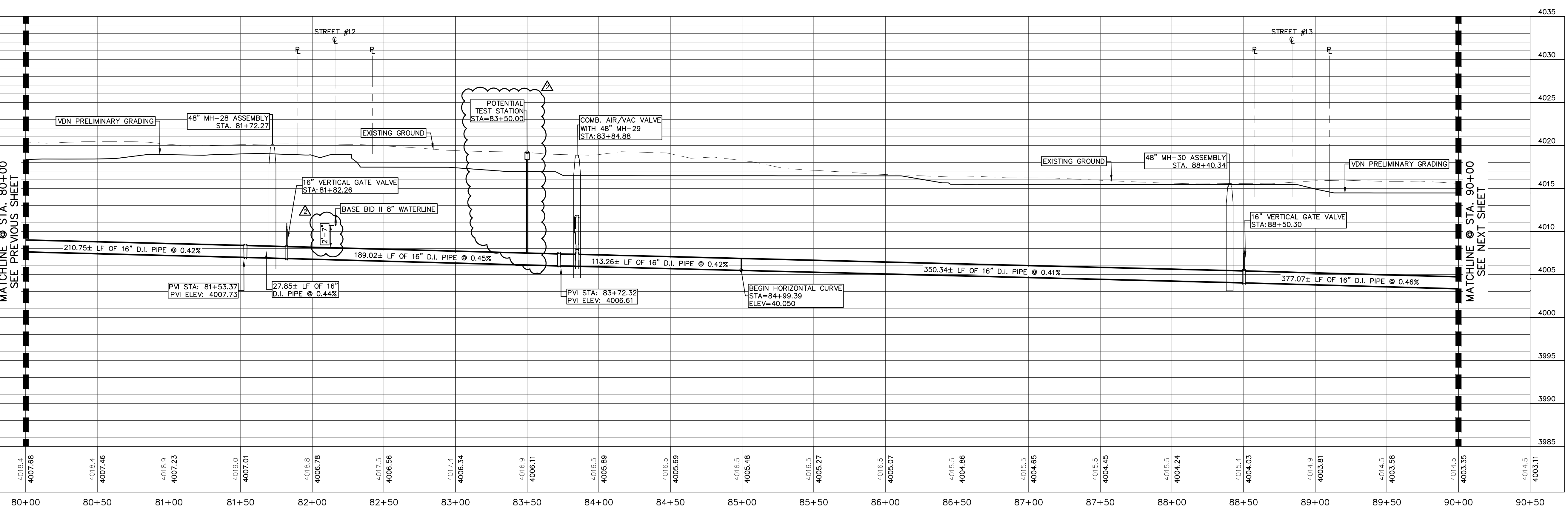
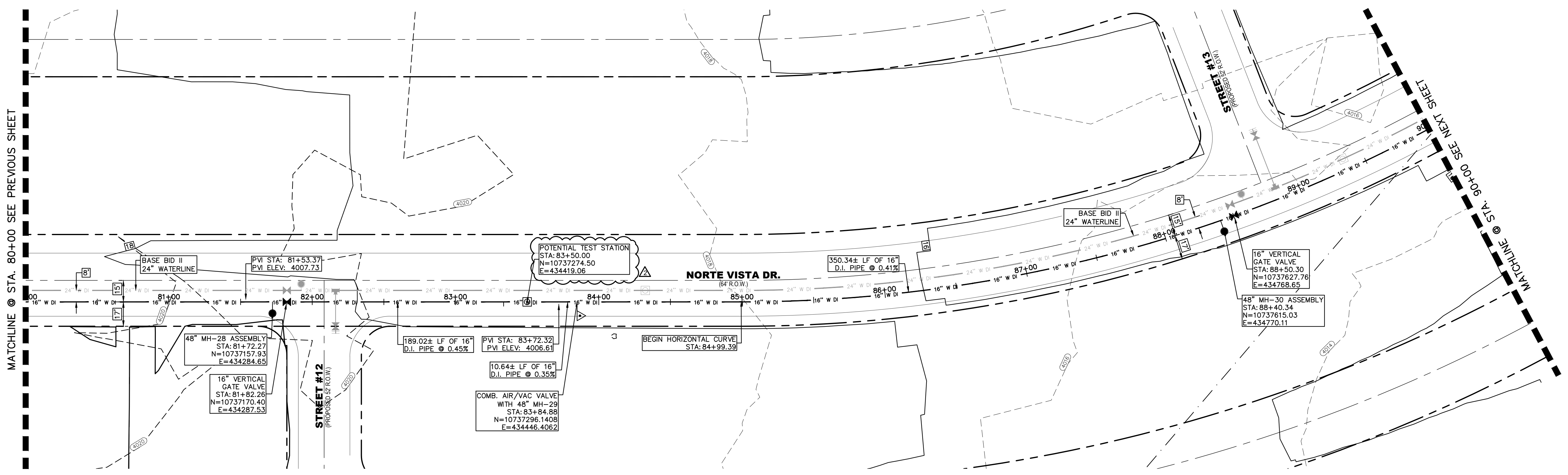
417 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM
PH (915) 542-0900
FAX (915) 542-2907
TXPE Registration Number: F-737
JOB NO. 05970-054

el paso WATER

MCGREGOR 16-INCH WATERLINE

SHEET TITLE: NORTE VISTA DR.
PLAN & PROFILE FROM STA. 70+00 TO 80+00

JOB NO.
05970-054
SEQUENCE NO.
C11R
SHEET NO.
11 OF 23

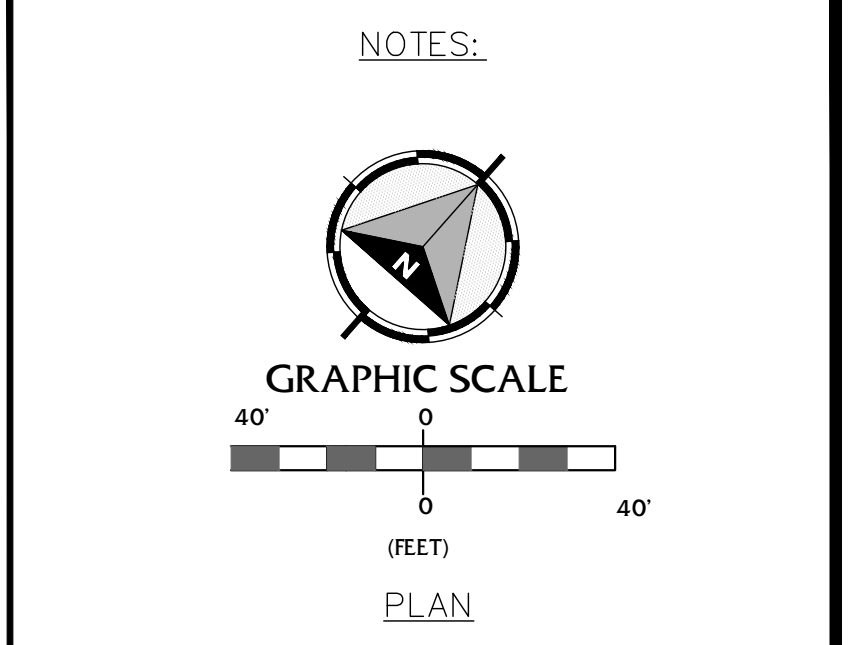


REV.	DATE	BY	DESCRIPTION
1	07/21/2023	LV	ADDENDUM #6

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
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AT&T GENERAL	(915) 595-5151

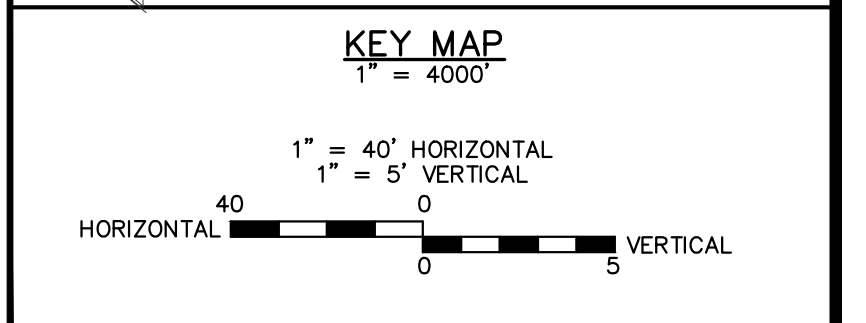
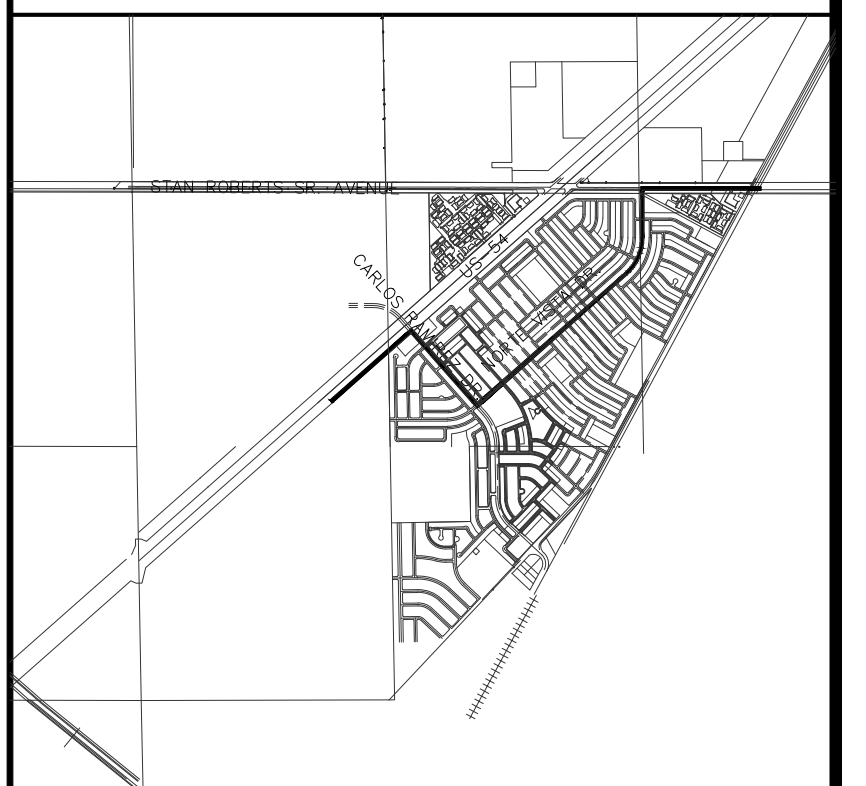
<p>FOR FIELD LOCATING EXISTING UTILITIES</p>		<p>417 EXECUTIVE CENTER EL PASO, TEXAS 79902 WWW.BROCK&BUSTILLOS.COM</p> <p>PH (915) 542-0900 FAX (915) 542-2907 TBP Registration Number: F-737 JOB NO. 05970-054</p>	
--	--	---	--

DESIGNED H.M. DRAWN I.V., M.M. CHECKED S.J.A. APPROVED H.M. DATE 07/21/2023	<p>SHEET TITLE:</p> <p>NORTE VISTA DR. PLAN & PROFILE FROM STA. 80+00 TO 90+00</p>	<p>JOB NO. 05970-054</p> <p>SEQUENCE NO. C12R</p> <p>SHEET NO. 12 OF 23</p>
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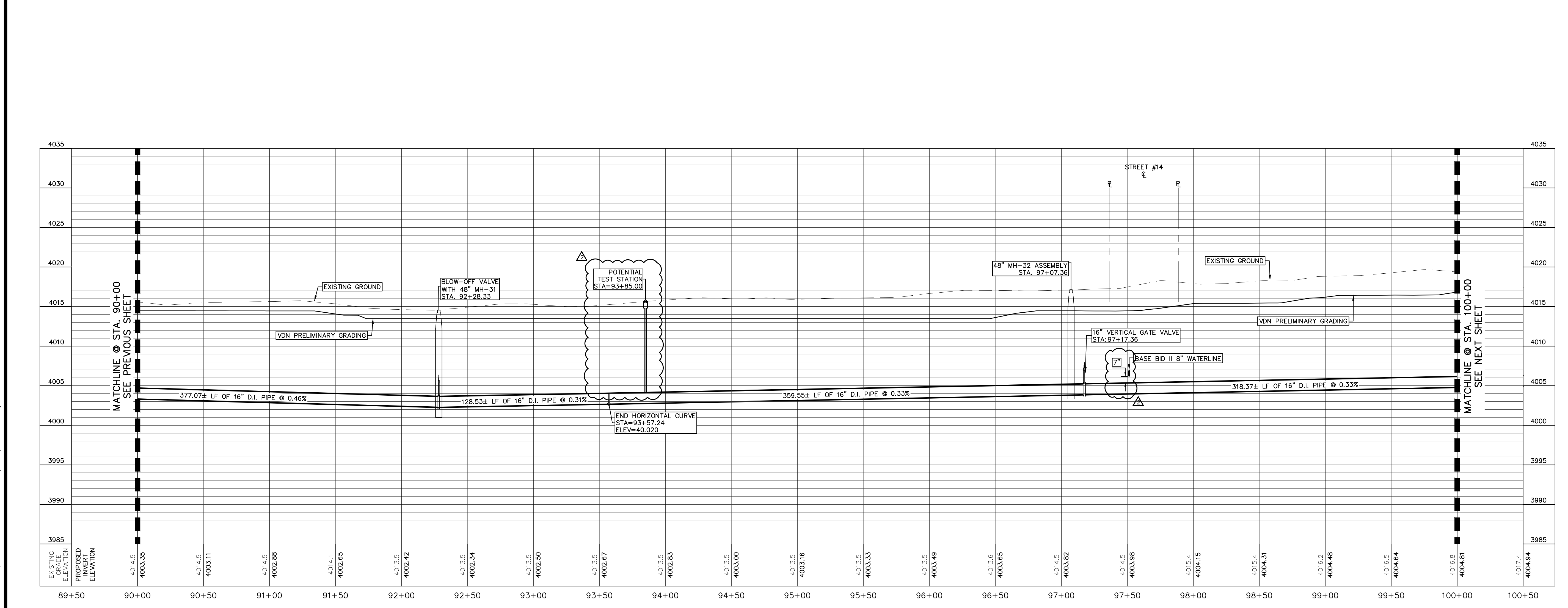
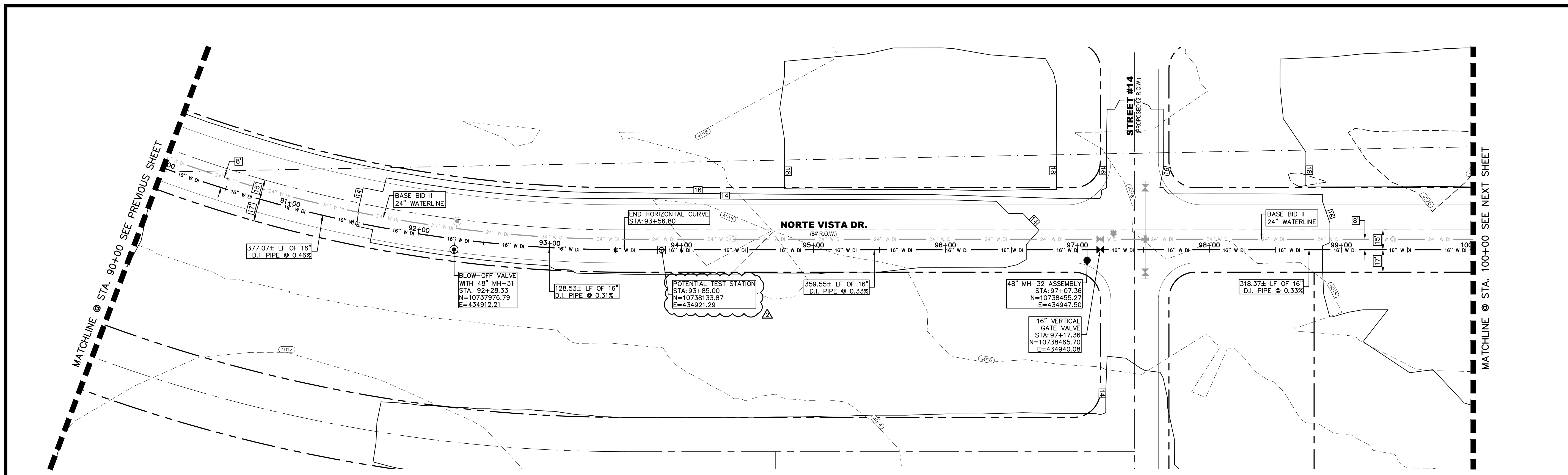


NO.	ITEM	STATION	ASBUILT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			2 EA
4	3" AIR/VAC COMBINATION VALVE			1 EA
8	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GOOD 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



10/17/2023
S:\P\1040\05970 - EL PASO WATER - MCGREGOR 16-INCH WATERLINE\DESIGN\C11-C16 P&P.rvt



REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

STOP!
CALL BEFORE YOU DIG

FOR FIELD LOCATING EXISTING UTILITIES

Hector Martinez

HECTOR MARTINEZ
132659
PROFESSIONAL ENGINEER
07/21/2023

DESIGNED
H.M.
DRAWN
I.V., M.M.
CHECKED
S.J.A.
APPROVED
H.M.
DATE
07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS

417 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM

PH (915) 842-0900
FX (915) 842-2907
TXBE Registration Number: F-737
JOB NO. 05970-054

el paso WATER

SHEET TITLE: NORTE VISTA DR.
PLAN & PROFILE FROM STA. 90+00 TO 100+00

JOB NO.
05970-054
SEQUENCE NO.
C13R
SHEET NO.
13 OF 23

NOTES:

GRAPHIC SCALE
40' 0 40'
(FEET)
PLAN

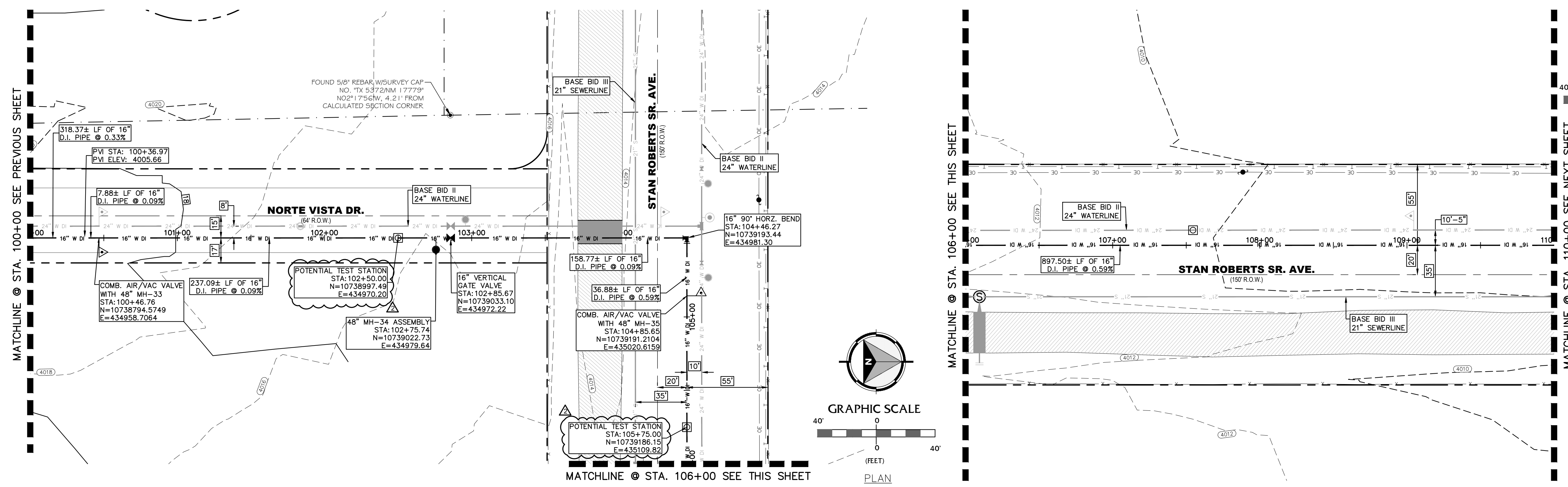
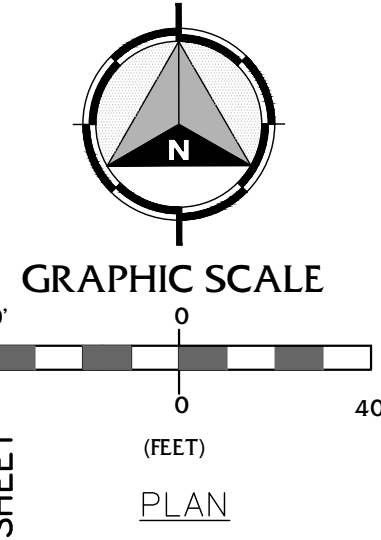
NO.	ITEM	STATION	ASBULT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			1 EA
5	6" BLOW-OFF VALVE ASSEMBLY			1 EA
8	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VERTICAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GOOD 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPT, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.

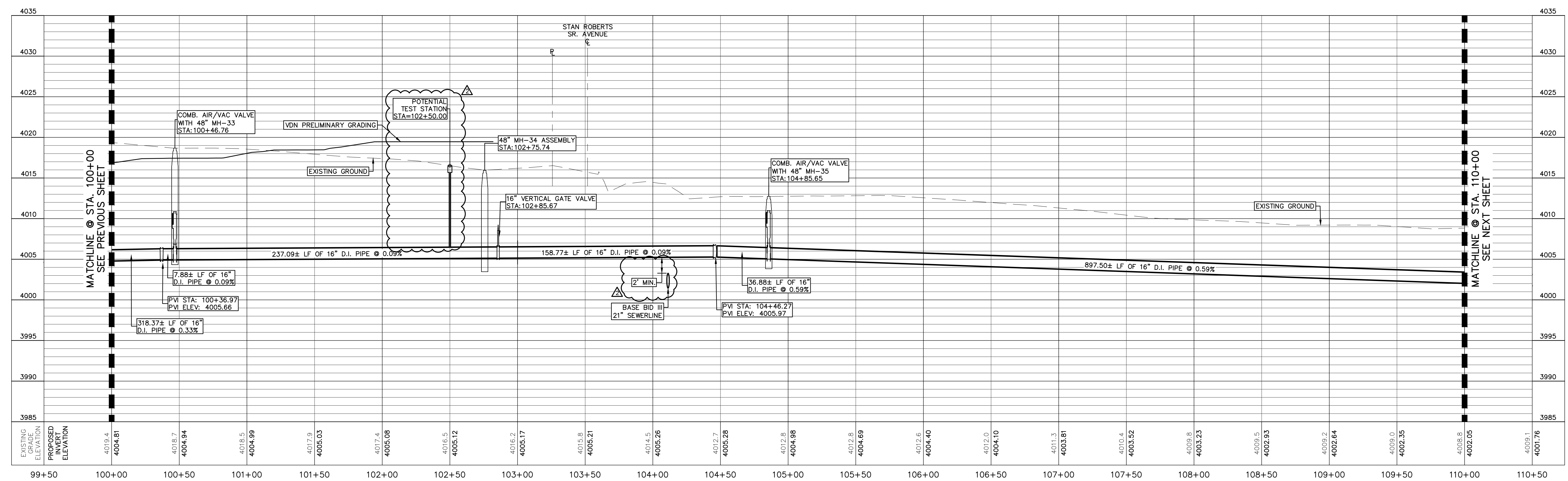


10/17/2023
S:\P\0410\05970 - EL PASO WATER - 16-INCH WATERLINE\DESIGN\11-C16 P&P.dwg

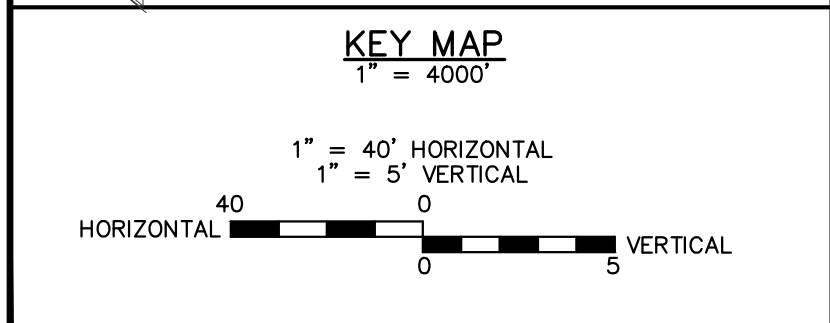
NOTES:



NO.	ITEM	STATION	ASBUILT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			1 EA
4	3" AIR/VAC COMBINATION VALVE			2 EA
8	TRENCH SAFETY SYSTEM			1000 LF
9	2" HMACH WITH 2-SACK SOIL CEMENT			70 SY

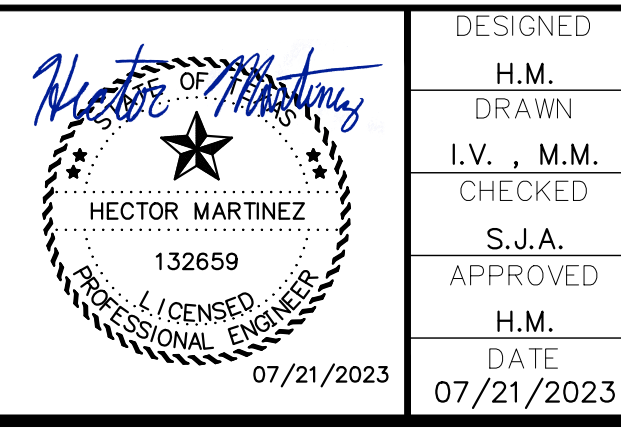


BENCHMARK:
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REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #6

UTILITY LOCATOR SERVICES
 TIME WARNER COMMUNICATIONS (915) 775-7415
 EL PASO ELECTRIC COMPANY (915) 877-3400
 EL PASO WATER UTILITIES (915) 594-5500
 VERIZON COMMUNICATIONS (800) 624-9675
 HOLLY ENERGY PARTNERS (915) 494-0549
 TEXAS GAS SERVICE (800) 959-5325
 KINDER MORGAN (915) 843-2441
 AT&T GENERAL (915) 595-5151

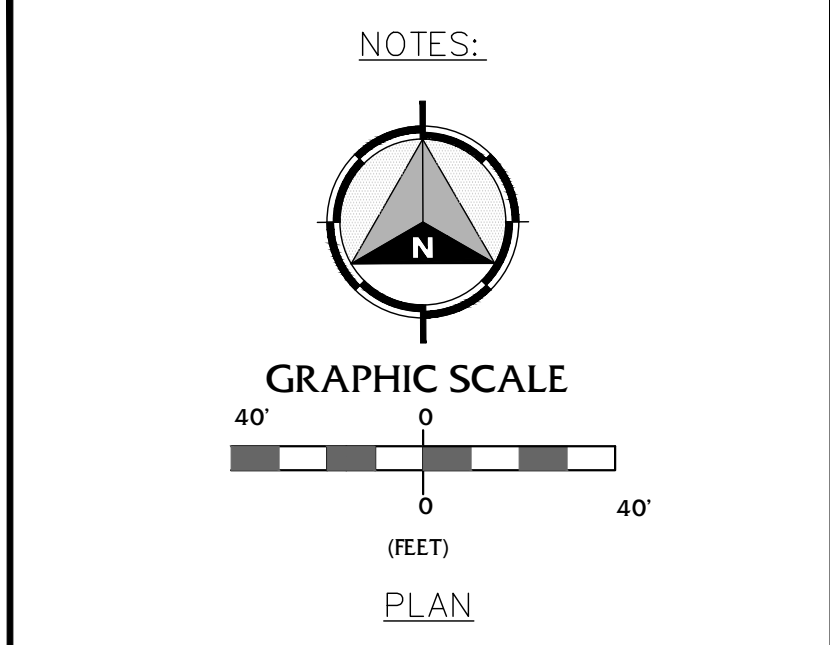
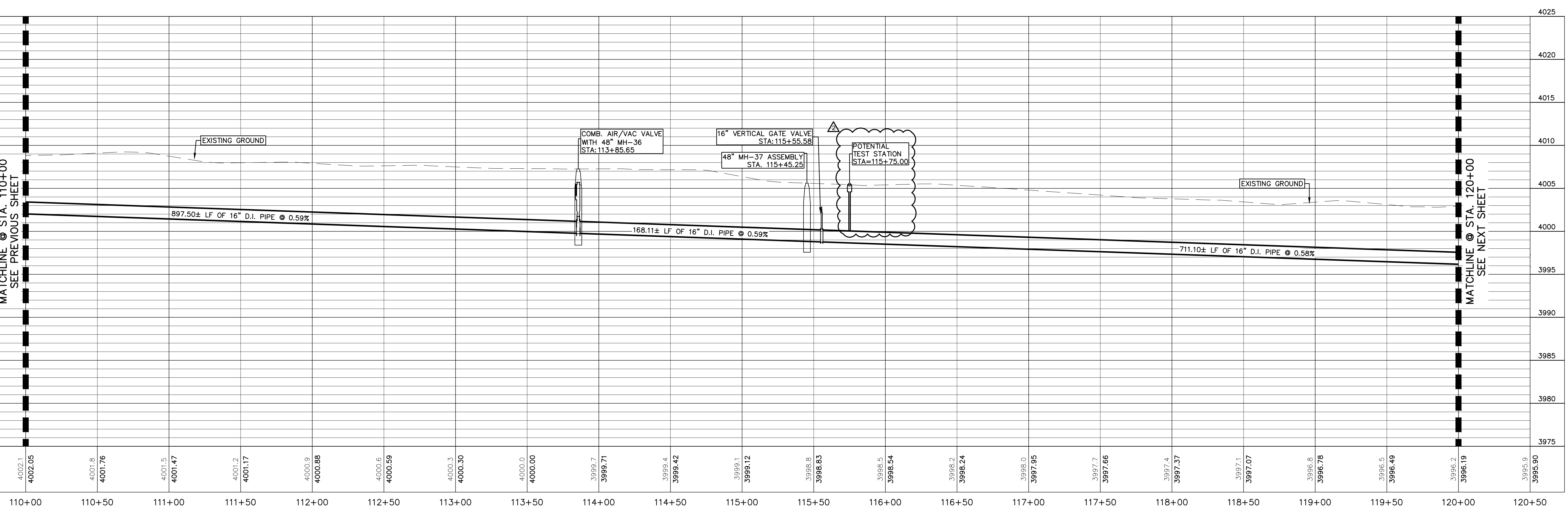
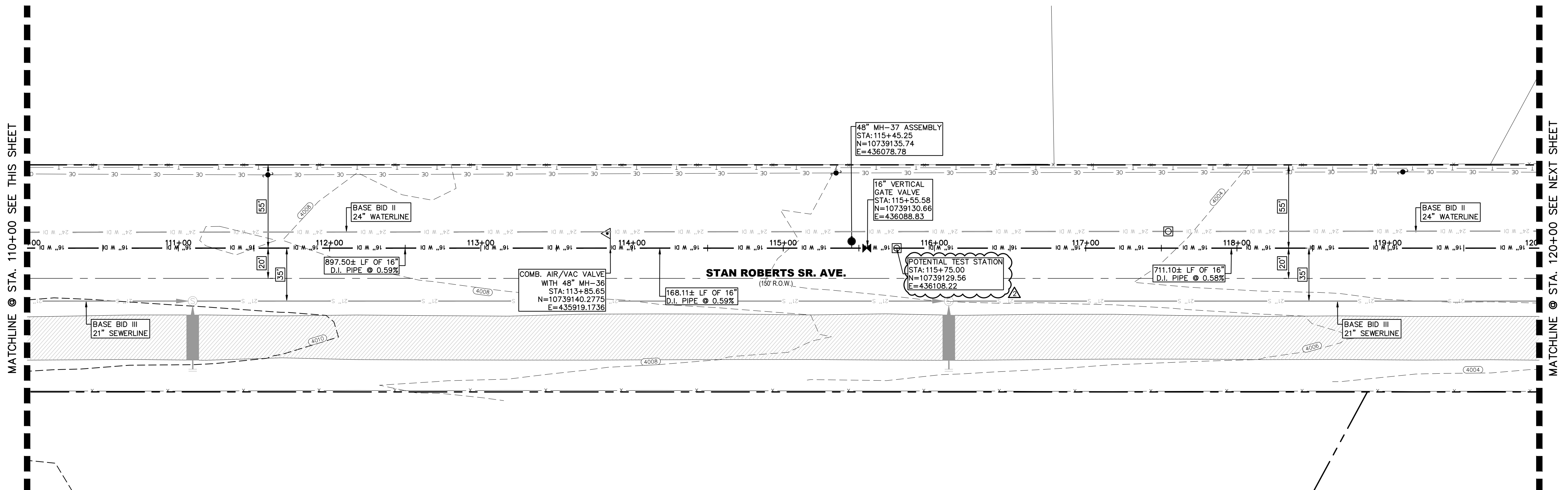


DESIGNED
 H.M. DRAWN
 I.V., M.M. CHECKED
 S.J.A. APPROVED
 H.M. DATE 07/21/2023



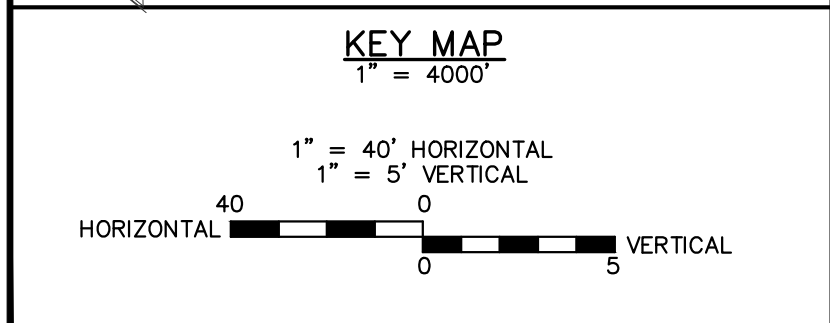
JOB NO. 05970-054
 SEQUENCE NO. C14R
 SHEET NO. 14 OF 23

MCGREGOR 16-INCH WATERLINE
 NORTE VISTA & STAN ROBERTS SR. AVE.
 PLAN & PROFILE FROM STA. 100+00 TO 110+00



NO.	ITEM	STATION	ASBULT	QUANTITY
2	16" DI APPROVED WATERLINE			1000 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			1 EA
4	3" AIR/VAC COMBINATION VALVE			1 EA
8	TRENCH SAFETY SYSTEM			1000 LF

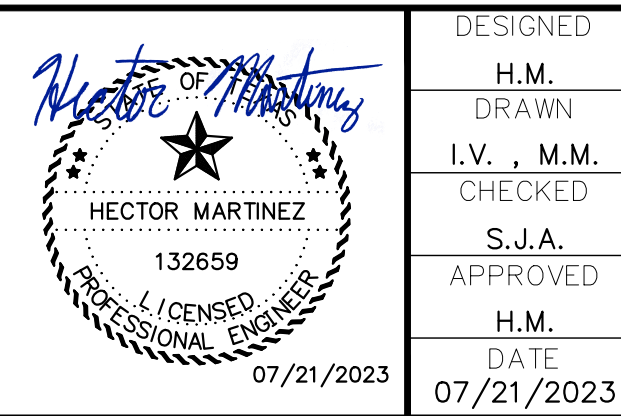
BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GOOD 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



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Δ	07/21/2023	LV	ADDENDUM #6

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
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TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151



DESIGNED
H.M. DRAWN
I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE 07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS
417 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM
PH (915) 542-0950
FAX (915) 542-2907
TBP Registration Number: F-737
JOB NO. 05970-054

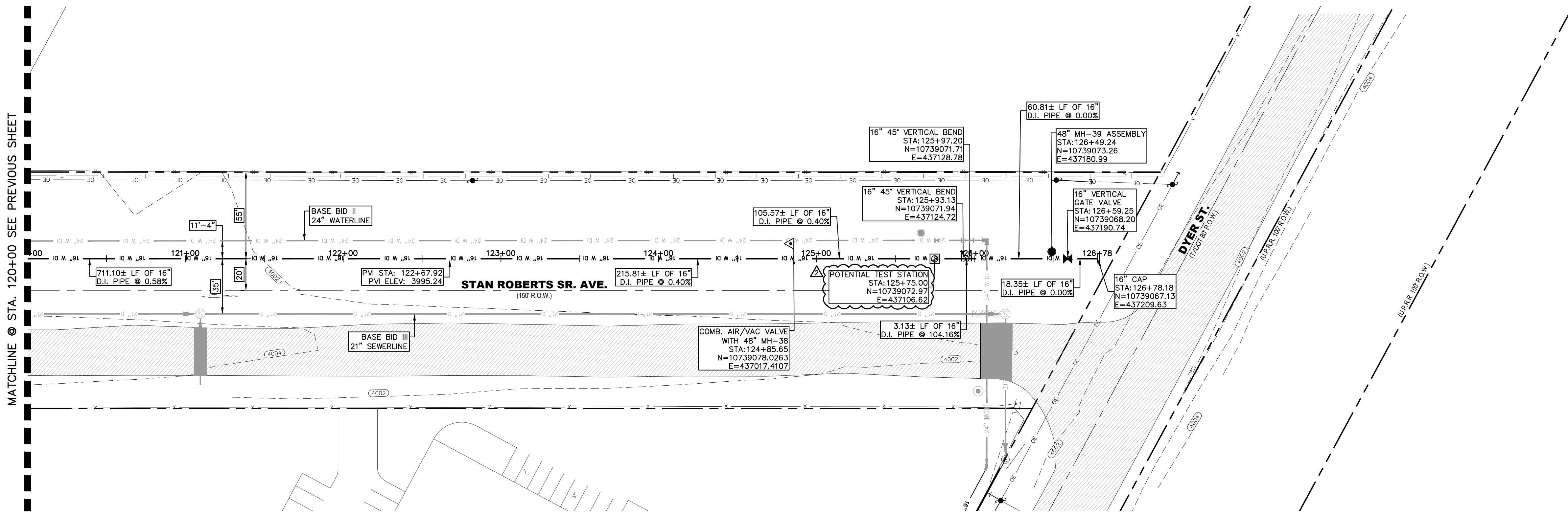


MCGREGOR 16-INCH WATERLINE

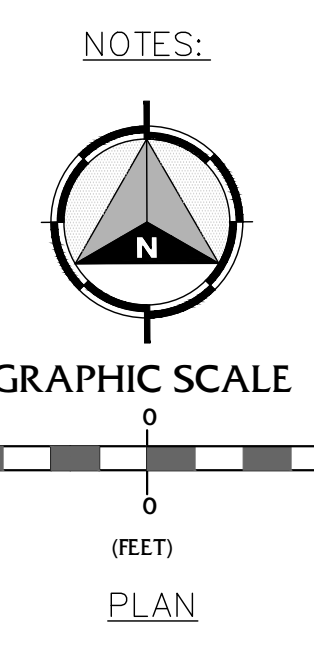
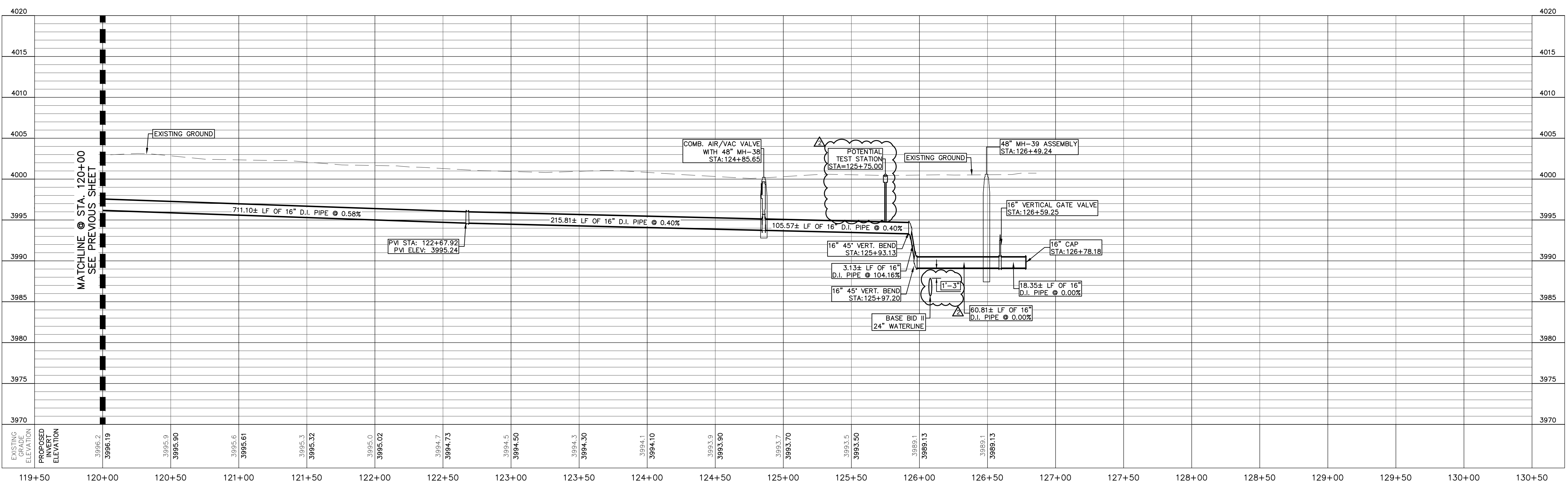
SHEET TITLE: STAN ROBERTS SR. AVE.
PLAN & PROFILE FROM STA. 110+00 TO 120+00

JOB NO. 05970-054
SEQUENCE NO. C15R
SHEET NO. 15 OF 23

MATCHLINE @ STA. 120+00 SEE PREVIOUS SHEET

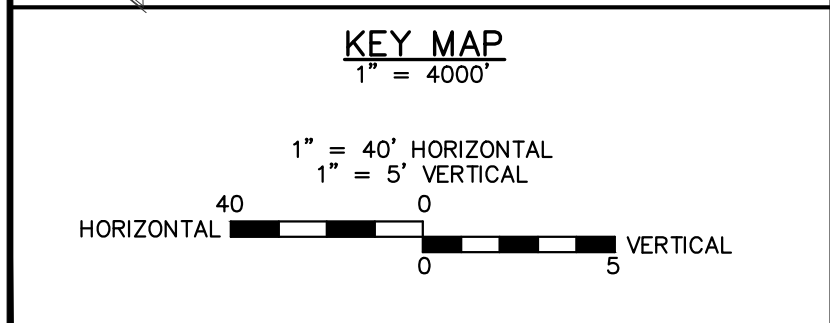


MATCHLINE @ STA. 120+00 SEE PREVIOUS SHEET



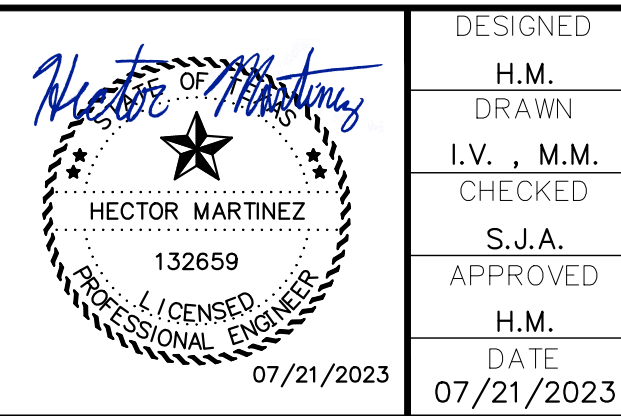
NO.	ITEM	STATION	ASBUILT	QUANTITY
2	16" DI APPROVED WATERLINE			700 LF
3	16" VERTICAL GATE VALVE ASSEMBLY			1 EA
4	3" AIR/VAC COMBINATION VALVE			1 EA
8	TRENCH SAFETY SYSTEM			700 LF

BENCHMARK:
 BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NO. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GRID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #6

UTILITY LOCATOR SERVICES
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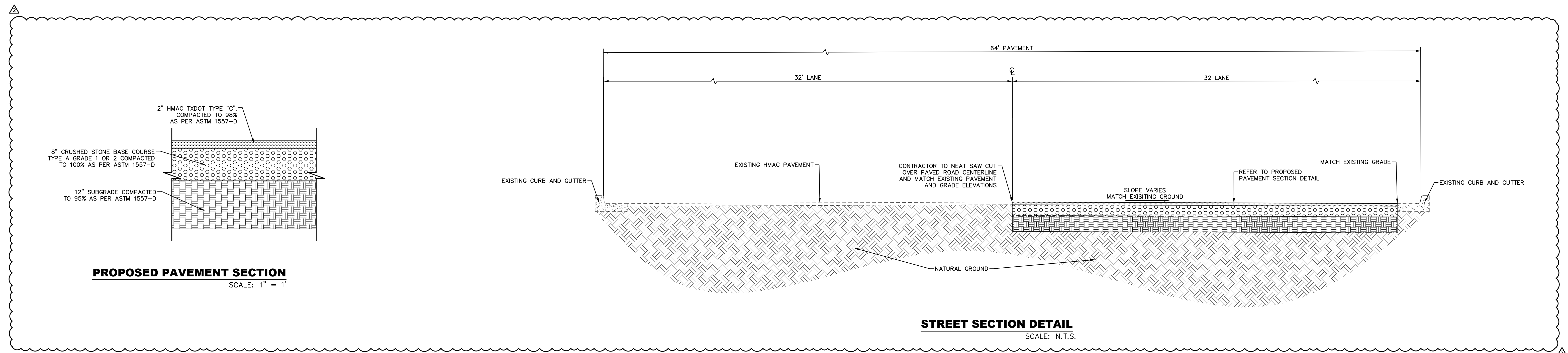
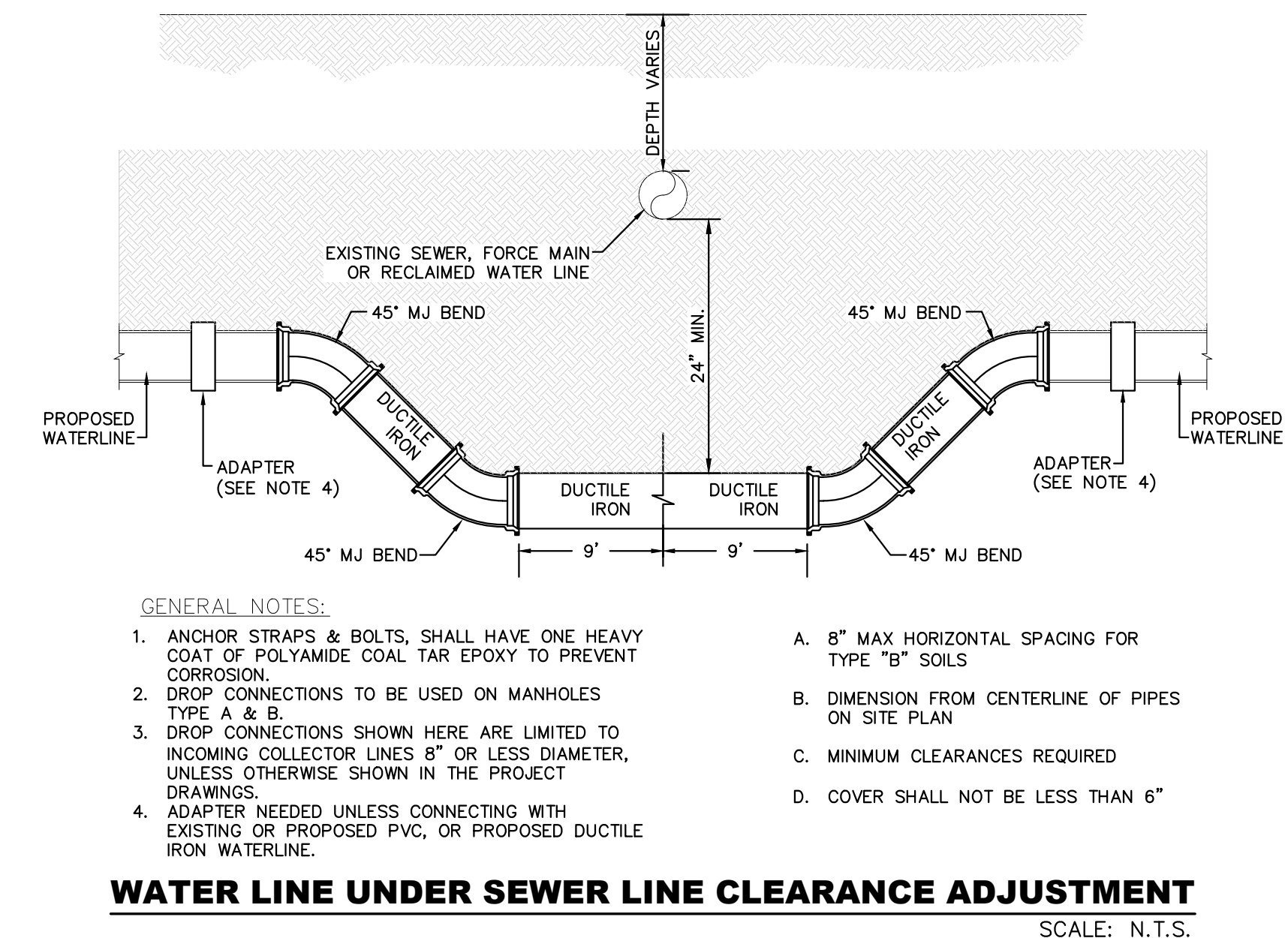
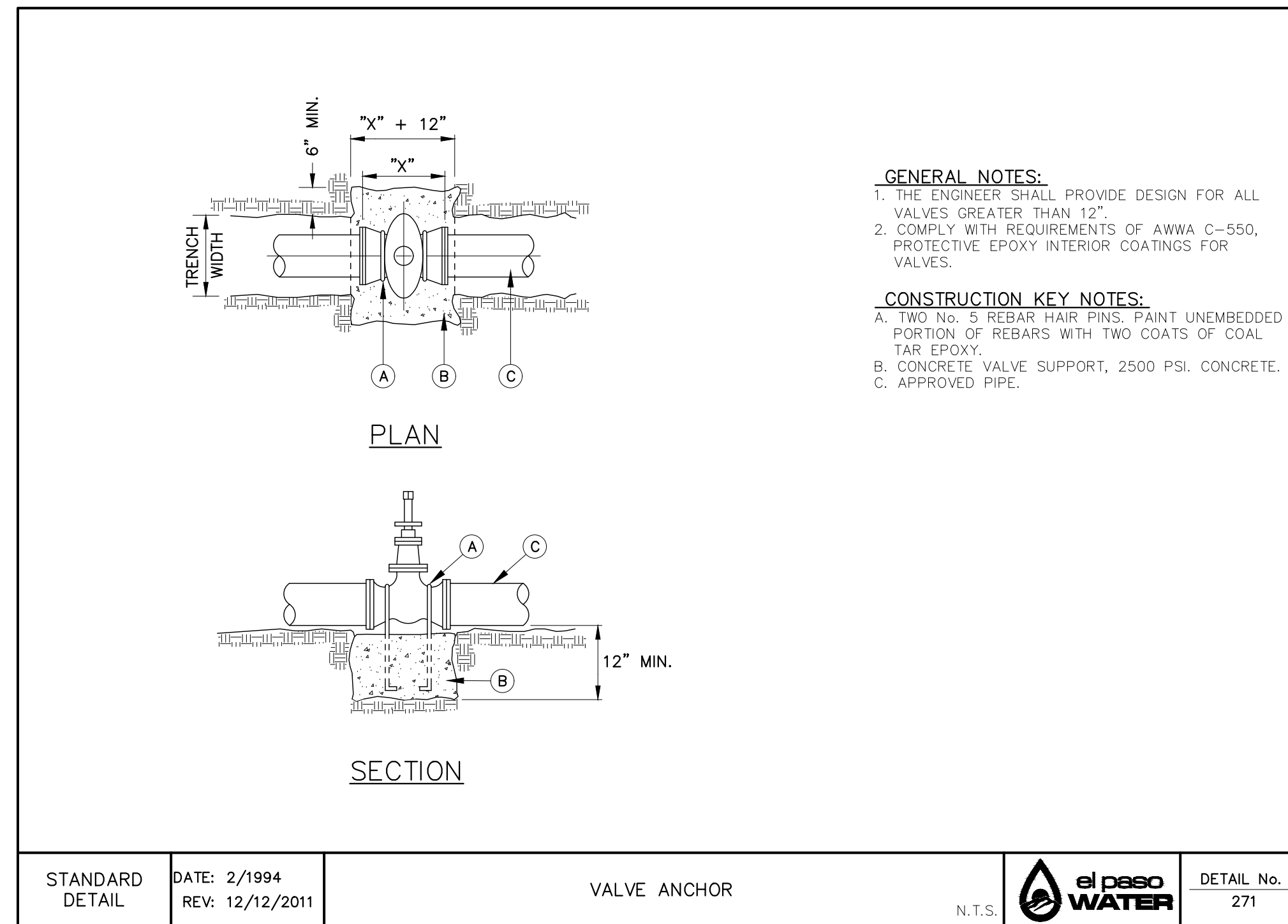
DESIGNED H.M.
 DRAWN H.M.
 I.V., M.M.
 CHECKED S.J.A.
 APPROVED H.M.
 DATE 07/21/2023

BROCK & BUSTILLOS INC.
 CONSULTING CIVIL ENGINEERS
 LAND SURVEYORS
 417 EXECUTIVE CENTER EL PASO, TEXAS 79902
 PH (915) 542-0950 FAX (915) 542-2907
 TBP Registration Number: F-737
 JOB NO. 05970-054



MCGREGOR 16-INCH WATERLINE
 SHEET TITLE: STAN ROBERTS SR. AVE. PLAN & PROFILE FROM STA. 120+00 TO 129+00

JOB NO. 05970-054
 SEQUENCE NO. C16R
 SHEET NO. 16 OF 23



REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV.	ADDENDUM #8

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

STOP!
CALL BEFORE YOU DIG

FOR FIELD LOCATING EXISTING UTILITIES

Hector Martinez

DESIGNED H.M.
 DRAWN I.V., M.M.
 CHECKED S.J.A.
 APPROVED H.M.
 DATE 07/21/2023

BROCK & BUSTILLOS INC.
 CONSULTING CIVIL ENGINEERS
 LAND SURVEYORS

417 EXECUTIVE CENTER
 EL PASO, TEXAS 79902
 WWW.BROCKBUSTILLOS.COM

PH (915) 542-4950
 FAX (915) 542-2957
 TBP Registration Number: F-737

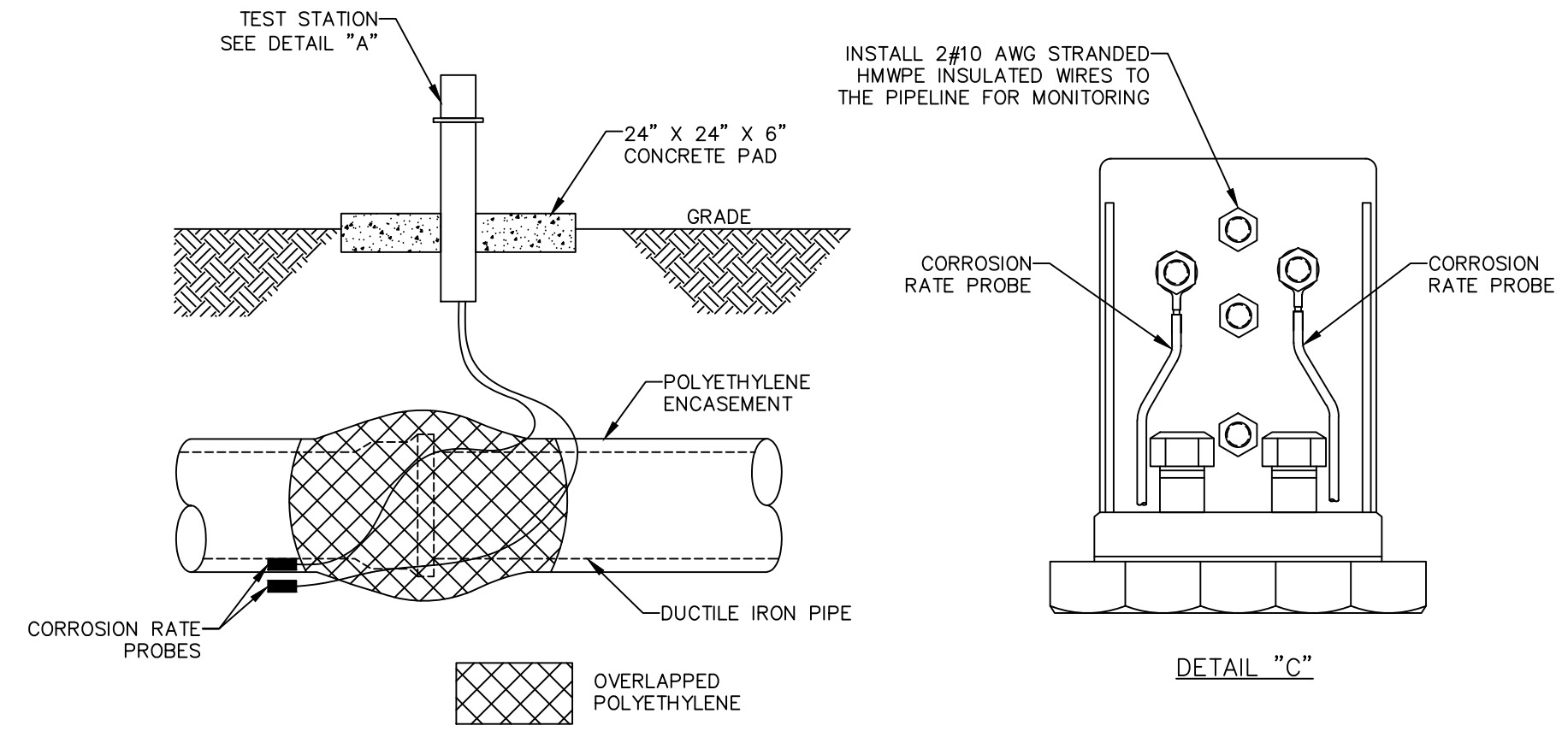
JOB NO. 05970-054

MCGREGOR 16-INCH WATERLINE

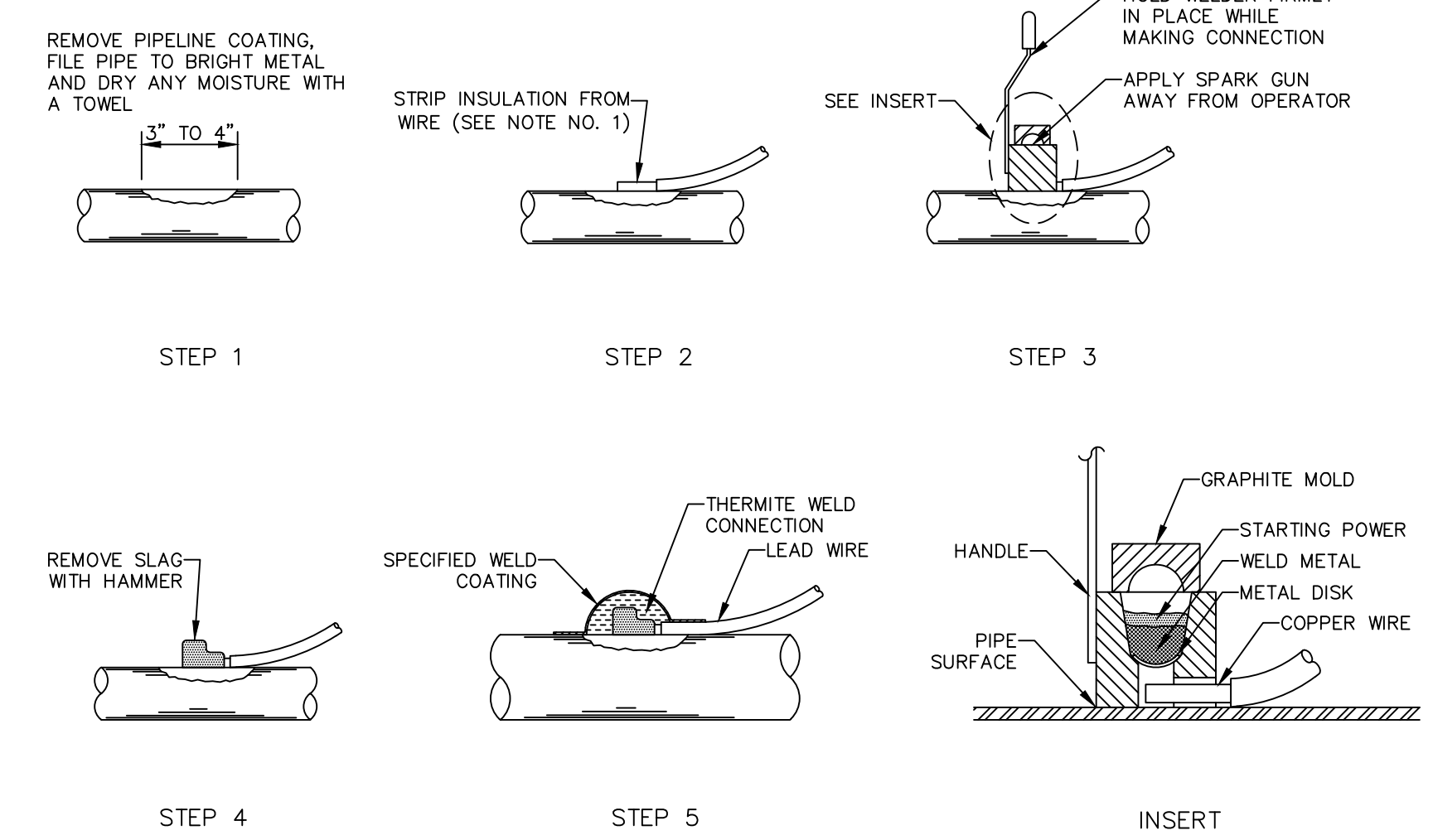
SHEET TITLE: DETAILS

JOB NO. 05970-054
 SEQUENCE NO. C20R
 SHEET NO. 20 OF 23

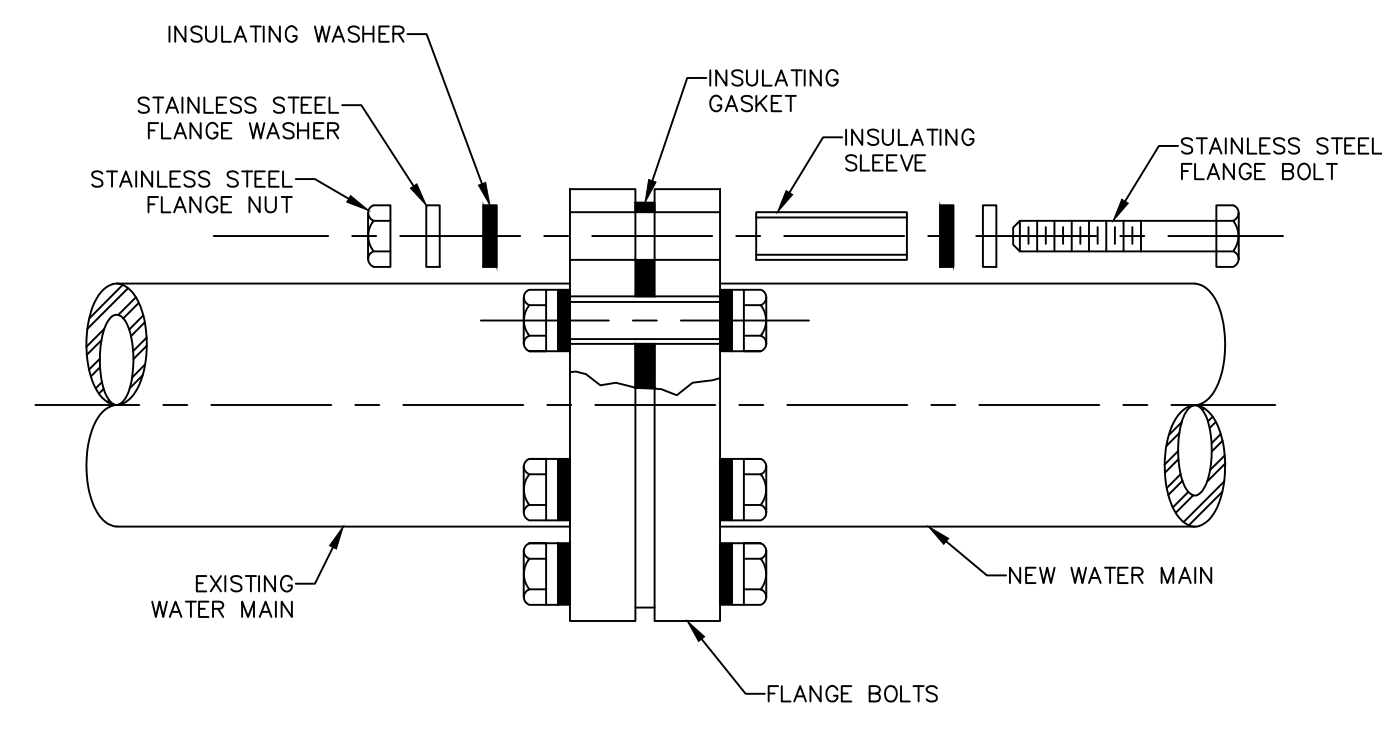
10/17/2023
 S:\P\1616\05970 - EL PASO WATER - 16-INCH WATERLINE\DESIGN\17-C20 DETAILS.dwg
 MCGREGOR 16-INCH WATERLINE\DESIGN\17-C20 DETAILS.dwg
 10/17/2023



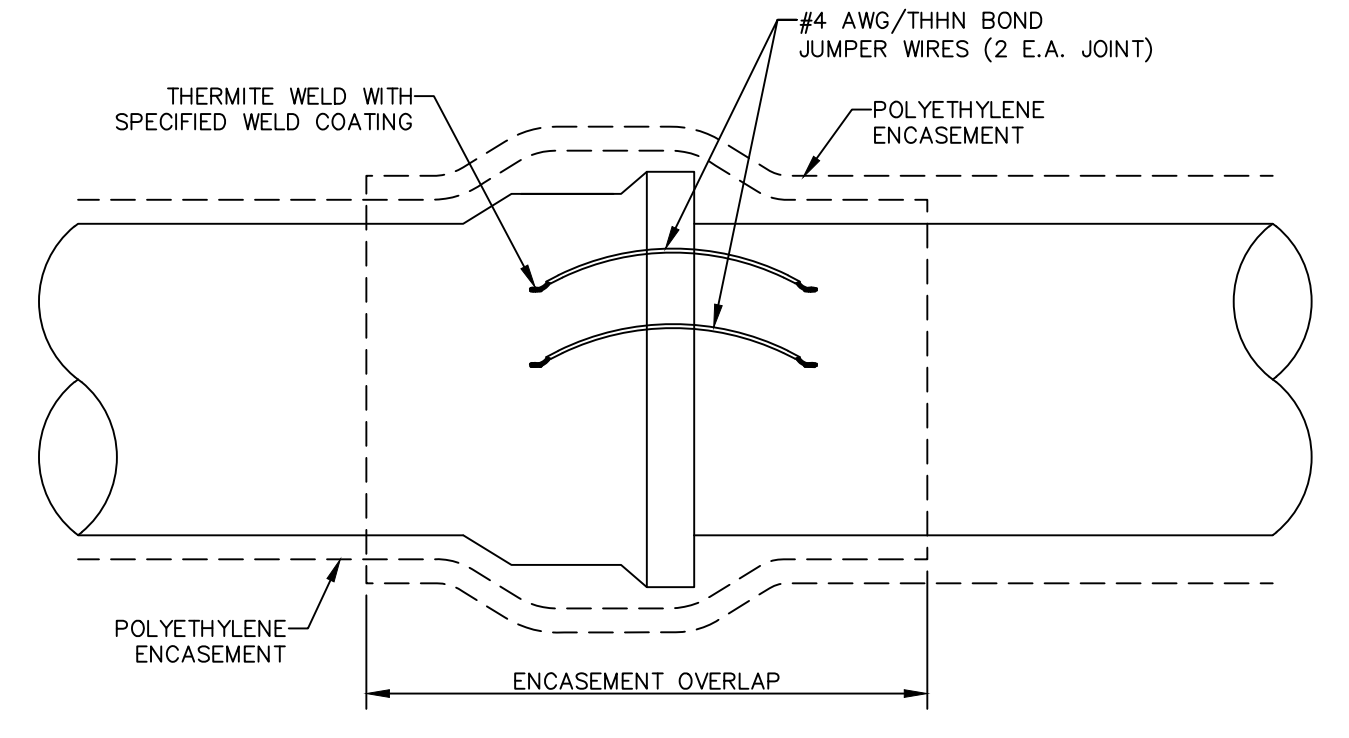
1
23 TYPE MTS MONITORING TEST STATION
FOR DUCTILE IRON PIPE INSTALLATION
SCALE: N.T.S.



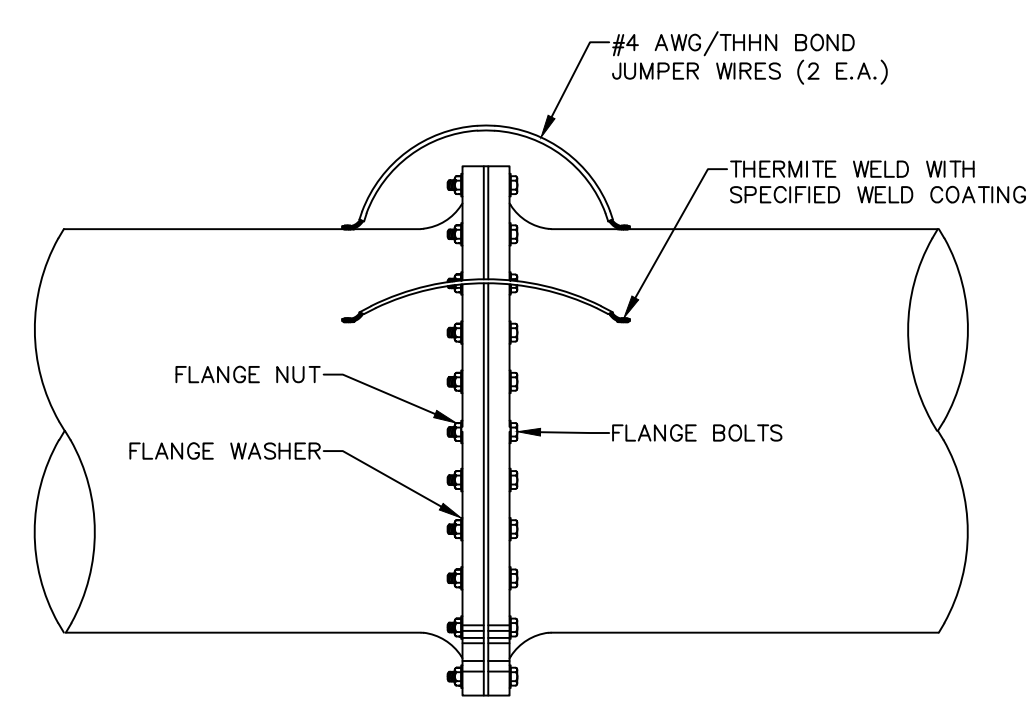
2
23 THERMITE WELD CONNECTION
SCALE: N.T.S.



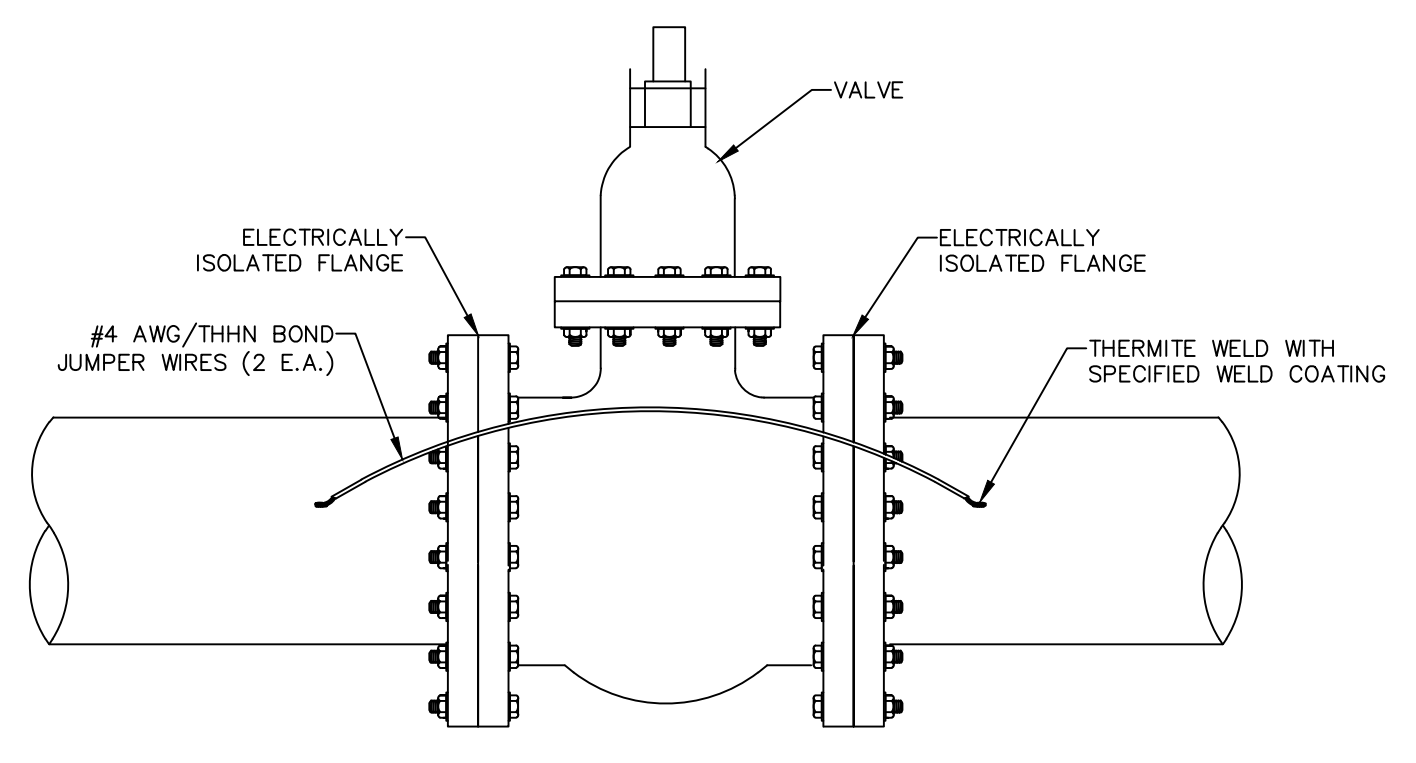
3
23 FLANGED ISOLATION KIT
SCALE: N.T.S.



4
23 TYPICAL BOND FOR DUCTILE IRON PIPE JOINT
SCALE: N.T.S.



5
23 TYPICAL FLANGE BOND CONNECTION
SCALE: N.T.S.



6
23 TYPICAL BONDING ACROSS IN-LINE VALVE
SCALE: N.T.S.

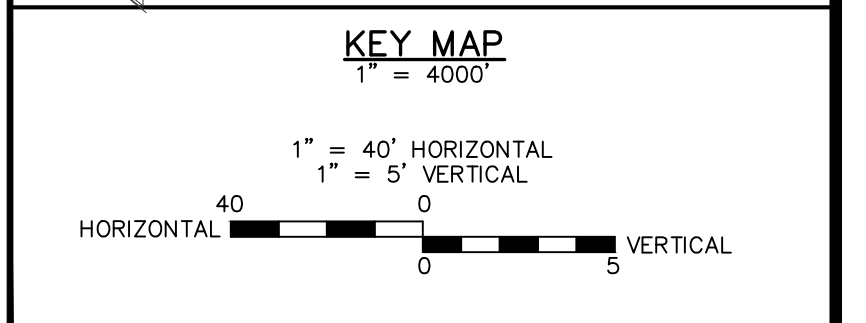
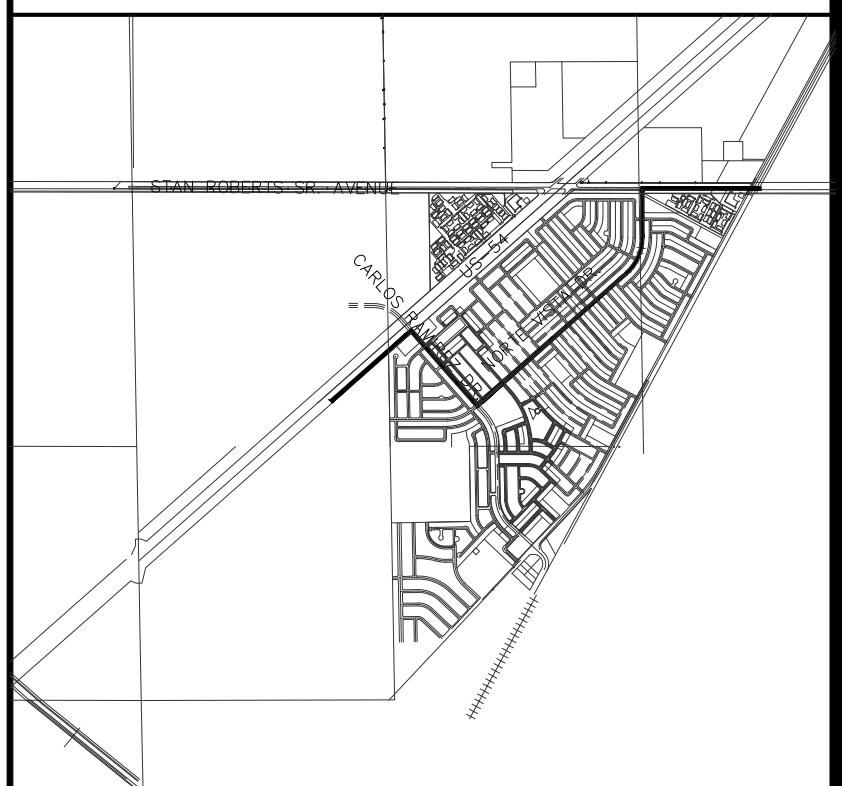
- NOTES:
1. ALL JOINTS ARE TO BE JOINT BONDED TO PROVIDE ELECTRICAL CONTINUITY ALONG THE ENTIRE LENGTH OF PIPELINE.
 2. PROVIDE ELECTRICALLY ISOLATED FLANGES AT ALL CONNECTIONS TO EXISTING PIPELINES.
 3. ALL JOINTS SHALL BE MJ VALVES UNLESS SHOWN OTHERWISE.
 4. PROVIDE CATHODIC PROTECTION TEST STATIONS EVERY 1,000 LF OF APPROVED PIPE. TEST STATION SHALL BE OUT OF THE FUTURE ROADWAY, BEHIND BACK OF CURB.
 5. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING PIPE JOINTS AND COORDINATE FABRICATION OF PIPE COMPONENTS REQUIRED TO COMPLETE ALL PIPING CONNECTIONS PRIOR TO PACING THE ORDER FOR THE NEW PIPE. ALL DIMENSIONS SHALL BE FIELD VERIFIED. FAILURE TO LOCATE AND VERIFY EXISTING JOINTS AND INCORPORATE IN THE SHOP DRAWINGS PRIOR TO FABRICATION SHALL NOT BE CAUSE FOR ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL COORDINATE ADJUSTMENTS WITH THE PIPE MANUFACTURER AND NOTIFY ENGINEER AND OWNER. COORDINATION WITH THE MANUFACTURER SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
 6. CONTRACTOR SHALL PERFORM NON-DESTRUCTIVE SURFACE EXPLORATION ON ALL EXISTING UTILITIES THAT CROSS THE PROPOSED PIPELINE AND SUBMIT RESULTS TO ENGINEER PRIOR TO ORDERING MATERIALS.
 7. APPROVED PIPE TO BE SUBMITTED BY CONTRACTOR AND APPROVED BY ENGINEER.
 8. COPPER SLEEVE BE ATTACHED TO THE CABLE END WHERE IT IS TO BE THERMITE WELDED (CADWELDED)
 9. MANUFACTURE RECOMMENDATIONS FOR INSTALLATION ARE TO BE FOLLOWED WHEN INSTALLING INDUSTRY STANDARD PERMANENT REFERENCE ELECTRODES.
 10. TEST FOR STRAY CURRENT INTERFERENCE PRIOR TO BEGINNING OF CATHODIC PROTECTION.
 11. NO GRAVEL IS TO BE USED NEAR ANY PORTION OF THE CATHODIC PROTECTION.

GENERAL PROCEDURE

1. WHEN USING NO. 10 TO NO. 14 AWG SOLID OR STRANDED WIRE, IT WILL BE NECESSARY TO INSTALL A COPPER SLEEVE OF ADEQUATE SIZE OVER THE BARE END OF THE WIRE AND CRIMP IN PLACE BEFORE ATTEMPTING TO MAKE THE CONNECTION. THE WIRE SHOULD PROTRUDE AT LEAST 1/8" FROM THE END OF THE SLEEVE.
2. INSERT THE CONDUCTOR INTO THE MOLD NOTING ANY SPECIAL INFORMATION UNDER "POSITIONING" FOR APPLICATION TYPE IN THE MANUFACTURER'S INSTRUCTIONS PACKAGED WITH THE WELDER.
3. INSERT STEEL DISK IN BOTTOM OF CAVITY INSIDE MOLD. POUR THE WELD METAL INTO MOLD BEING CAREFUL NOT TO UPSET THE STEEL DISK. SQUEEZE THE BOTTOM OF THE TUBE TO LOOSEN ALL THE STARTING POWDER AND SPREAD IT EVENLY OVER THE WELD METAL. PLACE A SMALL AMOUNT OF STARTING POWDER ON THE TOPE EDGE OF THE MOLD UNDER THE COVER OPENING FOR EASY IGNITION.
4. CLOSE COVER AND IGNITE WITH THE FLINT GUN. MOVE THE FLINT GUN AWAY QUICKLY TO PREVENT FOULING. IF FLINT GUN SHOULD BE FOULED, SOAK IT IN HOUSEHOLD AMMONIA.
5. AFTER IGNITION HOLD THE WELDER IN PLACE FOR A MOMENT TO ALLOW THE WELD TO SOLIDIFY. AFTER THE WELD HAS COOLED, REMOVE THE SLAG WITH A CHIPPING HAMMER OR WIRE BRUSH.
6. COAT CONNECTION AND THE ENTIRE PREPARED SURFACE.
7. CLEAN THE COVER EVERY 6 TO 10 WELDS.
8. WET OR DAMP MOLDS WILL PRODUCE POROUS WELDS. MOLDS MUST BE DRIED OUT BEFORE ATTEMPTING TO WELD.
9. CONNECTIONS ARE TO BE PLACED A MINIMUM OF 3" APART. UNSUCCESSFUL WELDS ARE TO BE ABANDONED AND MOVED TO ANOTHER PREPARED SURFACE NOT LESS THAN 3' AWAY.

STATION NO.	DESCRIPTION	TYPE
0+00	TIE-IN TO EXISTING WATERLINE	ITS
5+00	POTENTIAL TEST STATION	PTS
20+00	POTENTIAL TEST STATION	PTS
28+25	POTENTIAL TEST STATION	PTS
38+25	POTENTIAL TEST STATION	PTS
53+85	POTENTIAL TEST STATION	PTS
63+85	POTENTIAL TEST STATION	PTS
74+00	POTENTIAL TEST STATION	PTS
83+50	POTENTIAL TEST STATION	PTS
93+85	POTENTIAL TEST STATION	PTS
102+50	POTENTIAL TEST STATION	PTS
105+75	POTENTIAL TEST STATION	PTS
115+75	POTENTIAL TEST STATION	PTS
125+75	POTENTIAL TEST STATION	PTS

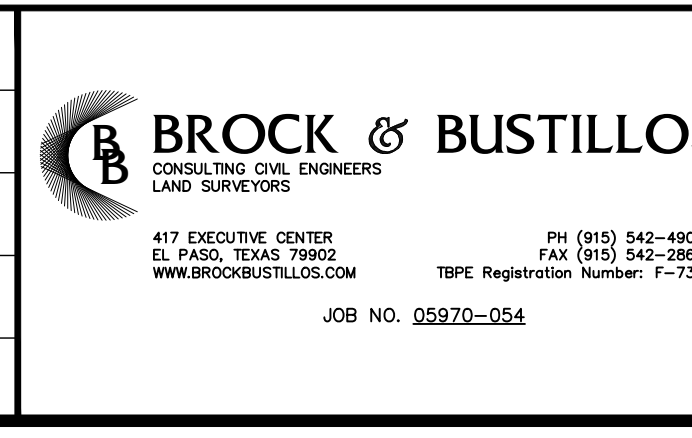
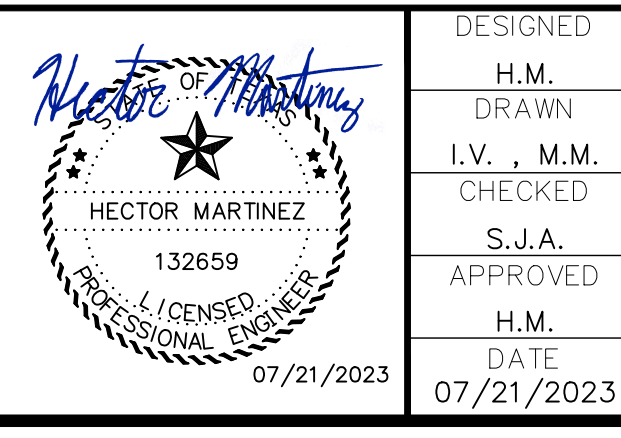
BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GRID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



DATE: _____ AREA(S) OF SITE WITH CONTROL: _____

REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151


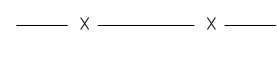
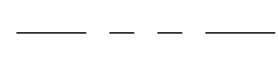
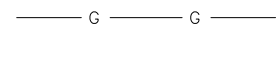


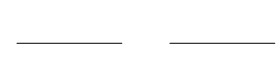

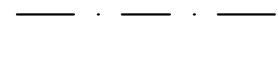















JOB NO.
05970-054
SEQUENCE NO.
C23
SHEET TITLE:
CATHODIC DETAILS
SHEET NO.
23 OF 23




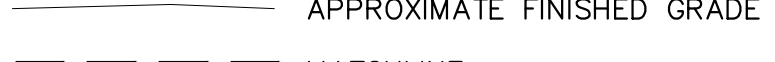
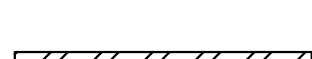
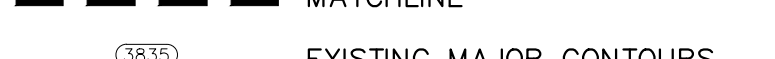








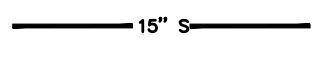

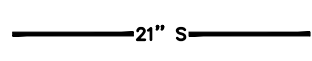









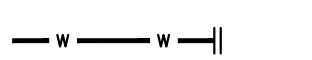



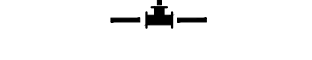
10/17/2023
S:\P\0410\05970 - EL PASO WATER - 16-INCH WATERLINE\DESIGN\C23 CATHODIC DETAILS.dwg

GENERAL LEGEND

EXISTING IMPROVEMENTS

	EXISTING PAVEMENT		CHAIN LINKED FENCE
	RIGHT-OF-WAY LINE		GAS LINE
	PROPERTY LINE/TRACT LINE		OVERHEAD POWERLINE TELEPHONE PEDESTAL
	CENTERLINE		WATER LINE
	EASEMENT		EDGE OF PAVEMENT
	SECTION/ SURVEY LINE		EXISTING TELEPHONE UNDERGROUND CABLE
	POWER POLE		
	EXISTING LIGHT POLE/STANDARD		
	EXISTING GUY ANCHOR		
	FOUND SECTION CORNER		
	FOUND PROPERTY CORNER		
	SET 1/2" REBAR		
	EXISTING SANITARY SEWER MANHOLE		
	EXISTING VALVE		
	EXISTING ELECTRIC/TRAFFIC SIGNAL BOX		
	EXISTING SIGN		

PROPOSED IMPROVEMENTS

WATERLINE PLAN		WATERLINE PROFILE	
	PROPOSED HMAc PAVEMENT		APPROXIMATE EXISTING GROUND
	PROPOSED BORING/RECEIVING PIT		APPROXIMATE FINISHED GRADE
	PROPOSED CASING		MATCHLINE
	PROPOSED SEWER MANHOLE NOT PART OF THIS CONTRACT		EXISTING MAJOR CONTOURS
	PROPOSED 24" DUCTILE IRON WATER LINE		EXISTING MINOR CONTOURS
	PROPOSED 8" DUCTILE IRON WATER LINE		EXISTING STORM WATER RUN-OFF
	PROPOSED 15" SEWER LINE NOT PART OF THIS CONTRACT		EXISTING 24" VERTICAL VALVE
	PROPOSED 21" SEWER LINE NOT PART OF THIS CONTRACT		NEW MANHOLE WITH BLOW-OFF VALVE
	PROPOSED BLOW OFF VALVE		PROPOSED CASING
	PROPOSED COMB. AIR RELEASE/ VACUUM VALVE		PROPOSED CASING
	PROPOSED GATE VALVE		PROPOSED CASING
	PROPOSED CAP		CENTERLINE
	PROPOSED CROSS		PROPERTY LINE
	PROPOSED TEE		
	POTENTIAL TESTING STATION		
	PROPOSED VERTICAL GATE VALVE AND MANHOLE		NEW COMBINATION AIR RELEASE/VACUUM VALVE
	PROPOSED VERTICAL BENDS UNDER SEWER LINE		



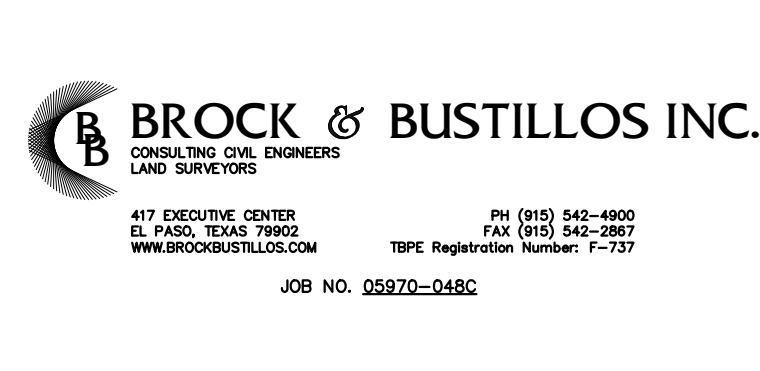

- ALL EXISTING UTILITIES CURRENTLY IN SERVICE MUST REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES (INCLUDING WATER AND SEWER SERVICE CONNECTIONS) FROM DAMAGE AS RESULT OF CONSTRUCTION ACTIVITIES. LOCATING EXISTING UTILITY SERVICES (I.E., GAS, WATER, ELECTRIC, CABLE, PHONE, ETC.) IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY REPAIRS REQUIRED AS A RESULT OF DAMAGE BY THE CONTRACTOR, SHALL BE RESTORED OR REPAIRED AT THE CONTRACTOR'S EXPENSE TO EQUAL OR BETTER EXISTING CONDITION.
- ALTHOUGH ALL EFFORTS HAVE BEEN MADE TO SHOW ALL MAJOR EXISTING UTILITIES ON THE PLANS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL SAID UTILITIES AS WELL AS SERVICE CONNECTIONS (WHETHER OR NOT SHOWN ON PLANS) PRIOR TO AND DURING CONSTRUCTION. WATER SERVICE CONNECTIONS AND UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE LOCATION ONLY. CONTRACTOR SHALL SUPPORT AND MAINTAIN ALL EXISTING UTILITIES IN SERVICE EXPOSED AS RESULT OF EXCAVATION AND TRENCHING PROCEDURES.
- PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES TO VERIFY LOCATION OF EXISTING UTILITIES AND CONTRACTOR SHALL CALL THE "1-800-DIG-TESS" NUMBER FOR SUCH UTILITIES. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ACQUIRING FIELD DEPTHS OF ALL UTILITIES WITHIN THE PROJECT AREAS PRIOR TO EXCAVATION ACTIVITIES.
- CONTRACTOR AT ITS EXPENSE, SHALL VERIFY LOCATION OF EXISTING UTILITY LINES BY POTHOLING AND/OR OTHER METHODS AT LEAST TWO DAYS AHEAD OF PIPE LAYING CREWS TO ALLOW THE ENGINEER A REASONABLE AMOUNT OF TIME TO INITIATE ANY NECESSARY CHANGES IN ALIGNMENT AND/OR GRADE OF PIPELINE. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM THE CITY OF EL PASO STREET AND MAINTENANCE. ALL POTHOLES MADE WITHIN PAVED OR CONCRETE FINISHED SURFACES SHALL BE BACKFILLED WITH 2-SACK CEMENT STABILIZED. THE BACKFILL SHALL BE PLACED ALL THE WAY TO THE SURFACE OF THE POT HOLE, FULL DEPTH. THE SURFACE OF THE POTHOLES SHALL BE NEATLY CORED OR SAW CUT. CUTS MADE BY HAND TOOLS OR JACK HAMMER WILL NOT BE ALLOWED.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH GAS, OIL, ELECTRIC, TELEPHONE, FIBER OPTIC, CABLE, AND WATER UTILITIES OWNERS ETC. FOR ANY RELOCATION AND/OR PROTECTION OF EXISTING LINES OR CABLES AS REQUIRED DUE TO CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL NOTIFY ALL RESIDENTS, BUSINESS OWNERS, SCHOOLS, AND CHURCHES THAT MAY BE AFFECTED BY THE CONSTRUCTION 14 DAYS PRIOR TO CONSTRUCTION.
- ALL SIDEWALKS, SIGNS, LANDSCAPING, DRAINAGE STRUCTURES, DRIVEWAYS, ETC. AFFECTED BY CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER BY CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- ALL BUSINESSES, RESIDENCES, SCHOOLS, ETC. SHALL BE PROVIDED WITH FULL PEDESTRIAN AND VEHICULAR ACCESS AT ALL TIMES. COORDINATION FOR THIS ACTIVITY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL PROVIDE ACCESS TO TRASH COLLECTION AND EMERGENCY VEHICLES AT ALL TIMES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ASCERTAINING THE NATURE AND EXTENT OF ANY COLLATERAL WORK DONE BY OTHER TRADES. CONTRACTOR SHALL BE AWARE OF ANY AND ALL CONCURRENT WORK IN THE AREA THAT WILL REQUIRE COORDINATION FOR THE TIE-IN OF THIS WORK. IF NECESSARY, TO AVOID OR MINIMIZE DAMAGE OR DELAY, THE CONTRACTOR SHALL REDEPLOY ITS WORK FORCE TO THE OTHER AREAS OF THE PROJECT AT NO COST TO THE OWNER.
- THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) MUST BE NOTIFIED 72 HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITIES WITHIN OR ADJACENT TO THEIR ROW. THE CONTRACTOR MUST PREPARE AND SUBMIT A TRAFFIC CONTROL PLAN IN ACCORDANCE TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES TO TXDOT. THE TRAFFIC CONTROL PLAN MUST BE APPROVED BY TXDOT BEFORE CONSTRUCTION IN OR ADJACENT TO TXDOT ROW BEGINS.
- CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN. THE PLANS ARE TO BE SUBMITTED TO THE CITY OF EL PASO STREET AND MAINTENANCE AND TXDOT FOR WRITTEN APPROVAL, PRIOR TO BEGINNING CONSTRUCTION. NO CONSTRUCTION WILL BE ALLOWED WITHOUT THE APPROVED TRAFFIC CONTROL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING UPDATED TRAFFIC CONTROL PLANS AS THE PROJECT ADVANCES FOR REVIEW AND APPROVAL OF THE CITY OF EL PASO STREET AND MAINTENANCE AND TXDOT.
- CONTRACTOR SHALL RESTORE ALL EXISTING STREET PAVEMENT MARKINGS DISTURBED AS RESULT OF CONSTRUCTION ACTIVITIES TO ORIGINAL OR BETTER CONDITION PER CITY OF EL PASO STREET AND MAINTENANCE AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL KEEP ALL DEBRIS AND SPOILS OUT OF DRAINS, CULVERTS, AND DROP INLETS AND ENSURE THAT THEY DO NOT BECOME CLOGGED AS A RESULT OF CONSTRUCTION ACTIVITIES. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND IMPLEMENTING AN APPROVED STORM WATER POLLUTION PREVENTION PLAN.
- CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP'S) DURING THE DURATION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR PLACING EROSION CONTROL SYSTEM WHERE NEEDED OR DIRECTED BY THE ENGINEER.
- CITY OF EL PASO STREET AND MAINTENANCE, AND EL PASO WATER (EPW) SHALL BE NOTIFIED 72 HOURS IN ADVANCE OF ANY CONSTRUCTION ACTIVITIES WITHIN THEIR JURISDICTIONS.
- IN NO CASE WILL EXCAVATED MATERIAL BE ALLOWED TO BE STOCKPILED WITHIN STREET ROW AFTER NORMAL WORKING HOURS. THE AMOUNT OF PIPELINE STRUNG OUT WITHIN STREET ROW SHALL BE LIMITED TO THE AMOUNT OF PIPELINE THAT CAN BE INSTALLED IN ONE DAY'S WORK. AT THE END OF EACH WORK DAY, THE END OF PIPE SHALL BE SEALED, MARKED, AND BACKFILLED SO AS NOT TO LEAVE AN OPEN TRENCH.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF EL PASO IN WRITING, OF ANY PROPOSED DUMP SITE(S) FOR OVERBURDEN AND ANY CONSTRUCTION DEBRIS FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL OBTAIN APPROVAL OF ITS HAUL ROUTE TO THE DUMP SITE, AS WELL AS FOR THE MATERIALS IT SHALL BE HAULING BEFORE REMOVAL OF OVERBURDEN MATERIAL FROM PROJECT SITE.
- RECORD DRAWING STATIONING, OFFSET FROM ROW AND INVERT ELEVATIONS SHALL BE ACCURATELY RECORDED BY THE CONTRACTOR ON A CLEAN SET OF PLANS FOR EACH SERVICE CONNECTION AND PIPE LINE ROUTE. WITH RESPECT TO THE APPROPRIATE PROJECT CONTROL POINT, THE CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT A SURVEY CONDUCTED BY A RPLS, SEALED AND SIGNED SHOWING THE LOCATION OF ALL NEW WATER IMPROVEMENTS IN CAD FORMAT OR IN ANY FORMAT REQUESTED BY THE ENGINEER AND OWNER.
- CONTRACTOR SHALL PROVIDE THE REQUIRED COUPLINGS, ELBOWS AND NECESSARY PIPING APPURTENANCES FOR A COMPLETE AND OPERATIONAL WATERLINE. CONTRACTOR IS REQUIRED TO VERIFY EXISTING PIPE SIZES AND MATERIALS PRIOR TO PREPARATION OF SHOP DRAWINGS AND ORDERING OF MATERIALS.
- CONTRACTOR SHALL KEEP ALL DRAINAGE STRUCTURES, FACILITIES AND CONVEYANCE SYSTEMS ALONG THE PIPE ROUTE UNDISTURBED AND IN OPERATION TO THE MAXIMUM EXTENT POSSIBLE. IF AREAS ARE DISTURBED, CONTRACTOR SHALL RESTORE THEM TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COSTS TO THE OWNER.
- PAVEMENT PLACEMENT LIMITS WILL ONLY BE PAID TO CONTRACTOR AS SHOWN IN THE DRAWINGS OR AS SPECIFIED IN THE MEASUREMENT AND PAYMENT SECTION OF THE TECHNICAL SPECIFICATIONS. CONTRACTOR SHALL NEATLY SAW CUT BOTH SIDES OF THE PAVEMENT CUT. THE CONTRACTOR SHALL PERFORM A SECOND SAW CUT TO THE PAVEMENT EDGES TO LEAVE A NEAT EDGE AND STRAIGHT JOINT AT THE TIME OF PAVEMENT REPLACEMENT SHOULD THE ORIGINAL SAW CUT EDGE LOSE ITS NEAT AND STRAIGHT EDGE AT NO ADDITIONAL COST TO THE OWNER. THE INSPECTOR OF THE CITY OF EL PASO STREET AND MAINTENANCE NEEDS TO BE PRESENT BEFORE, DURING AND AFTER HMAc CUTTING AND REPLACEMENT.
- CONTRACTOR SHALL FOLLOW HMAc REMOVAL AND REPLACEMENT LIMITS. ALL HMAc REMOVED AND REPLACED OUTSIDE THE LIMITS SHOWN ON THE CONSTRUCTION DRAWINGS SHALL BE AT THE CONTRACTOR'S EXPENSE. CONTRACTOR WILL NOT BE COMPENSATED FOR HMAc REMOVAL AND REPLACEMENT OUTSIDE THE LIMITS EVEN IF THE EXISTING CONDITIONS OF THE HMAc ARE DILAPIDATED.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY AND HEALTH ADMINISTRATION REGULATIONS.
- THE CONTRACTOR SHALL SUBMIT A PROJECT CONSTRUCTION SCHEDULE FOR THE REVIEW AND APPROVAL BY THE ENGINEER, PRIOR TO CONSTRUCTION. CONTRACTOR SHALL PROVIDE A TWO-WEEK "LOOK AHEAD" CONSTRUCTION SCHEDULE, UPDATED BI-WEEKLY TO THE ENGINEER AT THE CONSTRUCTION MEETINGS.
- THE CONTRACTOR SHALL NOTIFY THE CITY'S ENGINEERING AND MUNICIPAL SERVICES (ENVIRONMENTAL DIVISION) DEPARTMENT IMMEDIATELY, IF SUBSURFACE CONTAMINATION IS ENCOUNTERED OR SUSPECTED DURING POTHOLING, EXCAVATION OR BORING. ALL EXCAVATION AND CONSTRUCTION OPERATIONS SHALL BE CEASED UNTIL FURTHER NOTICE FROM THE MUNICIPAL SERVICES DEPARTMENT.
- THE CONTRACTOR SHALL RECONSTRUCT THE FINISHED SURFACE DISTURBED AS PART OF CONSTRUCTION ACTIVITIES TO MAINTAIN EXISTING DRAINAGE PATTERNS ON PAVED AND UNPAVED ROADS AND EASEMENTS.
- SUPERINTENDENT HAS TO BE PRESENT ALL THE TIME AT THE PROJECT SITE DURING WORKING HOURS. ENGINEER OR EPW WILL HAVE THE RIGHT TO SHUT DOWN THE PROJECT IF THE SUPERINTENDENT IS NOT PRESENT AT THE PROJECT SITE.
- CONTRACTOR SHALL INSTALL A TRENCH SAFETY SYSTEM TO PROVIDE FOR THE SAFE EXCAVATION OF ALL TRENCHES EXCEEDING A DEPTH OF FIVE FEET (5') AS REQUIRED BY OSHA. EXISTING SOIL CONDITIONS MAY INDICATE THE NEED FOR A TRENCH SAFETY SYSTEM WHEN TRENCH IS LESS THAN FIVE (5') IN DEPTH. CONTRACTOR SHALL PROVIDE A TRENCH SAFETY SYSTEM AND TRENCH SAFETY PLAN DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS.
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE CITY OF EL PASO, TXDOT AND EPW DESIGN STANDARDS FOR CONSTRUCTION.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO SUCCESSFULLY COMPLETE THE PROJECT. THIS PERMITS MAY NOT BE MENTIONED IN THE SPECIFICATIONS OR CONSTRUCTION DRAWINGS.
- BASIS OF BEARING IS S89°58'57"E FOR THE SOUTH LINE OF SECTION 10, BLOCK 81, TOWNSHIP 1, TEXAS & PACIFIC RAILWAY COMPANY SURVEYS AS SHOWN ON THE AUTOCAD FILE OF A LAND USE STUDY DEVELOPMENT PLAN FOR A PORTION OF SECTIONS 2, 10, 11, AND 15, BLOCK 80, TOWNSHIP 1, TEXAS AND PACIFIC RAILROAD COMPANY SURVEYS, CITY OF EL PASO, EL PASO COUNTY, TEXAS PROVIDED BY CONDE INC.
- NO BACKFILL SHALL BE PERMITTED UNTIL THE RESULTS FROM THE PROCTORS HAVE BEEN RECEIVED BY THE ENGINEER AND RPR APPROVING MATERIAL AS SUITABLE FOR BACKFILL.
- CONTRACTOR SHALL COORDINATE WITH EL PASO ELECTRIC FOR THE INSTALLATION OF THE WATER LINE NEAR EXISTING POWER POLES. IF POWER POLES NEED TO BE SUPPORTED, PROTECTED, OR HELD FOR THE INSTALLATION OF WATERLINE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH EL PASO ELECTRIC AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE TO BECOME FAMILIAR WITH THE PROJECT SITE AND THE EXISTING CONDITIONS OF THE PROJECT SITE BEFORE SUBMITTING BIDS.
- ALL BORE PITS, TRENCHING, POT HOLING, MANHOLE AND/OR HAND-HOLE PIT AND EXCAVATIONS SHALL BE BACKFILLED WITH 2-SACK SOIL CEMENT MIX OR AS PER GOVERNING AGENCY RIGHT-OF-WAY STANDARDS.
- APPROXIMATE PROPOSED GROUND SHOWN ON PLANS IS FOR REFERENCE ONLY, CONTRACTOR TO INSTALL ALL MANHOLES TO EXISTING GRADES.

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UTILITIES & AGENCIES

EPWU PROJECT MANAGER: EL PASO WATER UTILITIES 1154 HAWKINS BLVD. EL PASO, TX 79925 O: (915) 263-4153 M: (915) 319-3184 MARIO GODINEZ	GENERAL UTILITIES: TEXAS EXCAVATION SAFETY SERVICE 11884 GREENVILLE AVENUE. DALLAS, TX. 75243 (800) 344-8377	FIBER OPTICS: U.S. SPRINT 151 N. BOONE ST. EL PASO, TX. 79905 (915) 534-7910 MR. RICK DERAGISCH	AT&T P.O. BOX 1650 EL PASO, TX. 79949 (800) 852-3786 MS. DARLENE NORIS	TELEPHONE: AT&T 11200 PELLICANO, SUITE 216 EL PASO, TX. 79935 (915) 595-5125 MR. SAM RODRIGUEZ, P.E.	CITY OF EL PASO ENGINEERING DEPT. 218N CABELL 2ND FLR. EL PASO, TX. 79901-1198 (915) 212-0065 MR. SAM RODRIGUEZ, P.E.
ENGINEER: BROCK & BUSTILLOS INC. 417 EXECUTIVE CENTER BLVD. EL PASO, TX 79902 (915) 542-4900 MR. SERGIO J. ADAME, P.E.	CABLE TELEVISION: SPECTRUM 7010 AIRPORT ROAD EL PASO, TX. 79906 (915) 772-1123 MR. RAYMOND MENDOZA	MCI TELECOMMUNICATIONS CORPS. 4045 DONIPHAN PARK CIRCLE EL PASO, TX. 79922 (915) 542-2770 EXT. 201 MR. DANIEL HERNANDEZ	ELECTRIC: EL PASO ELECTRIC CO. 501 W. SAN ANTONIO ST. EL PASO, TX. 79902 (915) 543-4015 MR. RAUL GUEL (DISTRIBUTION)	RESIDENTIAL GAS LINE: TEXAS GAS SERVICE 4700 POLLARD ST. EL PASO, TX 79930 (915) 680-8218 MR. ALEX LIMON	STREETS AND MAINTENANCE DEPARTMENT 7969 SAN PAULO EL PASO, TX 79907 (915) 212-0151 MR. HAROLD KUTZ, P.E.

<table border="1"> <thead> <tr> <th>REV.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>Δ</td> <td>07/21/2023</td> <td>LV</td> <td>ADDENDUM #8</td> </tr> </tbody> </table>	REV.	DATE	BY	DESCRIPTION	Δ	07/21/2023	LV	ADDENDUM #8	<table border="1"> <thead> <tr> <th colspan="2">UTILITY LOCATOR SERVICES</th> </tr> </thead> <tbody> <tr> <td>TIME WARNER COMMUNICATIONS</td> <td>(915) 775-7415</td> </tr> <tr> <td>EL PASO ELECTRIC COMPANY</td> <td>(915) 877-3400</td> </tr> <tr> <td>EL PASO WATER UTILITIES</td> <td>(915) 594-5500</td> </tr> <tr> <td>VERIZON COMMUNICATIONS</td> <td>(800) 624-9675</td> </tr> <tr> <td>HOLLY ENERGY PARTNERS</td> <td>(915) 494-0549</td> </tr> <tr> <td>TEXAS GAS SERVICE</td> <td>(800) 959-5325</td> </tr> <tr> <td>KINDER MORGAN</td> <td>(915) 843-2441</td> </tr> <tr> <td>AT&T GENERAL</td> <td>(915) 595-5151</td> </tr> </tbody> </table>	UTILITY LOCATOR SERVICES		TIME WARNER COMMUNICATIONS	(915) 775-7415	EL PASO ELECTRIC COMPANY	(915) 877-3400	EL PASO WATER UTILITIES	(915) 594-5500	VERIZON COMMUNICATIONS	(800) 624-9675	HOLLY ENERGY PARTNERS	(915) 494-0549	TEXAS GAS SERVICE	(800) 959-5325	KINDER MORGAN	(915) 843-2441	AT&T GENERAL	(915) 595-5151			<table border="1"> <thead> <tr> <th>DESIGNED</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>H.M.</td> <td>07/21/2023</td> </tr> <tr> <td>DRAWN</td> <td></td> </tr> <tr> <td>I.V., M.M.</td> <td></td> </tr> <tr> <td>CHECKED</td> <td></td> </tr> <tr> <td>S.J.A.</td> <td></td> </tr> <tr> <td>APPROVED</td> <td></td> </tr> <tr> <td>H.M.</td> <td></td> </tr> </tbody> </table>	DESIGNED	DATE	H.M.	07/21/2023	DRAWN		I.V., M.M.		CHECKED		S.J.A.		APPROVED		H.M.				<p>FRANKLIN EAST 24" WATER LINE EXTENSION PHASE II (NORTE VISTA DR TO STAN ROBERTS SR. AVE.)</p> <p>SHEET TITLE: GENERAL NOTES, LEGEND AND INDEX</p>	<table border="1"> <thead> <tr> <th>JOB NO.</th> <th>SEQUENCE NO.</th> <th>SHEET NO.</th> </tr> </thead> <tbody> <tr> <td>05970-048C</td> <td>C1R</td> <td>2 OF 30</td> </tr> </tbody> </table>	JOB NO.	SEQUENCE NO.	SHEET NO.	05970-048C	C1R	2 OF 30
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11/20/2018
 S:\PROJECTS\05970 - EL PASO WATER - FIBER ENGINEERING\048C - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN\CAD\05970-048C-1 GENERAL NOTES.dwg

NOTES:

FRANKLIN II - NORTE VISTA ALIGNMENT TABLE. Table with columns: LINE/CURVE, START STA., END STA., LINE/CHORD BEARING, LENGTH, DELTA ANGLE, RADIUS, CHORD LENGTH, TANGENT, BNE, ENE.

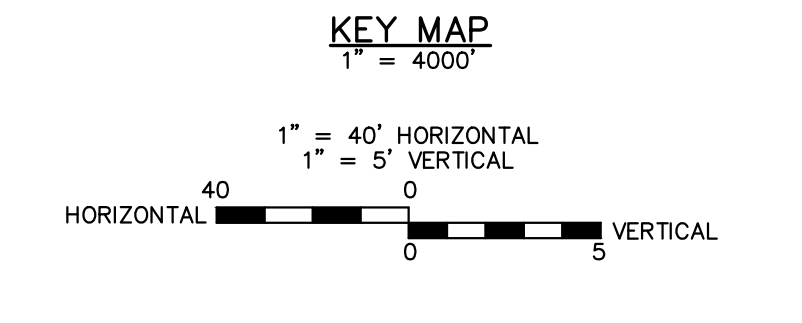
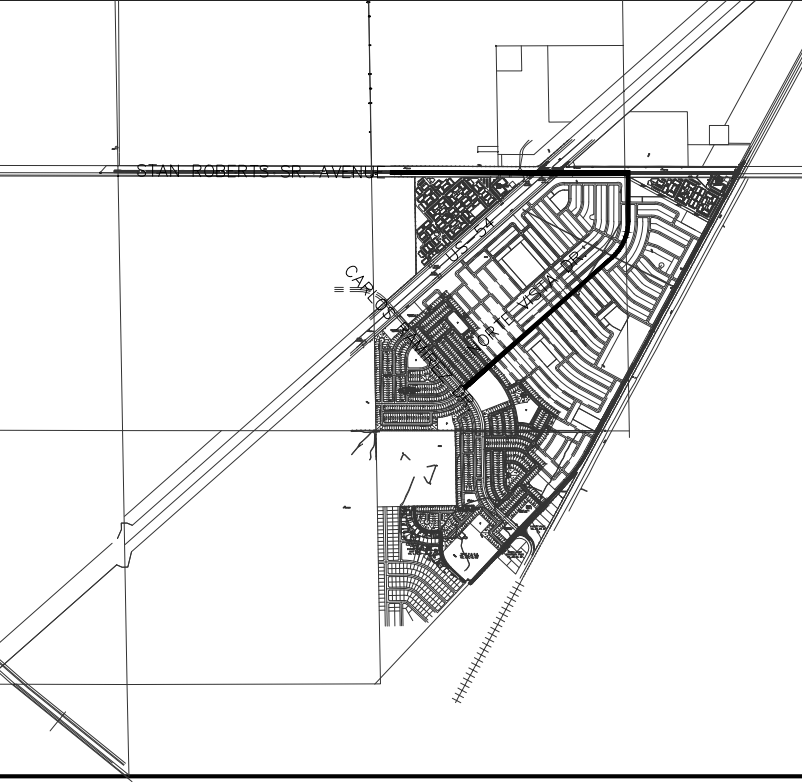
FRANKLIN II - STAN ROBERTS ALIGNMENT TABLE. Table with columns: LINE/CURVE, START STA., END STA., LINE/CHORD BEARING, LENGTH, DELTA ANGLE, RADIUS, CHORD LENGTH, TANGENT, BNE, ENE.

FRANKLIN II - NORTE VISTA MANHOLES STRUCTURE TABLE. Table with columns: STRUCTURE NAME, STATION & COORDINATES, DETAILS.

FRANKLIN II - STAN ROBERTS MANHOLES STRUCTURE TABLE. Table with columns: STRUCTURE NAME, STATION & COORDINATES, DETAILS.

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BENCHMARK: BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK...



Revision table with columns: REV., DATE, BY, DESCRIPTION.

UTILITY LOCATOR SERVICES table listing various utility companies and their contact information.



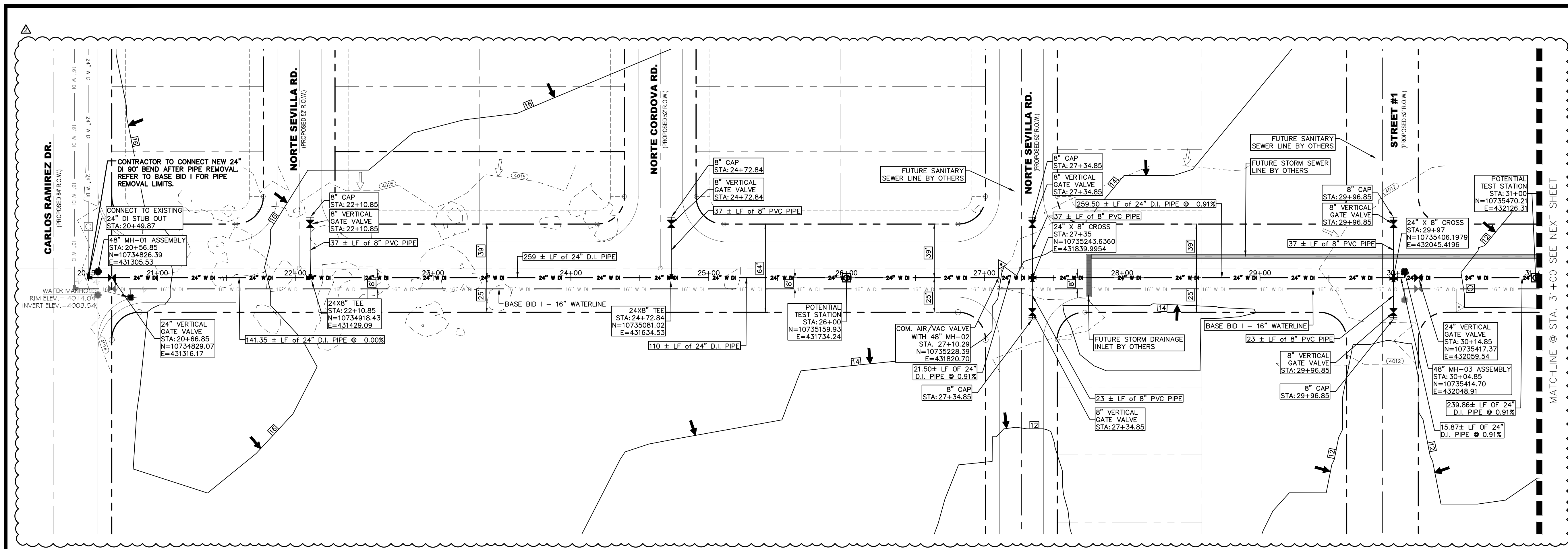
DESIGNED H.M. DRAWN I.V., M.M. CHECKED S.J.A. APPROVED H.M. DATE 07/21/2023



FRANKLIN EAST 24" WATER LINE EXTENSION PHASE II (NORTE VISTA DR TO STAN ROBERTS SR. AVE.) SHEET TITLE: ALIGNMENT AND STRUCTURE TABLES

JOB NO. 05970-048C SEQUENCE NO. C2.1R SHEET NO. 3 OF 30

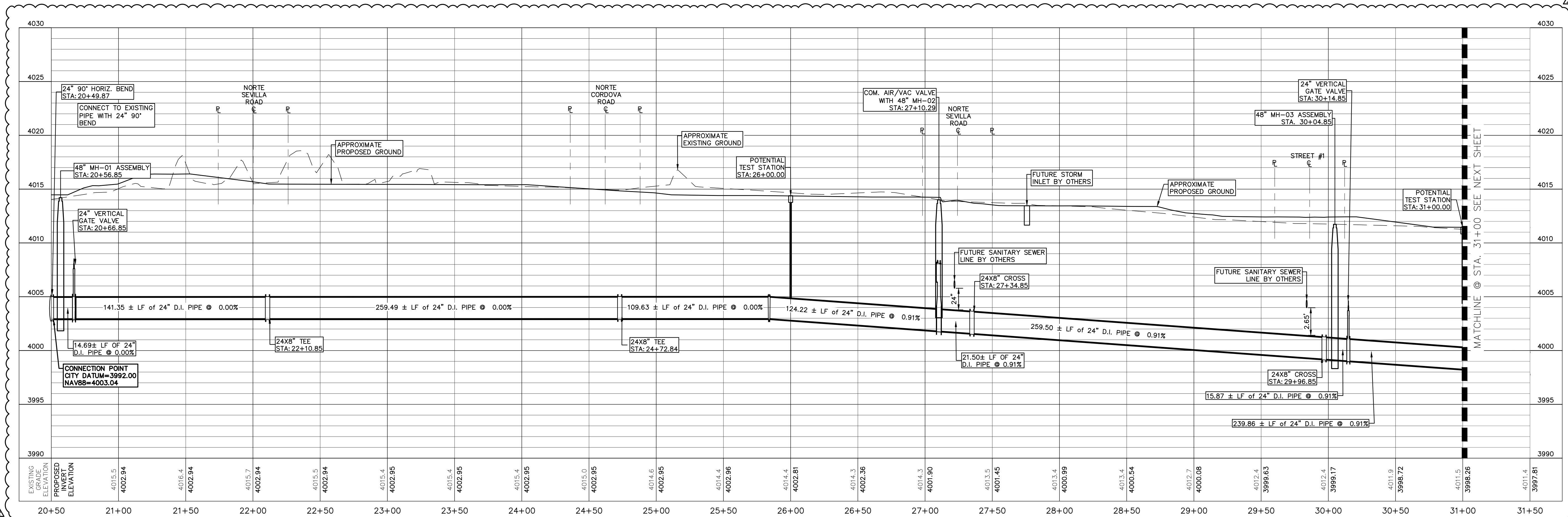
17/02/2018 - EL PASO WATER - P&E ENGINEERING - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN-CARLOS RAMIREZ TO STAN ROBERTS DESIGN-C2.1R Alignment And Structure Tables.dwg



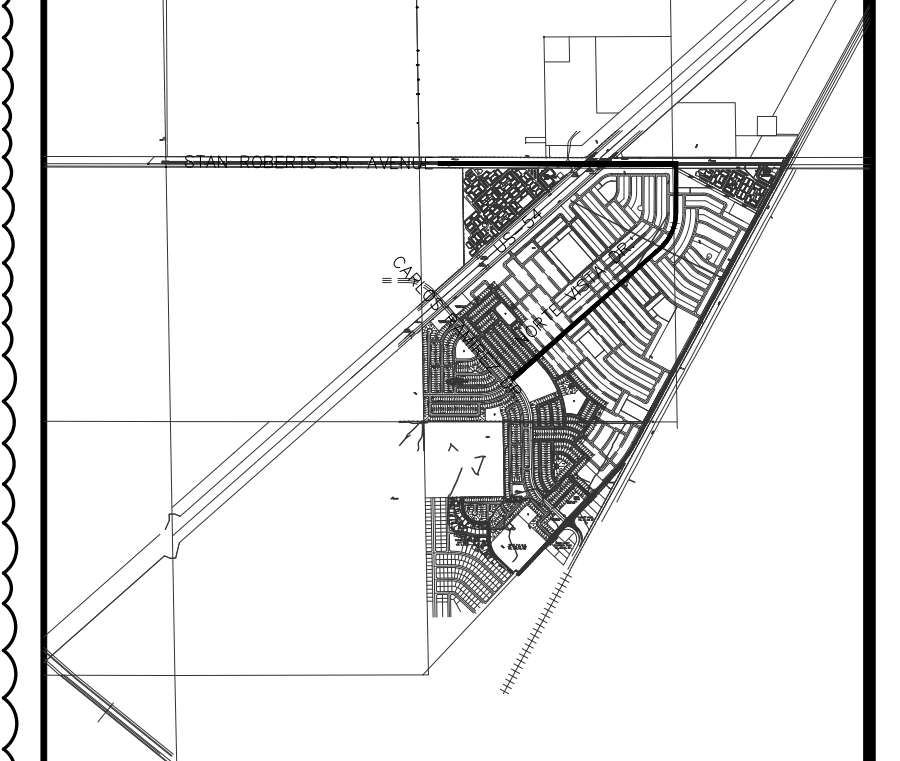
NOTES:

GRAPHIC SCALE
0 20 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1050 LF
3	8" PVC APPROVED WATERLINE			238 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			2 EA
5	6" COM. AIR RELEASE/VACUUM VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1288 LF



BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, NO. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



KEY MAP
1" = 4000'

1" = 40' HORIZONTAL
1" = 5' VERTICAL
HORIZONTAL 0 20 40 VERTICAL 0 5 10

REV.	DATE	BY	DESCRIPTION
06/12/2023	V.C./A.C.		LABEL AND/OR QUANTITIES REVISED
07/21/2023	I.V.		ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

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132659
LICENSED PROFESSIONAL ENGINEER
07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS
413 EXECUTIVE CENTER
EL PASO, TEXAS 79902
PH (915) 542-4800
FAX (915) 542-2867
www.brockandbustillos.com
TYPE Registration Number: T-757
JOB NO. 05970-048C

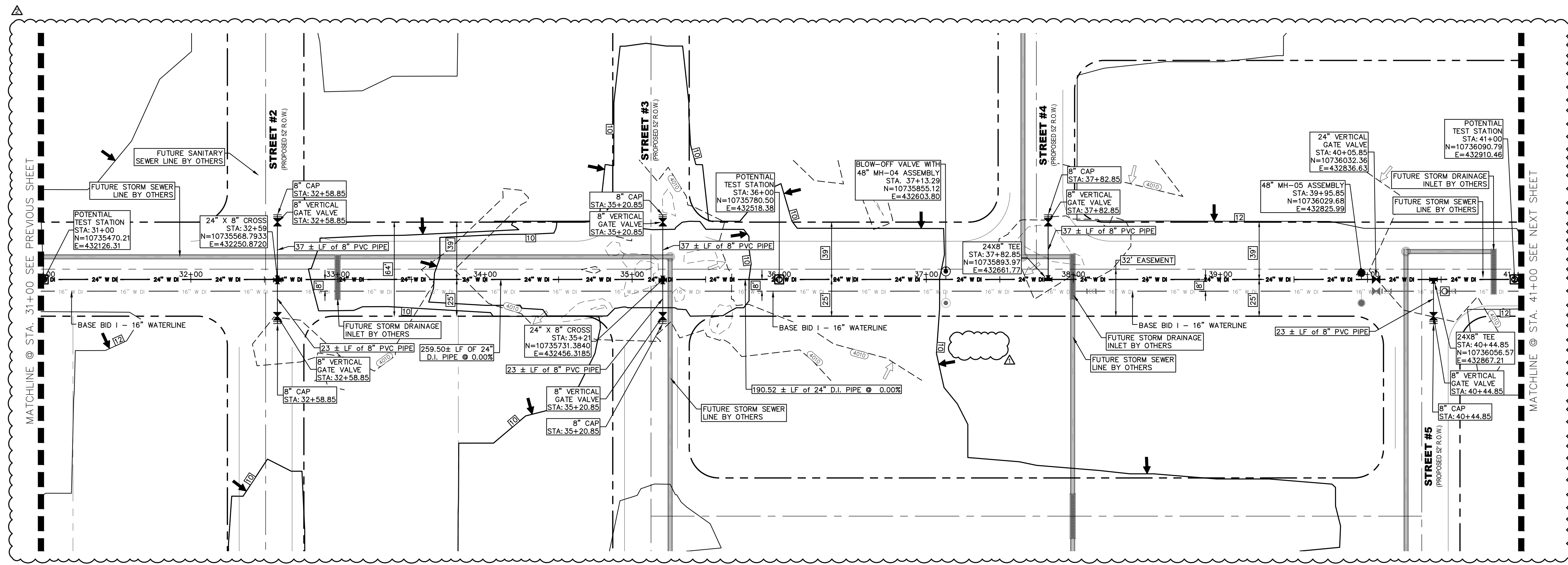
FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
NORTE VISTA DR. PLAN AND PROFILE
FROM STA. 20+87 TO STA. 31+00

JOB NO.
05970-048C

SEQUENCE NO.
C3.1R

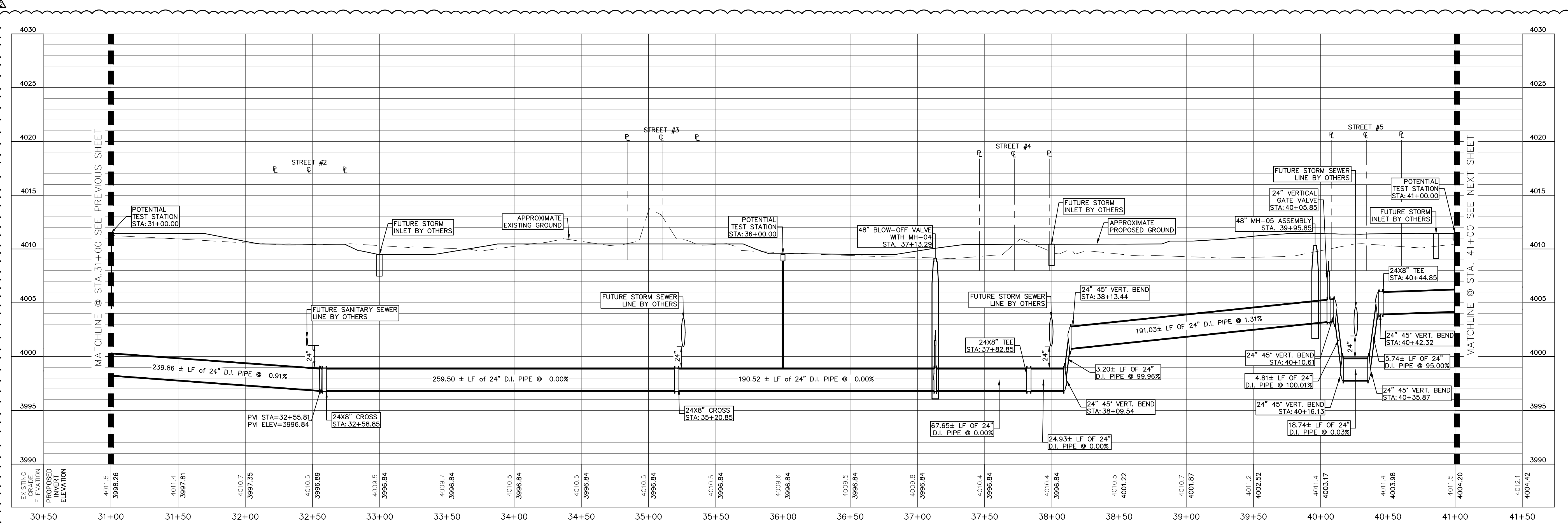
SHEET NO.
4 OF 30



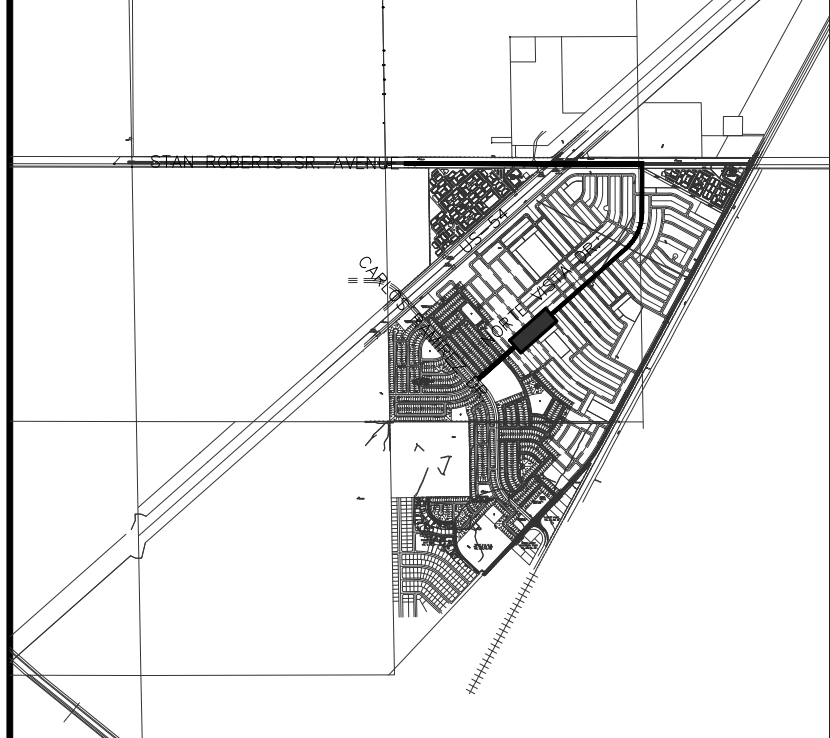
NOTES:

GRAPHIC SCALE
0 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
3	8" PVC APPROVED WATERLINE			224 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
6	24" BLOW-OFF VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1224 LF



BENCHMARK:
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REV.	DATE	BY	DESCRIPTION
1	06/12/2023	V.C./A.C.	LABEL AND/OR QUANTITIES REVISED
2	07/21/2023	I.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

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REGISTERED PROFESSIONAL ENGINEER
132659
07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS
411 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKANDBUSTILLOS.COM
PH (915) 843-4800
FAX (915) 543-2807
TYPE Registration Number: T-757
JOB NO. 05970-048C

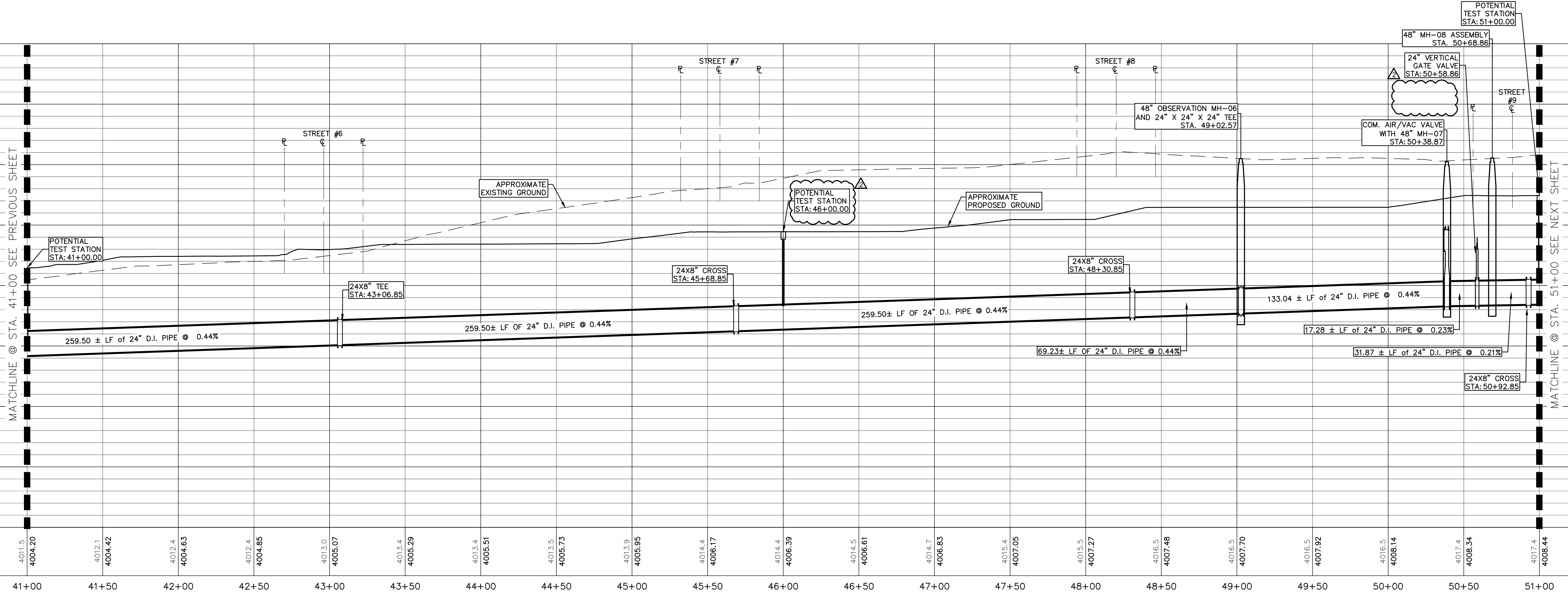
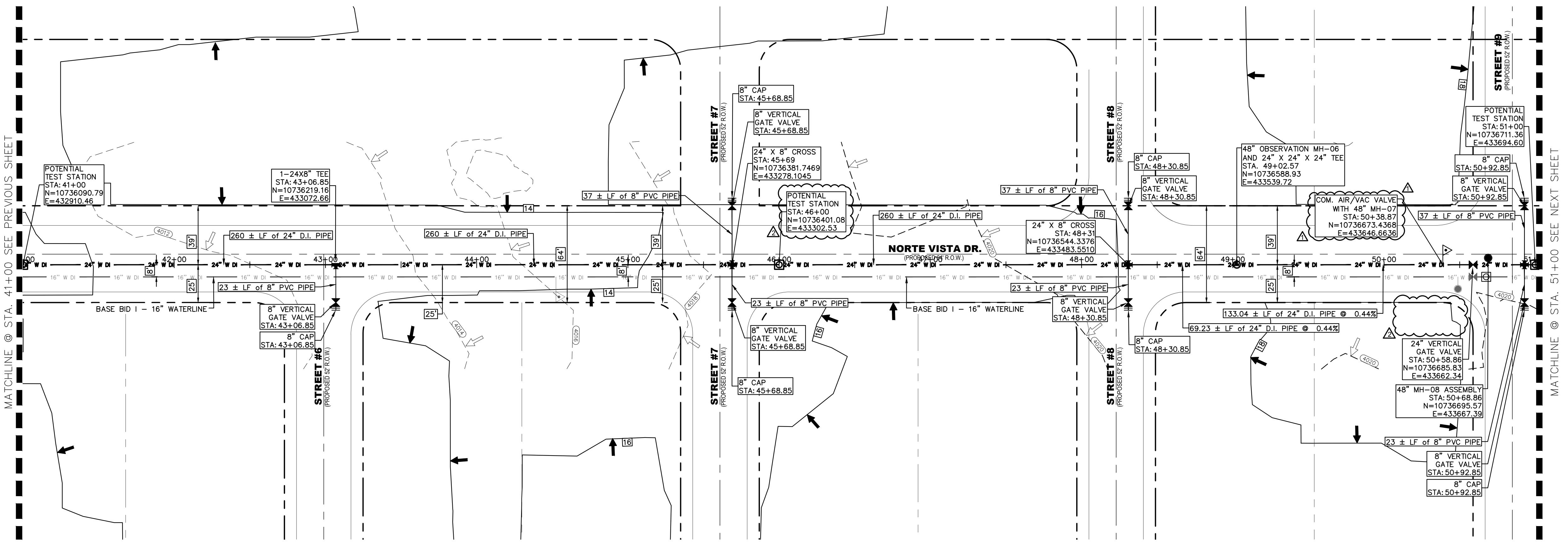
FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
NORTE VISTA DR. PLAN AND PROFILE
FROM STA. 31+00 TO STA. 41+00

JOB NO.
05970-048C

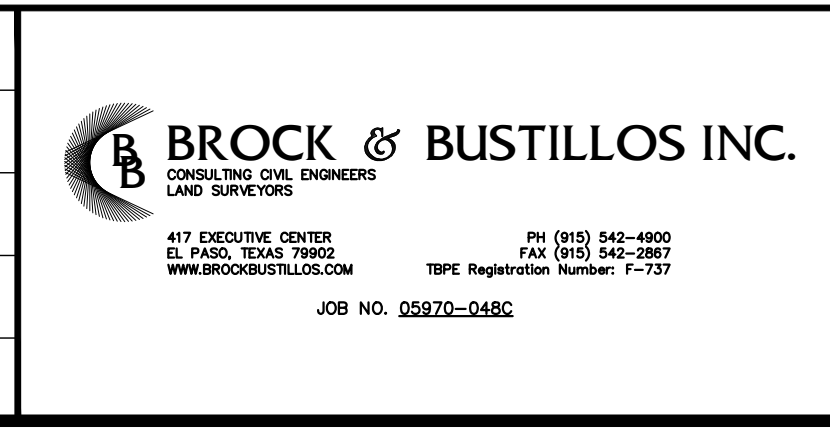
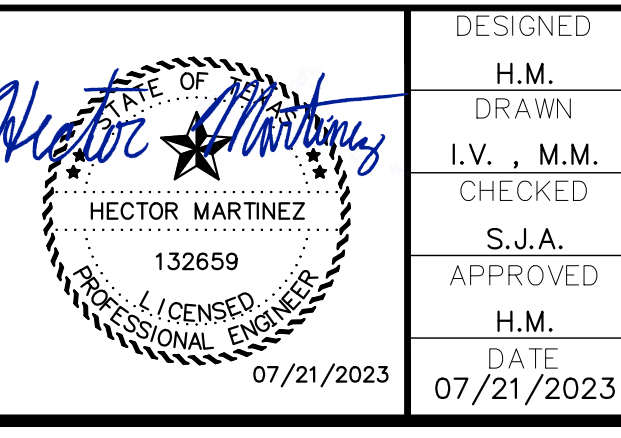
SEQUENCE NO.
C3.2R

SHEET NO.
5 OF 30



REV.	DATE	BY	DESCRIPTION
1	06/12/2023	V.C./A.C.	LABEL AND/OR QUANTITIES REVISED
2	07/21/2023	L.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
A&T GENERAL	(915) 595-5151



FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
NORTE VISTA DR. PLAN AND PROFILE
FROM STA. 41+00 TO STA. 51+00

JOB NO.
05970-048C

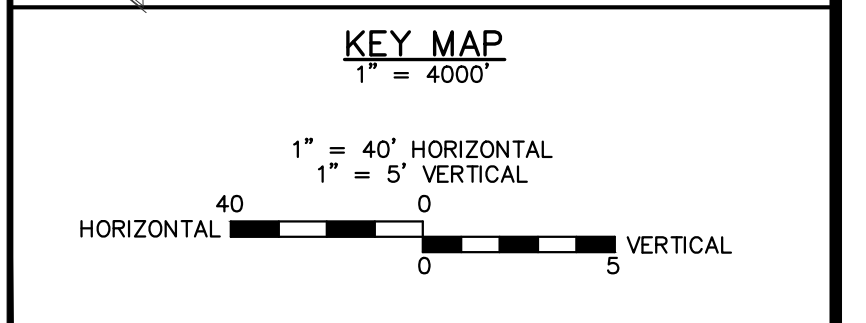
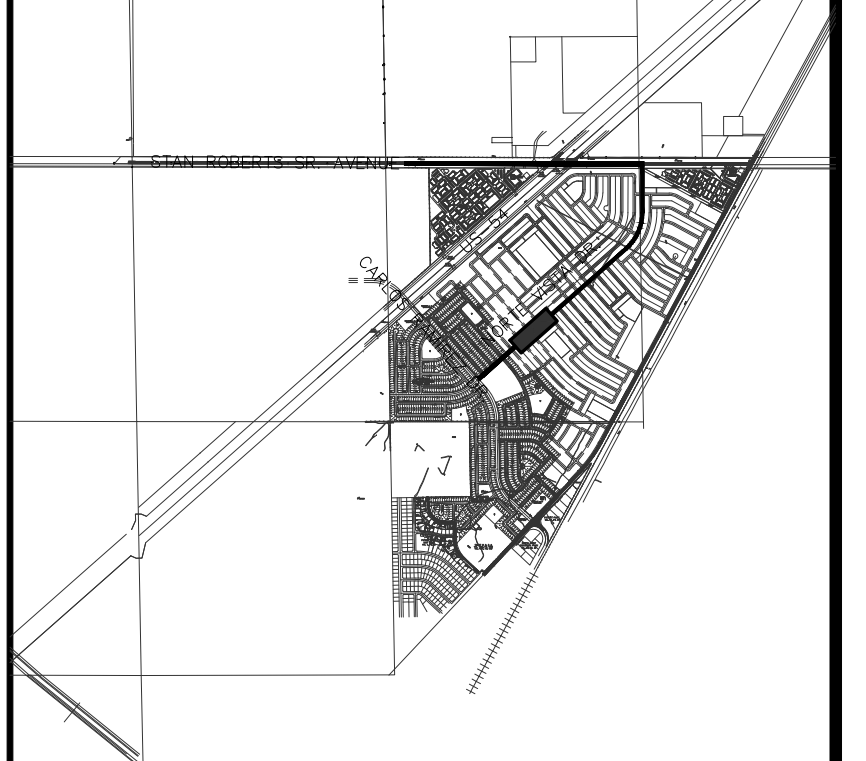
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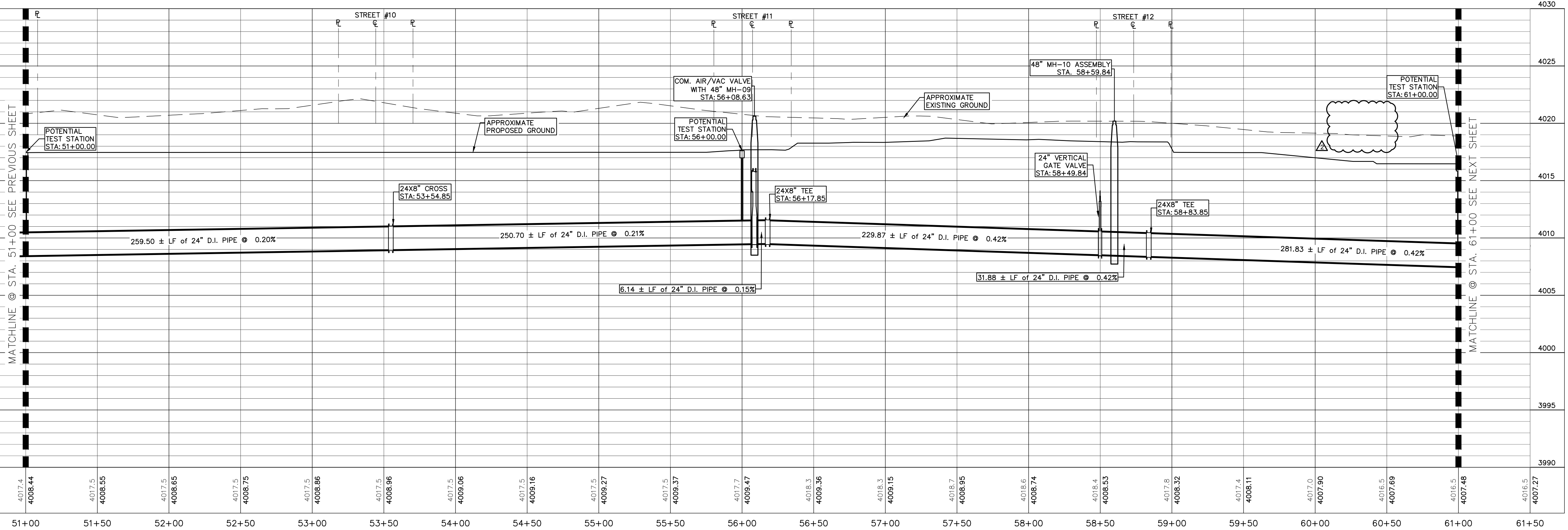
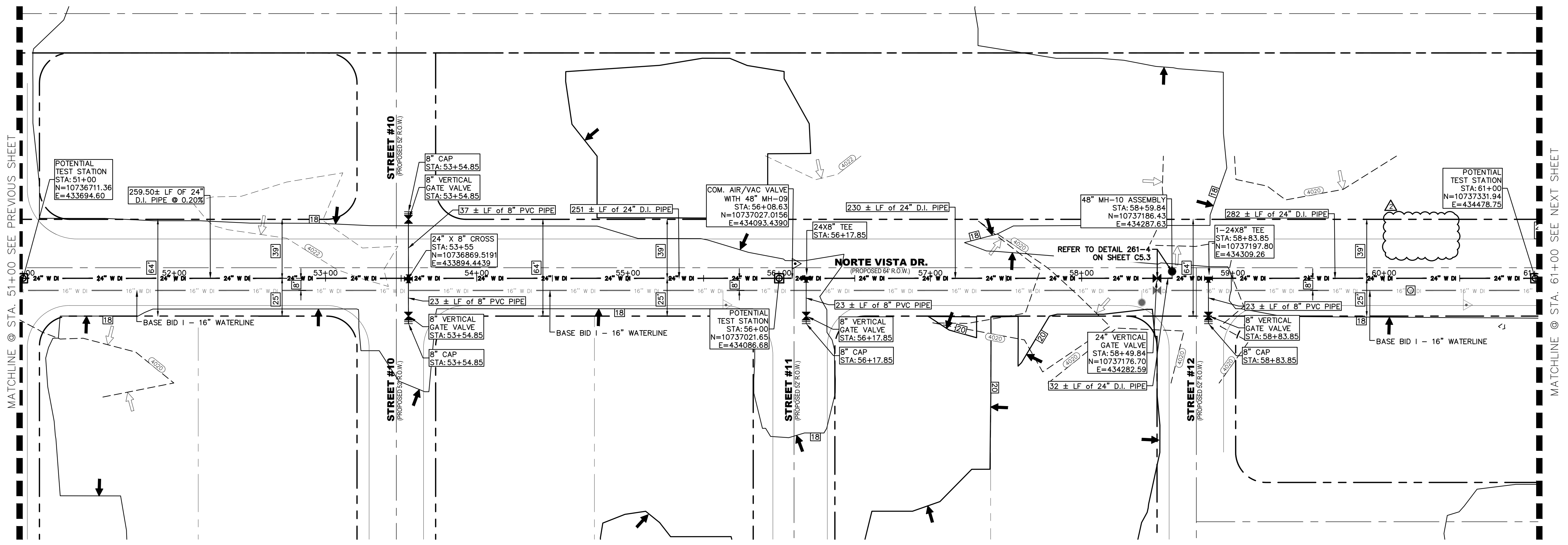
SHEET NO.
6 OF 30

NOTES:

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
3	8" DI APPROVED WATERLINE			254 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
5	6" COM. AIR RELEASE/VACUUM VALVE WITH MANHOLE			1 EA
7	OBSERVATION MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1254 LF

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-D10-WS.



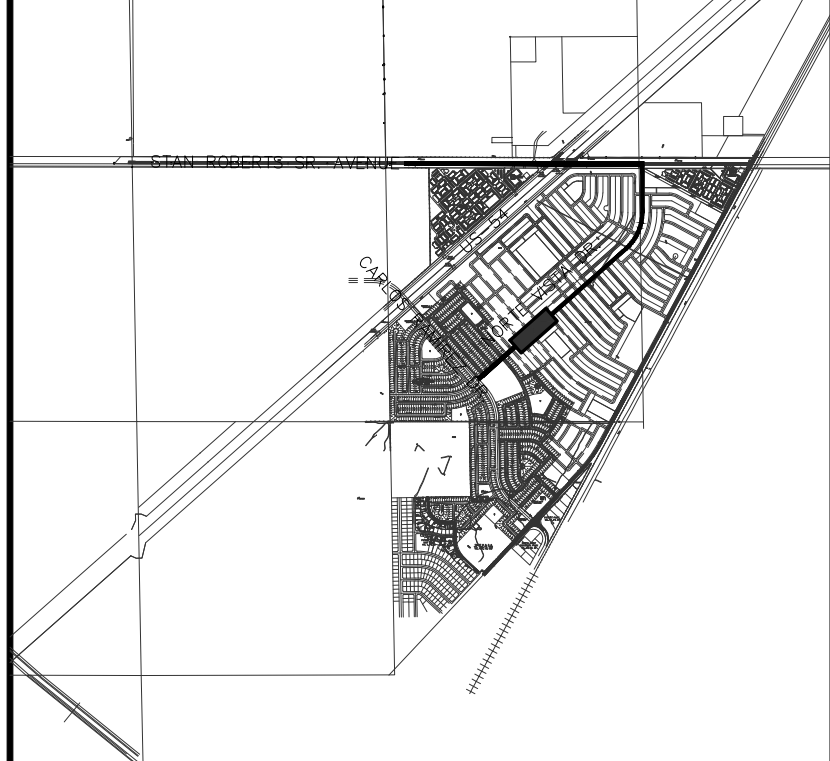


NOTES:

GRAPHIC SCALE
40 0 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
3	8" PVC APPROVED WATERLINE			135 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
5	6" COM. AIR RELEASE/VACUUM VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1135 LF

BENCHMARK:
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KEY MAP
1" = 4000'

1" = 40' HORIZONTAL
1" = 5' VERTICAL
HORIZONTAL 40 0 40 VERTICAL

REV.	DATE	BY	DESCRIPTION
1	07/21/2023	LV	ADDENDUM #6

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
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TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

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I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE 07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS

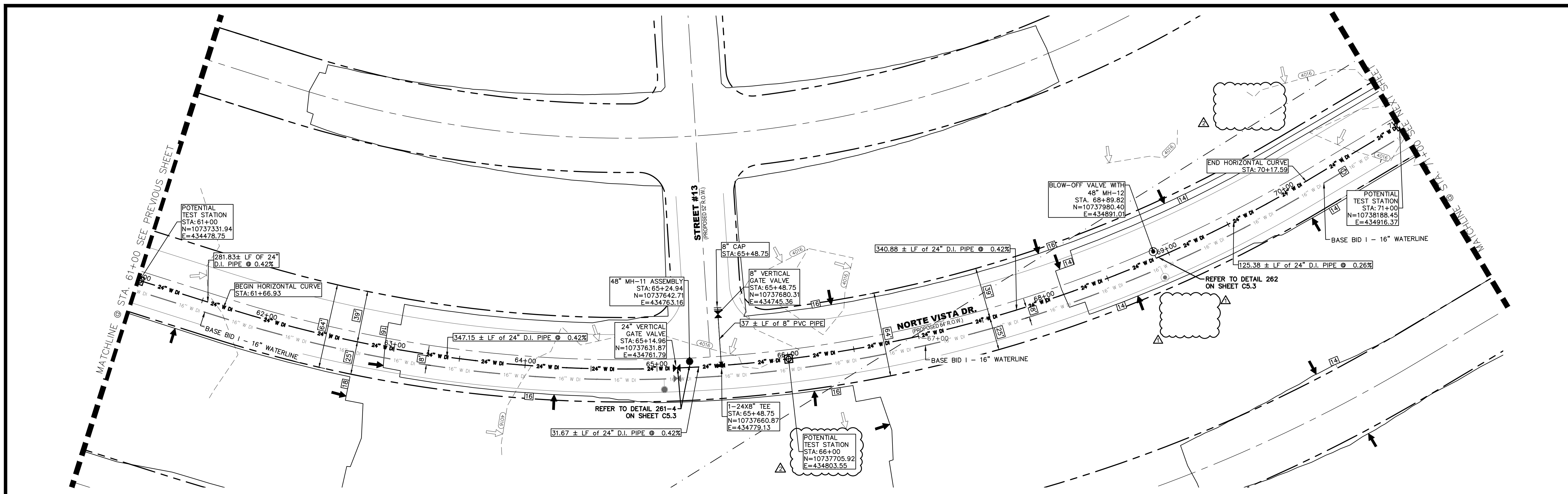
411 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM

PH (915) 843-4800
FAX (915) 542-2887
TXPE Registration Number: T-757
JOB NO. 05970-048C

FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
NORTE VISTA DR. PLAN AND PROFILE
FROM STA. 51+00 TO STA. 61+00

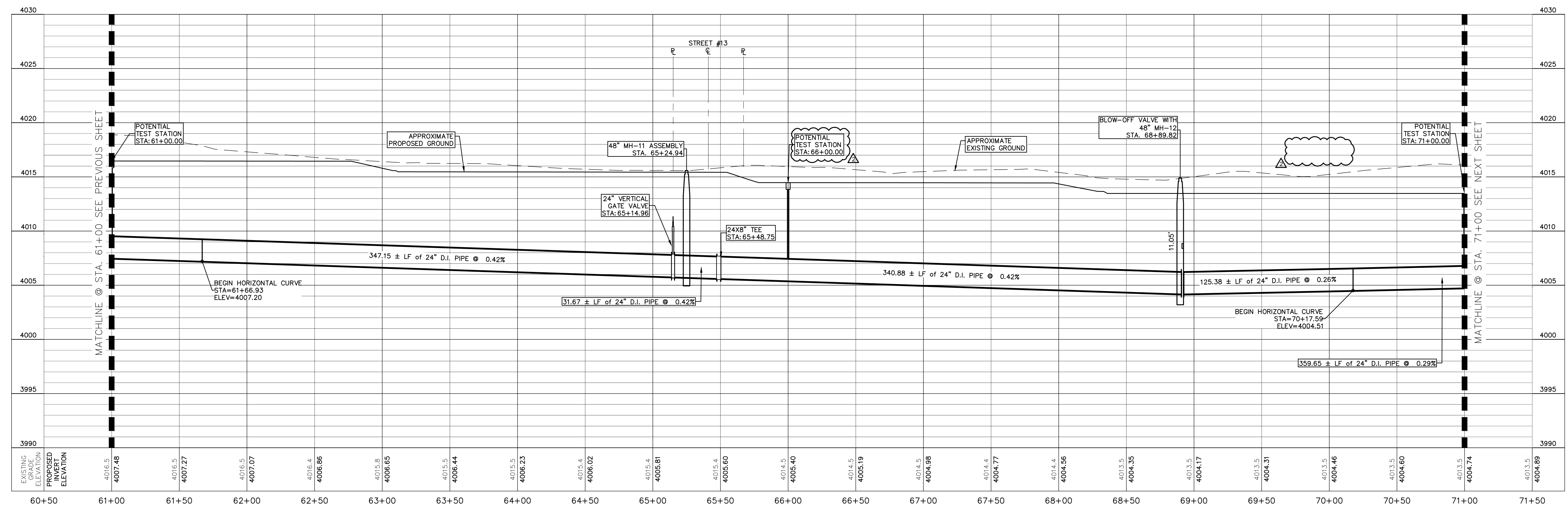
JOB NO.
05970-048C
SEQUENCE NO.
C3.4R
SHEET NO.
7 OF 30



NOTES:

GRAPHIC SCALE
0 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
3	8" PVC APPROVED WATERLINE			45 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
6	24" BLOW-OFF VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1045 LF



BENCHMARK:
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KEY MAP
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1" = 5' VERTICAL

REV.	DATE	BY	DESCRIPTION
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2	07/21/2023	L.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES	
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EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

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I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE 07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS

417 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM

PH (915) 842-4800
FAX (915) 542-2887
TXPE Registration Number: T-757
JOB NO. 05970-048C

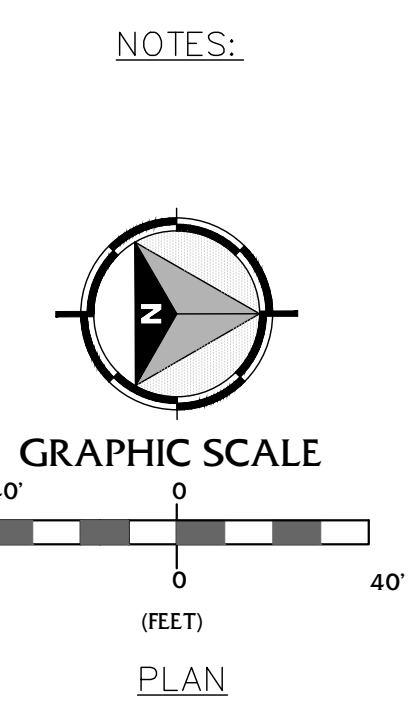
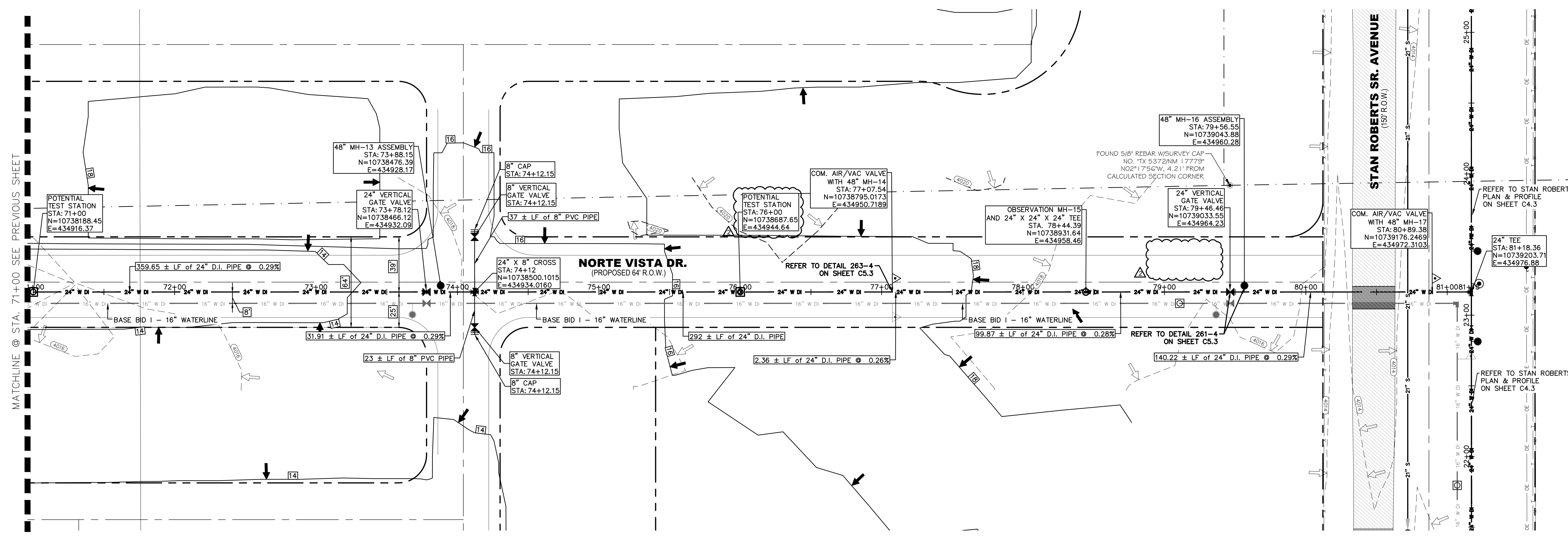
FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
NORTE VISTA DR. PLAN AND PROFILE
FROM STA. 61+00 TO STA. 71+00

JOB NO.
05970-048C

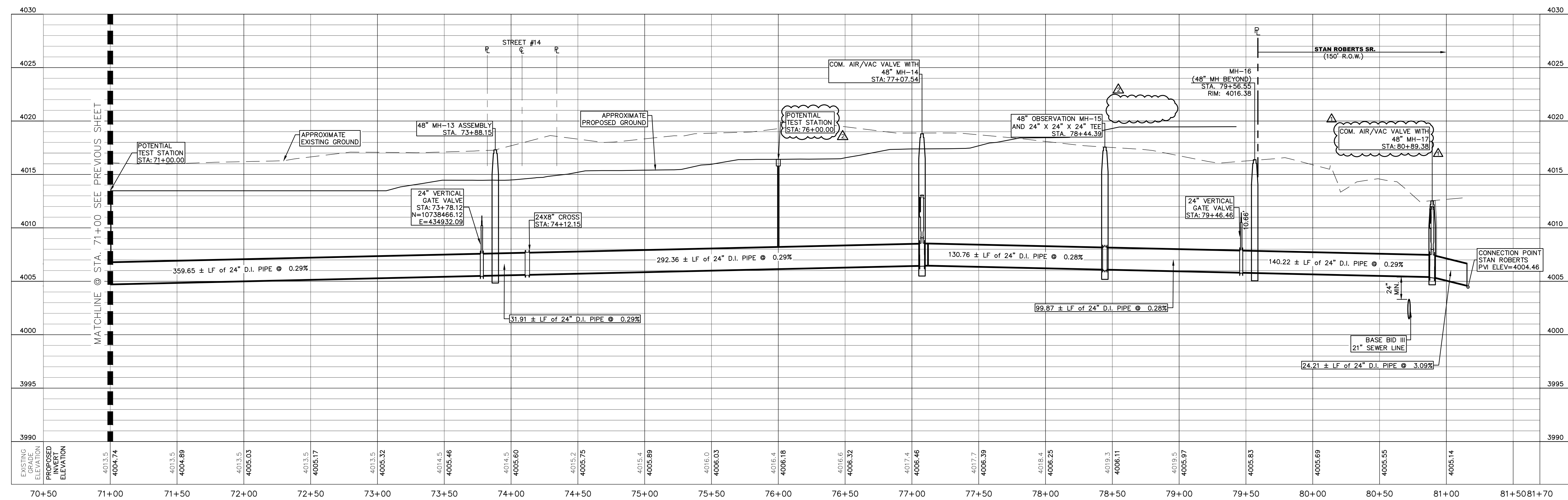
SEQUENCE NO.
C3.5R

SHEET NO.
8 OF 30

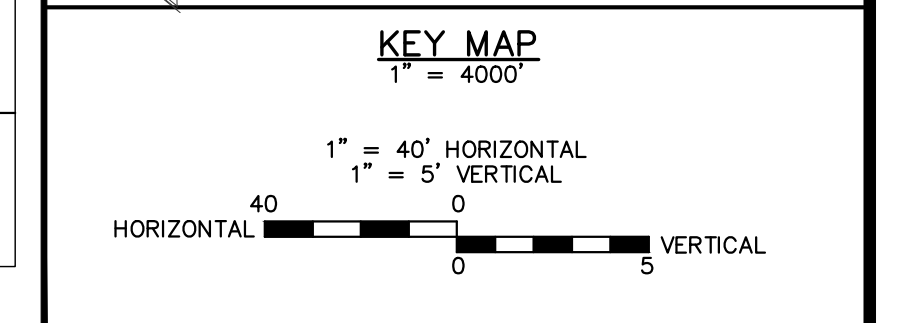


NOTES:

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1018 LF
3	8" PVC APPROVED WATERLINE			75 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			2 EA
5	6" COM. AIR RELEASE/VACUUM VALVE WITH MANHOLE			2 EA
6	6" BLOW-OFF VALVE WITH MANHOLE			1 EA
7	OBSERVATION MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1093 LF
12	2" HMAC PAVEMENT REPLACEMENT			27 SY



BENCHMARK:
 BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
1	06/12/2023	V.C./A.C.	LABEL AND/OR QUANTITIES REVISED
2	07/21/2023	L.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS (915) 775-7415
 EL PASO ELECTRIC COMPANY (915) 877-3400
 EL PASO WATER UTILITIES (915) 594-5500
 VERIZON COMMUNICATIONS (800) 624-9675
 HOLLY ENERGY PARTNERS (915) 494-0549
 TEXAS GAS SERVICE (800) 959-5325
 KINDER MORGAN (915) 843-2441
 AT&T GENERAL (915) 595-5151

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Texas 811

DESIGNED: H.M. DRAWN: I.V., M.M. CHECKED: S.J.A. APPROVED: H.M. DATE: 07/21/2023

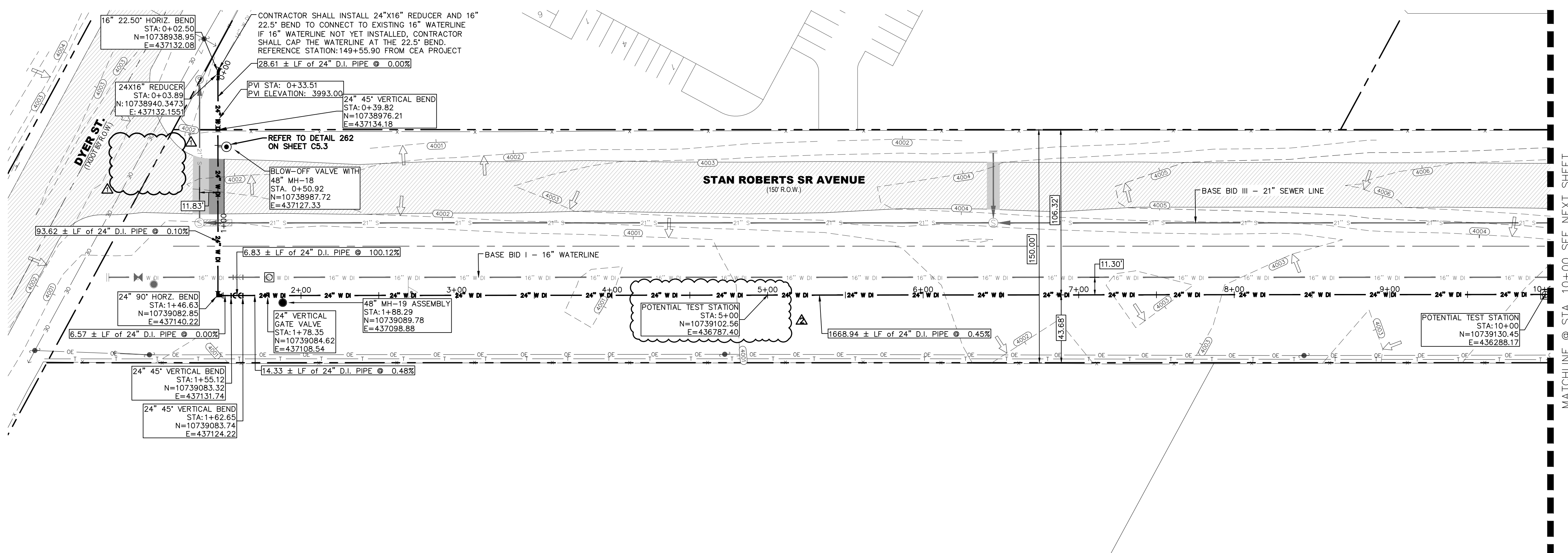
BROCK & BUSTILLOS INC.
 CONSULTING CIVIL ENGINEERS
 LAND SURVEYORS

el paso WATER

FRANKLIN EAST 24" WATER LINE EXTENSION PHASE II (NORTE VISTA DR TO STAN ROBERTS SR. AVE.)

SHEET TITLE: NORTE VISTA DR. PLAN AND PROFILE FROM STA. 71+00 TO STA. 81+27

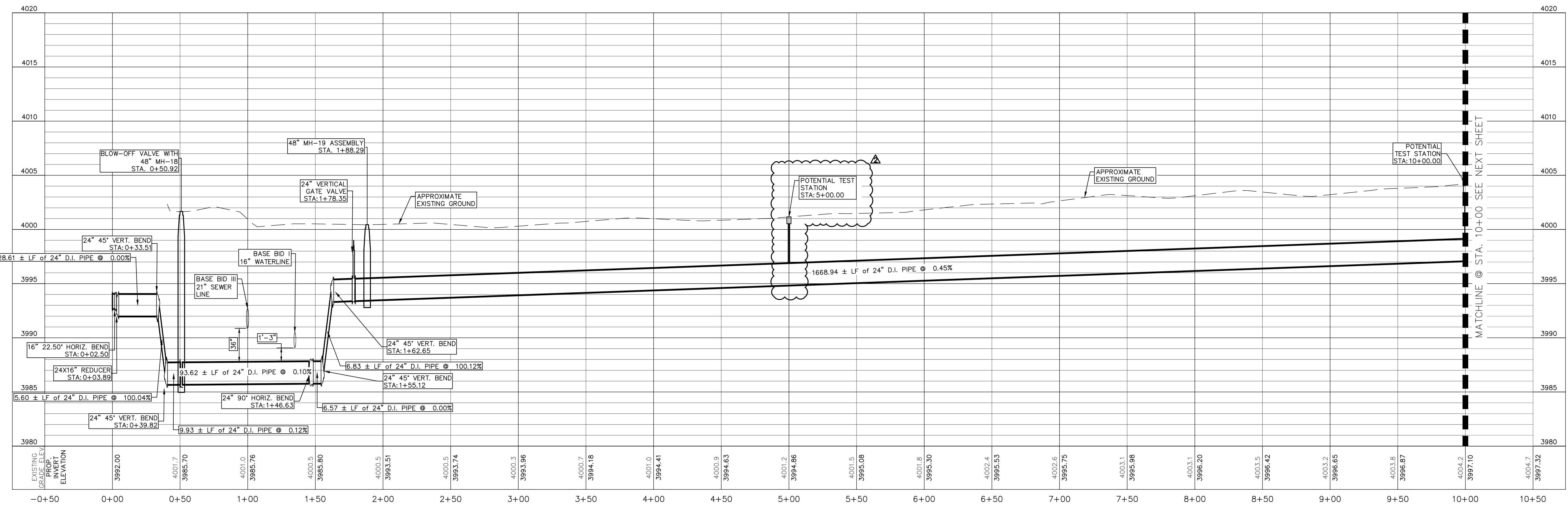
JOB NO. 05970-048C
 SEQUENCE NO. C3.6R
 SHEET NO. 9 OF 30



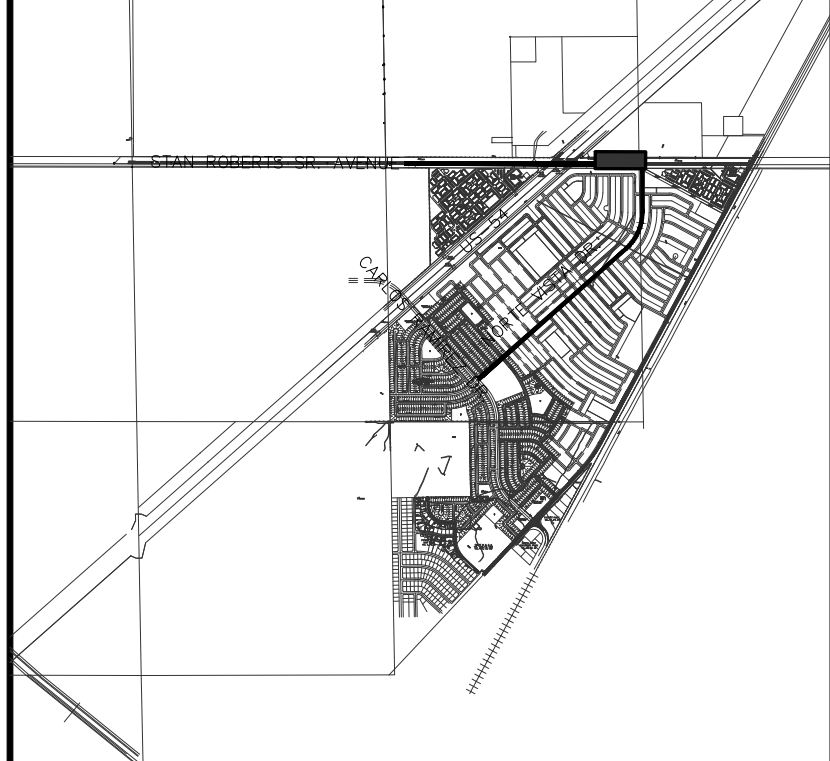
NOTES:

GRAPHIC SCALE
40 0 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
6	24" BLOW-OFF VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1000 LF
12	2" HMAC PAVEMENT REPLACEMENT			39 SY



BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



KEY MAP
1" = 4000'

1" = 40' HORIZONTAL
1" = 5' VERTICAL

REV.	DATE	BY	DESCRIPTION
1	06/12/2023	V.C./A.C.	LABEL AND/OR QUANTITIES REVISED
2	07/21/2023	L.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
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TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

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HECTOR MARTINEZ
132659
LICENSED PROFESSIONAL ENGINEER
07/21/2023

DESIGNED
H.M. DRAWN
I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE 07/21/2023

BROCK & BUSTILLOS INC.
413 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM

By (915) 542-4900
Fax (915) 542-2807
TREC Registration Number: T-757
JOB NO. 05970-048C

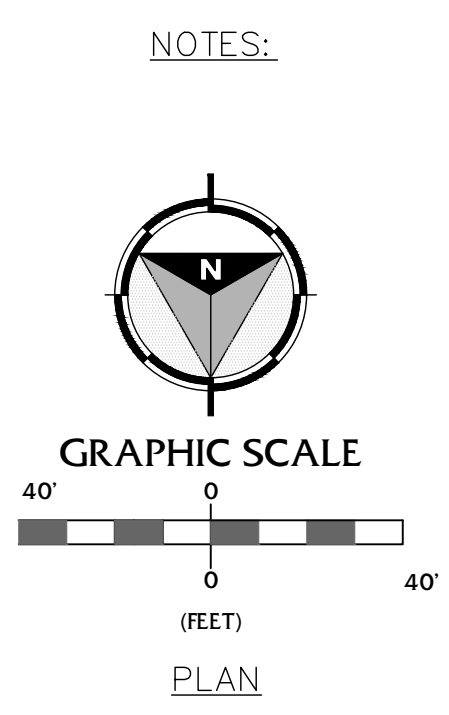
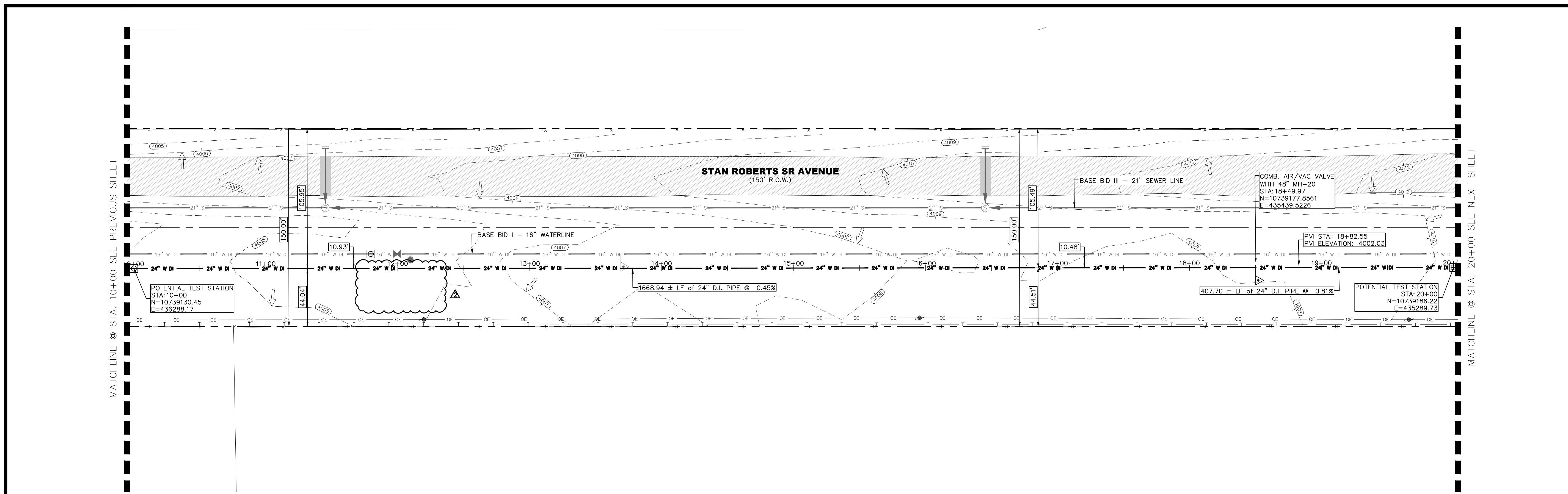
FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
FROM STA. 0+00 TO STA. 10+00

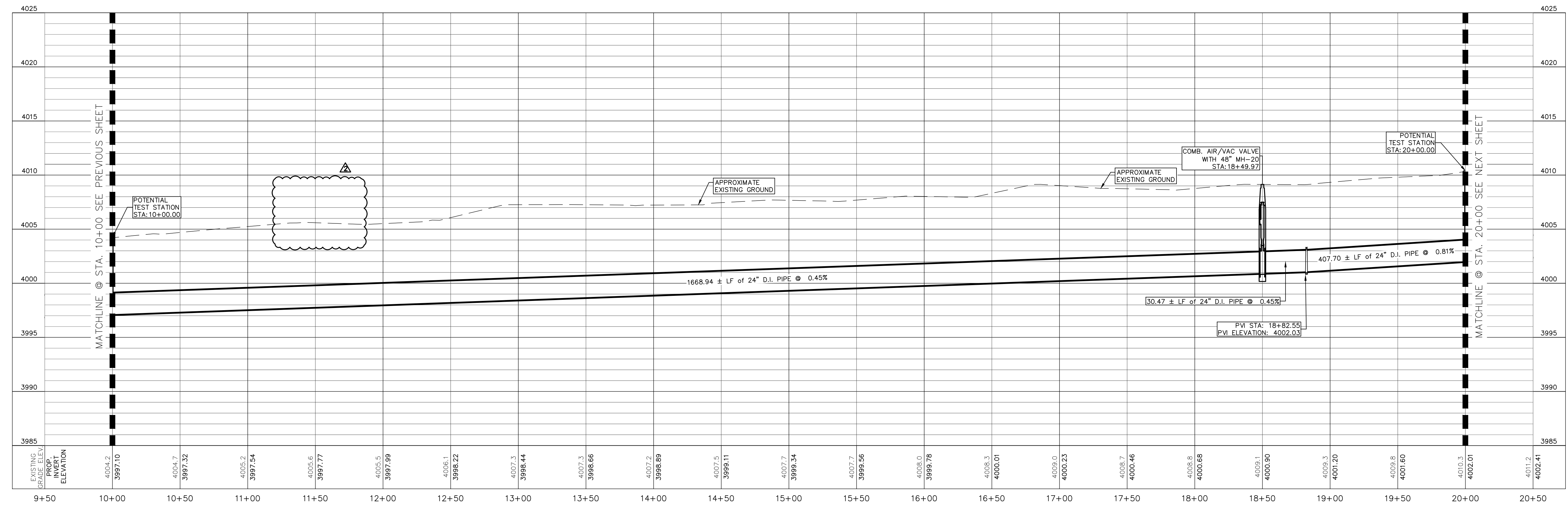
JOB NO.
05970-048C

SEQUENCE NO.
C4.1R

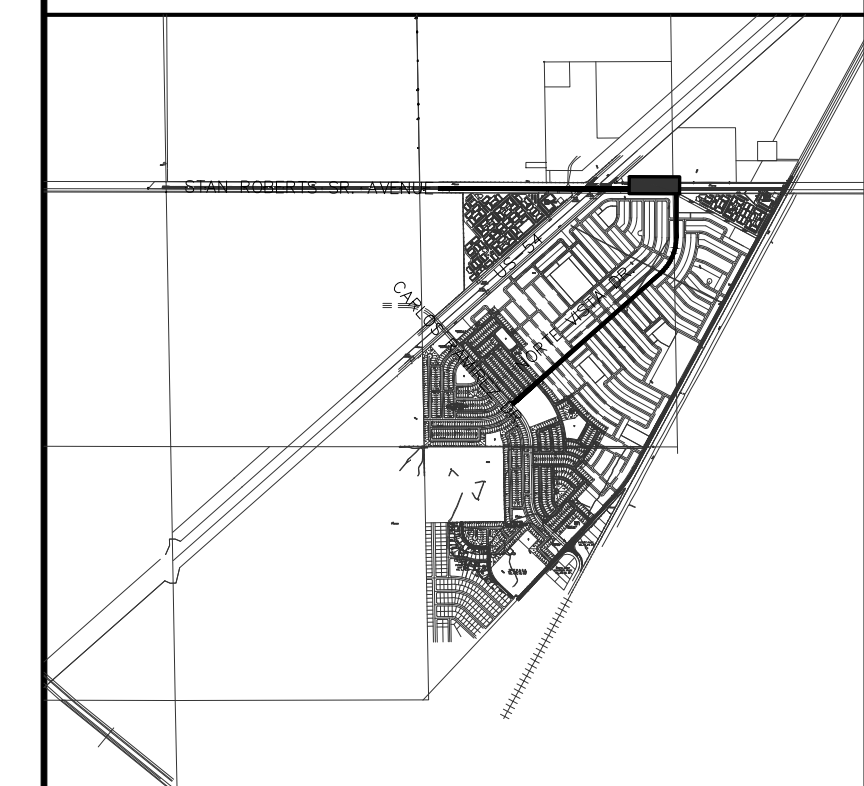
SHEET NO.
10 OF 30



NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
5	6" COM. AIR RELEASE/VACUUM VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1000 LF



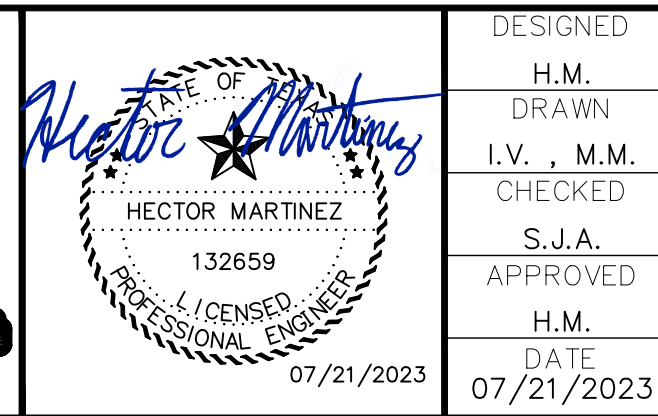
BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES

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TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151



DESIGNED
H.M.
DRAWN
I.V., M.M.
CHECKED
S.J.A.
APPROVED
H.M.
DATE
07/21/2023



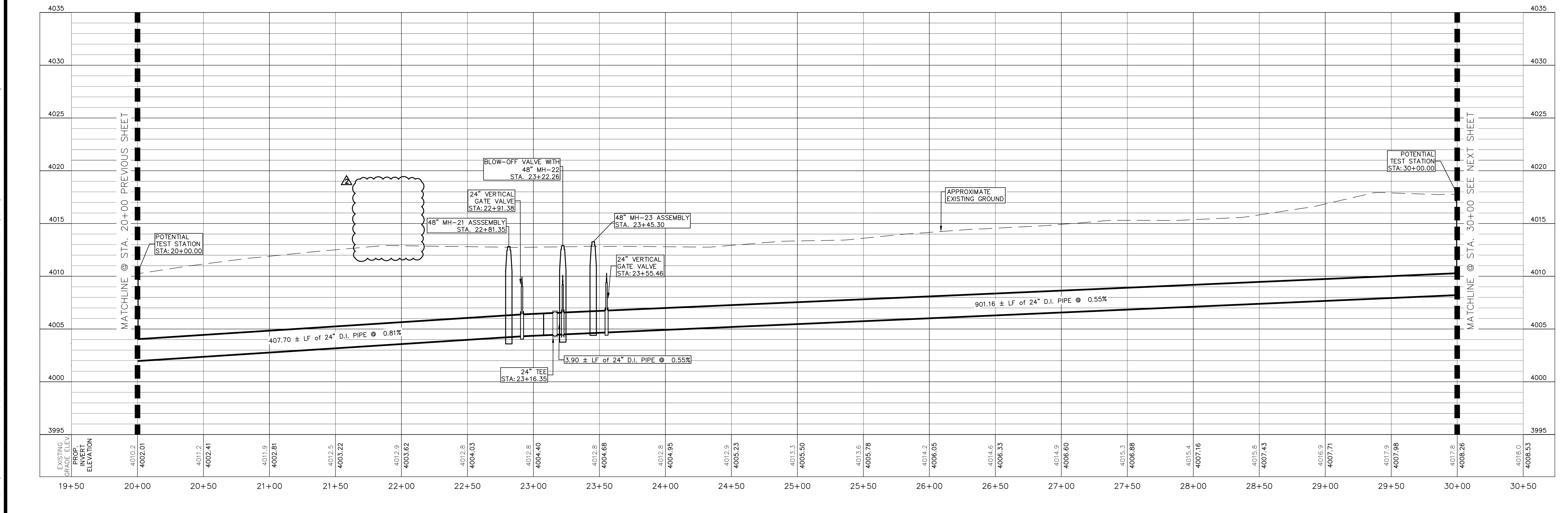
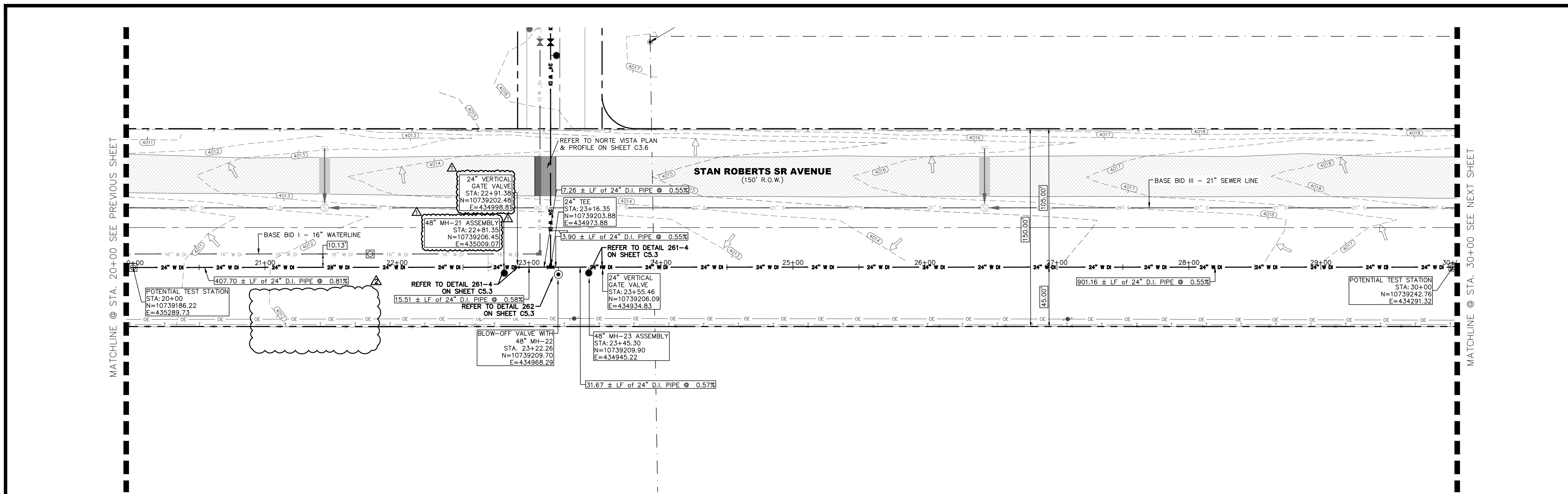
FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
FROM STA. 10+00 TO STA. 20+00

JOB NO.
05970-048C

SEQUENCE NO.
C4.2R

SHEET NO.
11 OF 30

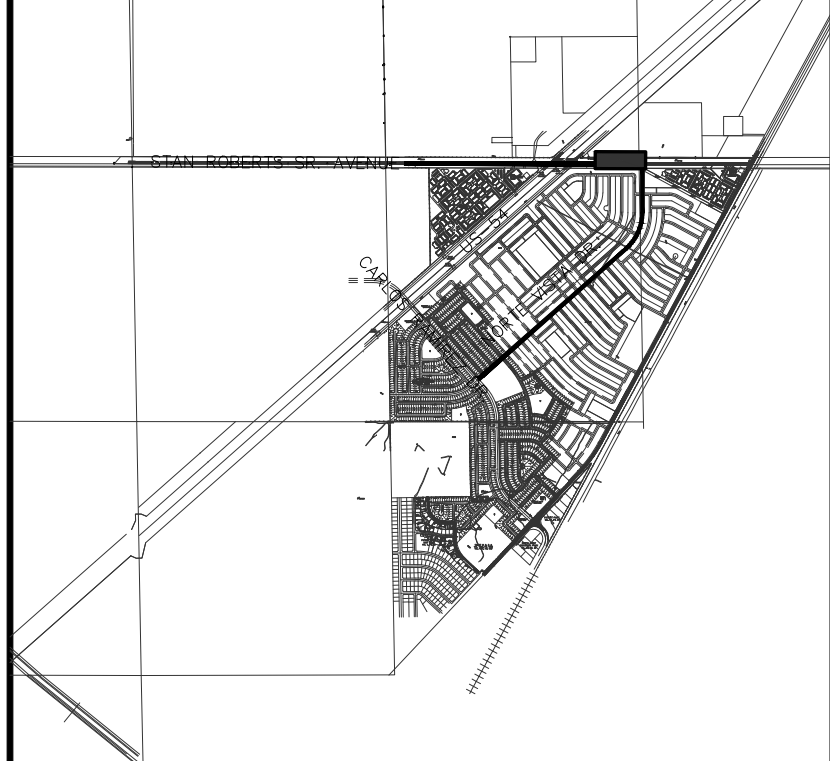


NOTES:

GRAPHIC SCALE
0 20 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			2 EA
6	24" BLOW-OFF VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-DIG-WS.



KEY MAP
1" = 4000'

1" = 40' HORIZONTAL
1" = 5' VERTICAL

REV.	DATE	BY	DESCRIPTION
1	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
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TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

**STOP!
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Hector Martinez

HECTOR MARTINEZ
132659
PROFESSIONAL ENGINEER
07/21/2023

DESIGNED
H.M. DRAWN
I.V., M.M. CHECKED
S.J.A. APPROVED
H.M. DATE 07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS
413 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM
PH (915) 542-4900
FAX (915) 542-2807
TXPE Registration Number: T-757
JOB NO. 05970-048C

el paso WATER

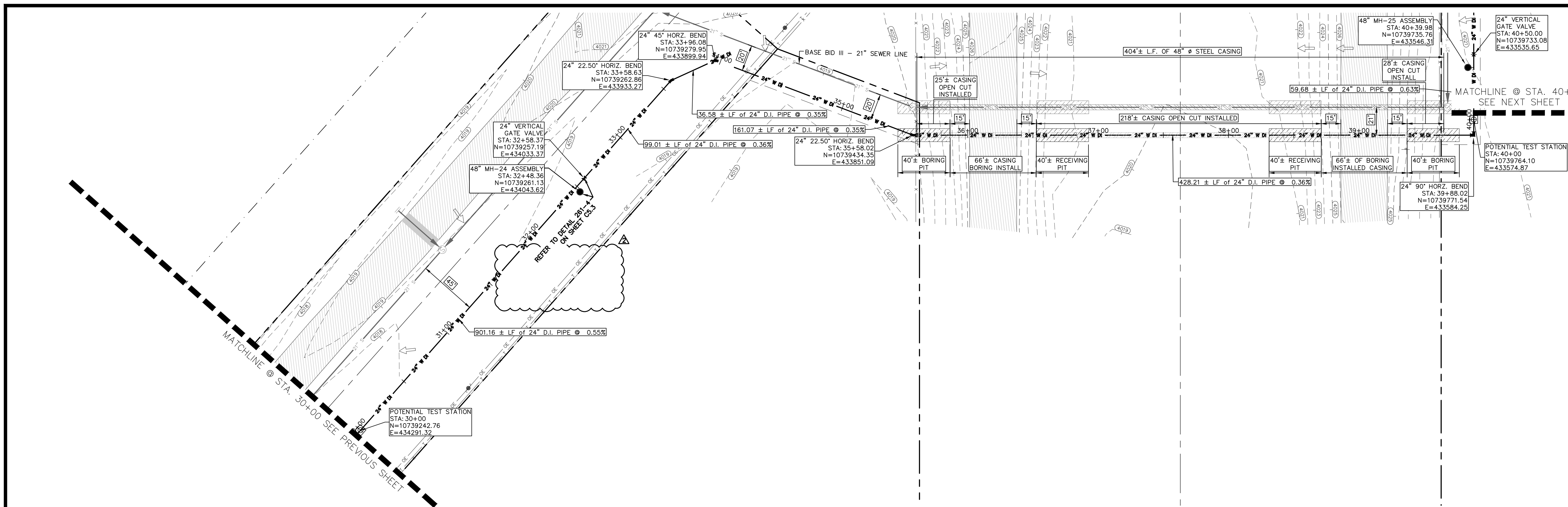
FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
FROM STA. 20+00 TO STA. 30+00

JOB NO.
05970-048C

SEQUENCE NO.
C4.3R

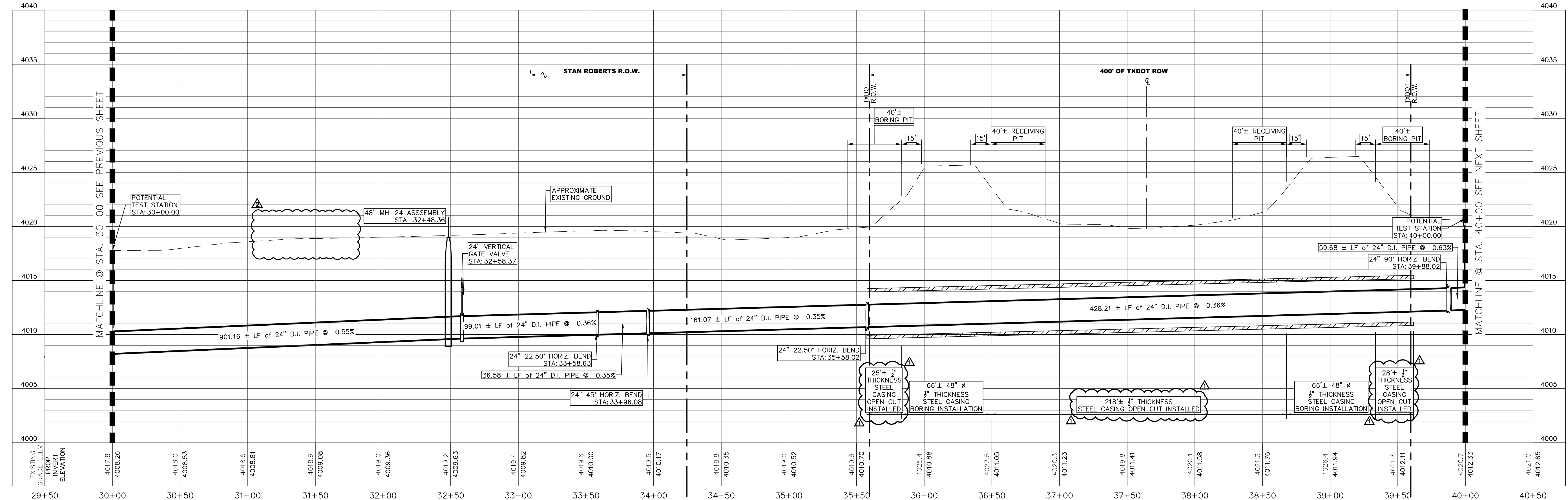
SHEET NO.
12 OF 30



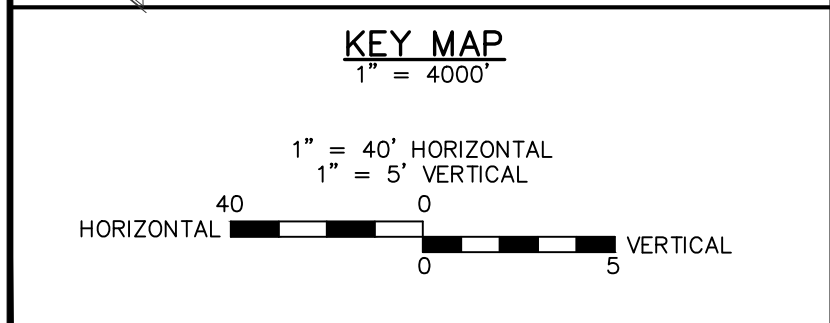
NOTES:

GRAPHIC SCALE
40 0 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
8	48" STEEL CASING BY BORING METHOD			132 LF
9	48" STEEL CASING BY OPEN CUT METHOD			271 LF
10	TRENCH SAFETY SYSTEM			1000 LF



BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEI GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
1	06/12/2023	V.C./A.C.	LABEL AND/OR QUANTITIES REVISED
2	07/21/2023	I.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
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HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151



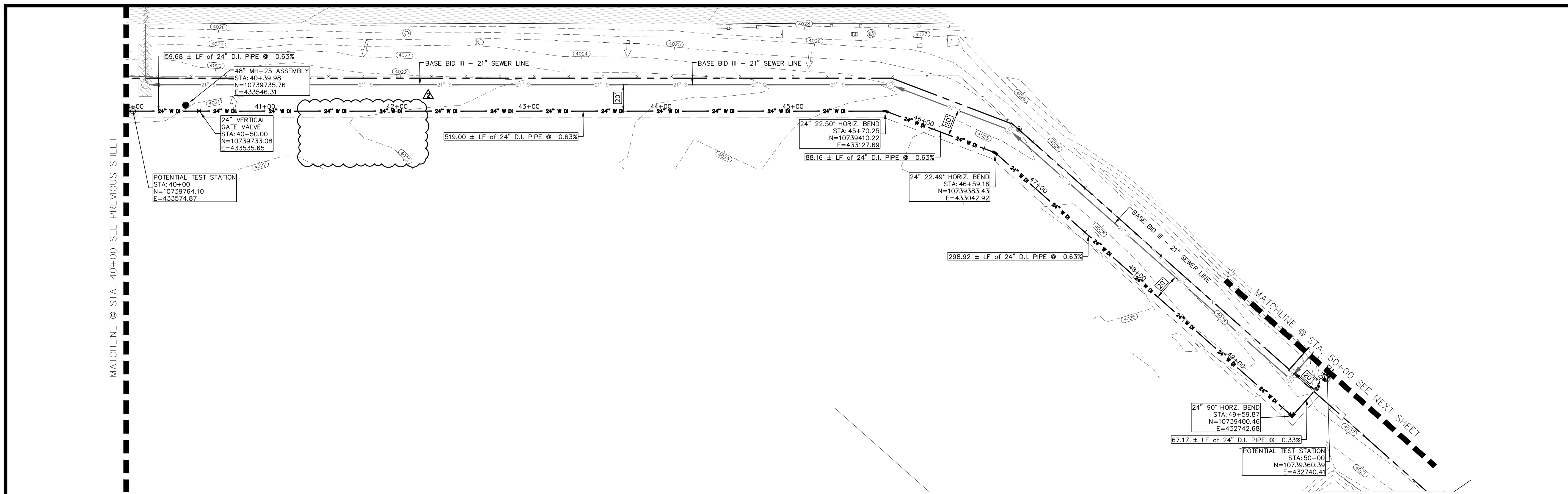
DESIGNED
H.M.
DRAWN
I.V., M.M.
CHECKED
S.J.A.
APPROVED
H.M.
DATE
07/21/2023



FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
FROM STA. 30+00 TO STA. 40+00

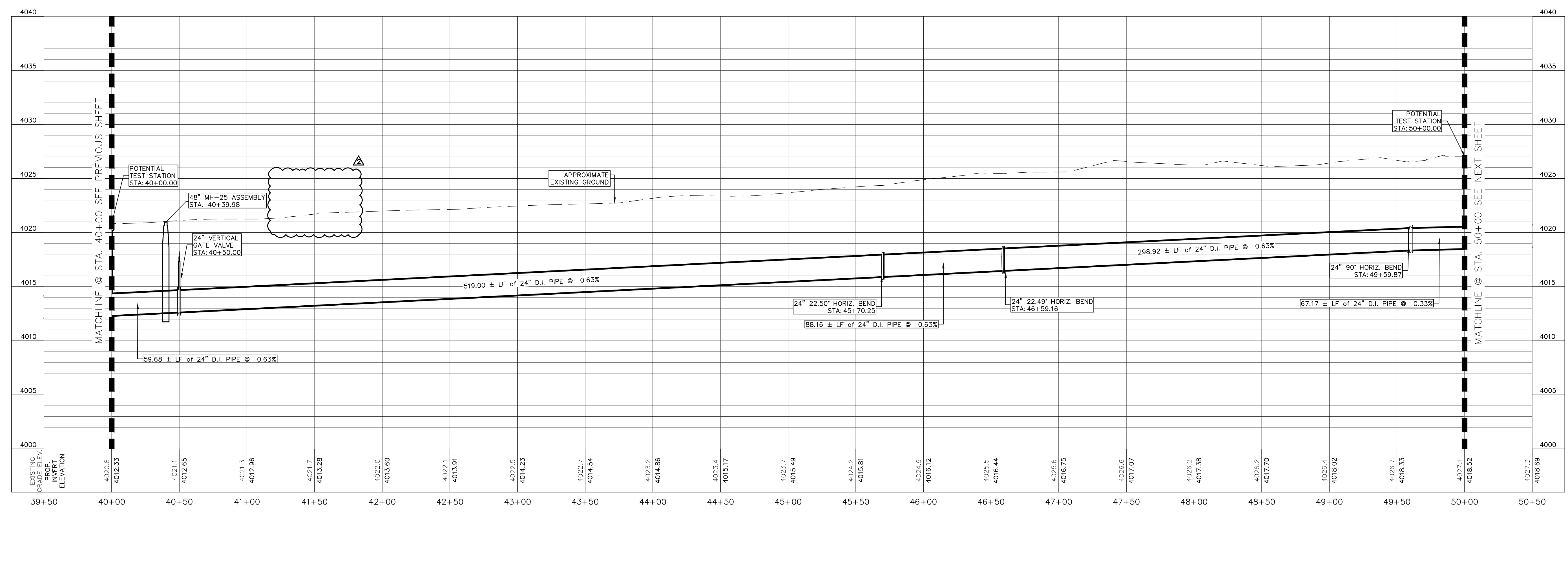
JOB NO.
05970-048C
SEQUENCE NO.
C4.4R
SHEET NO.
13 OF 30



NOTES:

GRAPHIC SCALE
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1000 LF



BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-DIG-WS.



KEY MAP
1" = 4000'

1" = 40' HORIZONTAL
1" = 5' VERTICAL

REV.	DATE	BY	DESCRIPTION
1	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
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Hector Martinez

HECTOR MARTINEZ
LICENSED PROFESSIONAL ENGINEER
132659
07/21/2023

DESIGNED
H.M.
DRAWN
I.V., M.M.
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S.J.A.
APPROVED
H.M.
DATE
07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS
417 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM
PH (915) 843-4800
FAX (915) 542-2807
TXPE Registration Number: T-737
JOB NO. 05970-048C

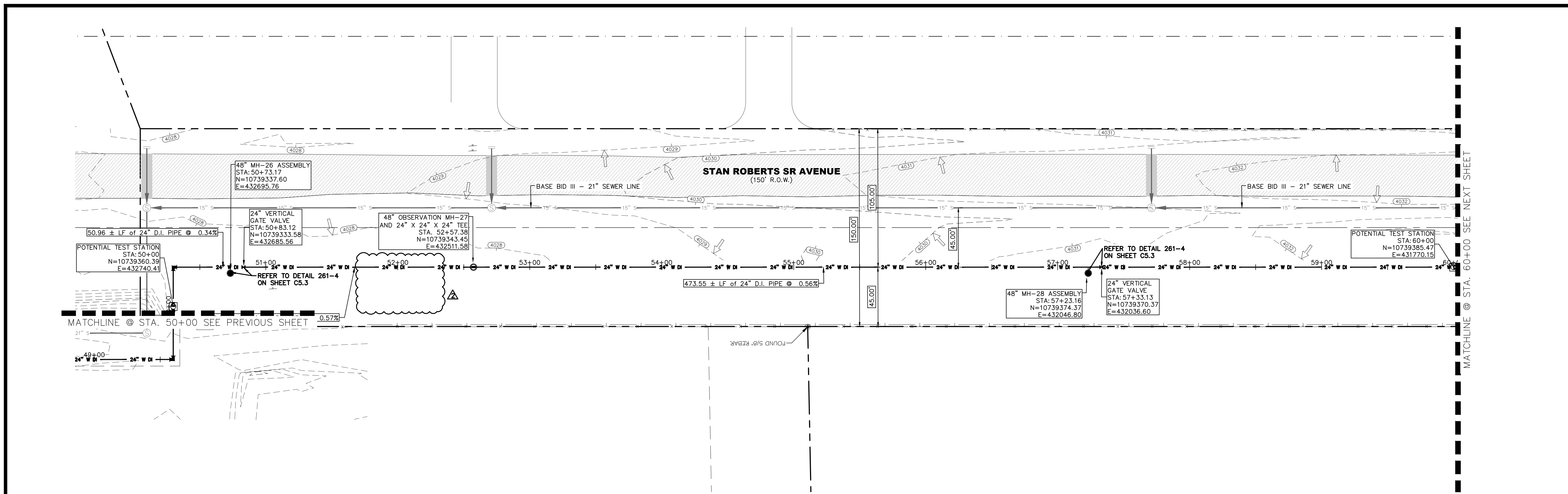
FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
STAN ROBERTS SR. AVENUE – PLAN AND PROFILE
FROM STA. 40+00 TO STA. 50+00

JOB NO.
05970-048C

SEQUENCE NO.
C4.5R

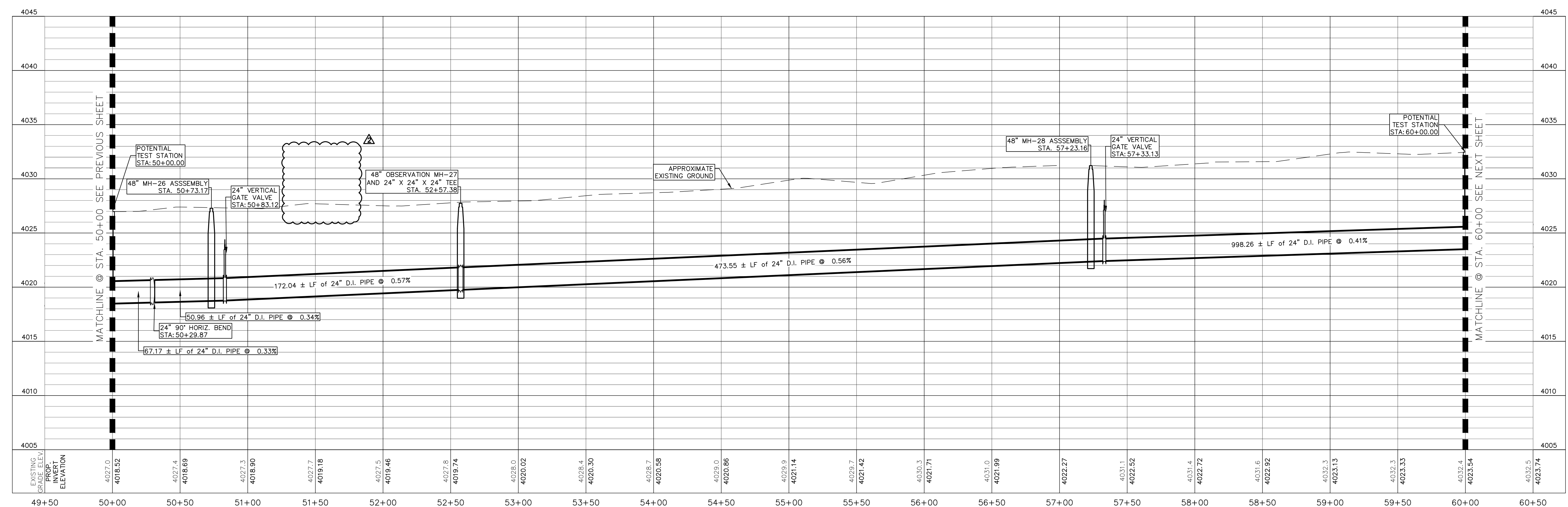
SHEET NO.
14 OF 30



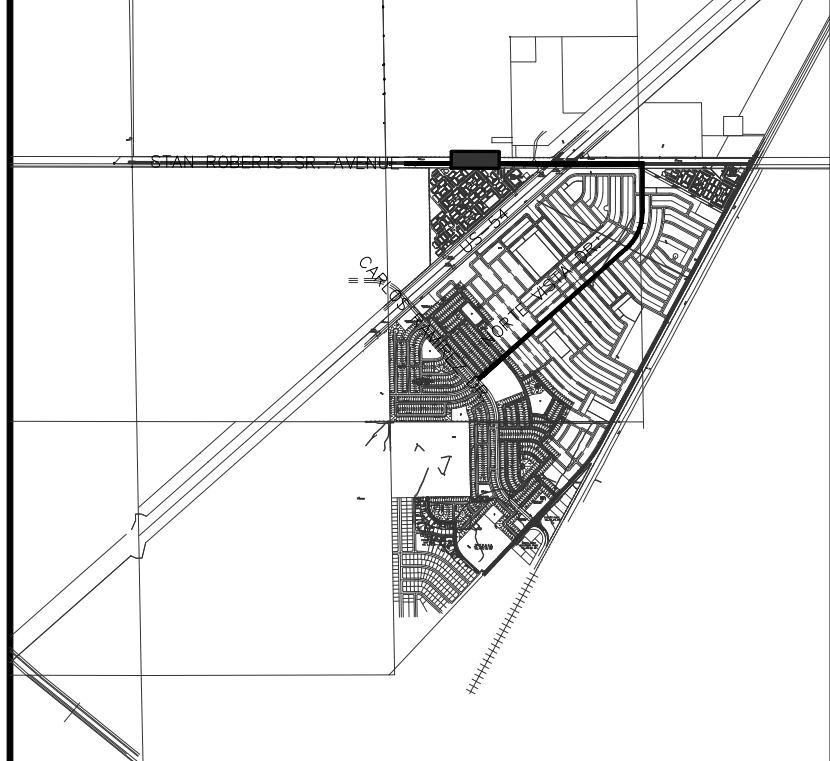
NOTES:

GRAPHIC SCALE
0 20 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY	UNIT
2	24" DI APPROVED WATERLINE			1000	LF
4	24" VERTICAL GATE VALVE IN MANHOLE			2	EA
7	OBSERVATION POINT WITH 48" MANHOLE			1	EA
10	TRENCH SAFETY SYSTEM			1000	LF



BENCHMARK:
 BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEI GROUP, JOB NO. 1040-010-WS.



KEY MAP
 1" = 4000'
 1" = 5' VERTICAL
 HORIZONTAL 40 0 40 VERTICAL 0 5

REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	I.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
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Hector Martinez

DESIGNED
H.M.
DRAWN
I.V., M.M.
CHECKED
S.J.A.
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H.M.
DATE
07/21/2023

BROCK & BUSTILLOS INC.
 CONSULTING CIVIL ENGINEERS
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 Ph (915) 542-4800
 Fax (915) 542-2807
 TIRE Registration Number: T-757
 JOB NO. 05970-048C

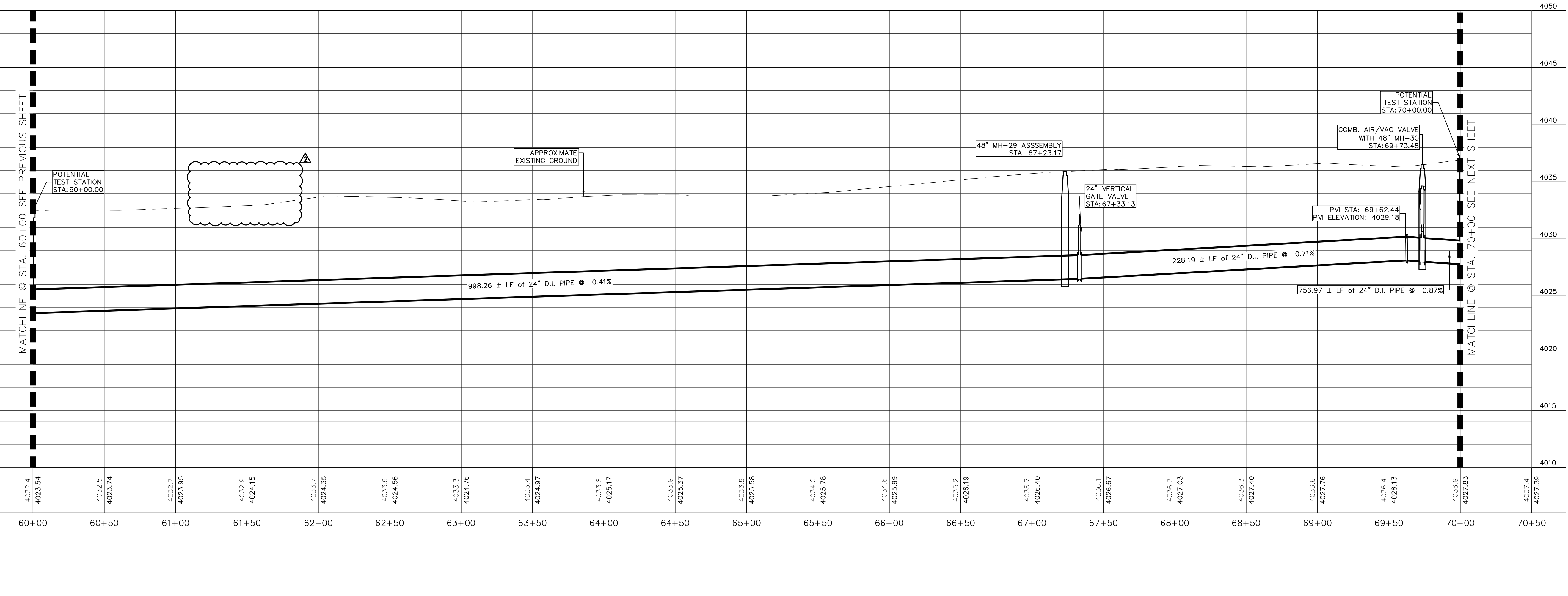
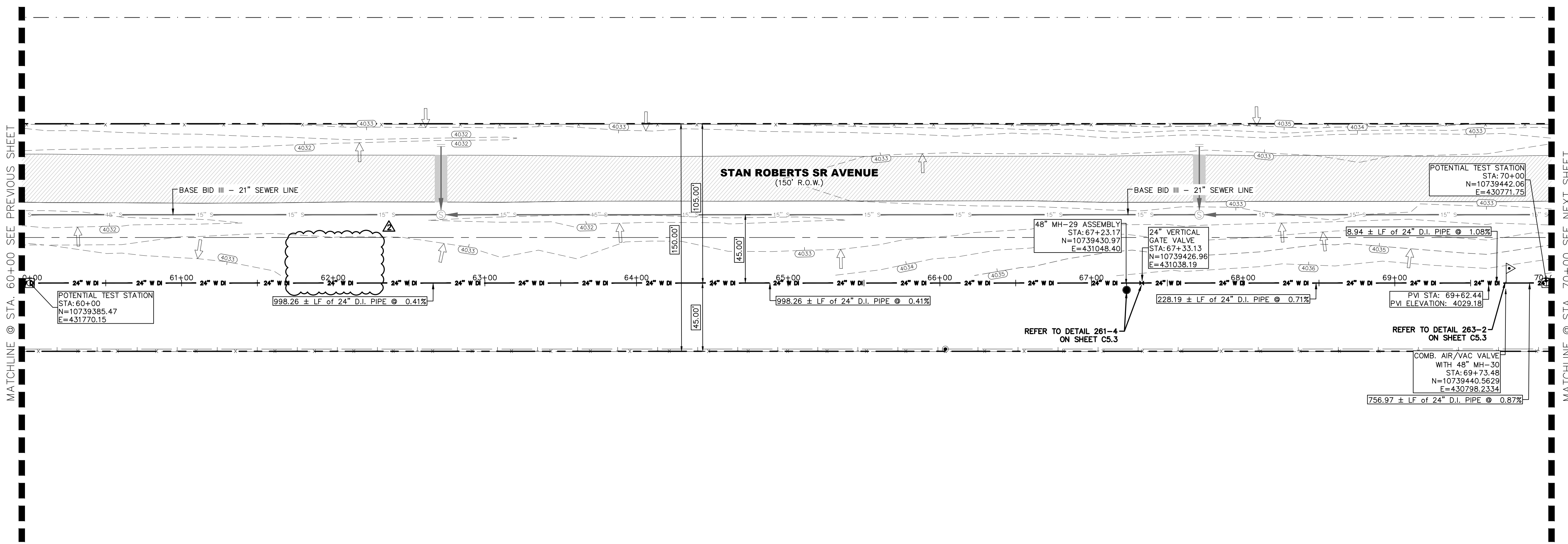
FRANKLIN EAST 24" WATER LINE
 EXTENSION PHASE II (NORTE VISTA DR
 TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
 STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
 FROM STA. 50+00 TO STA. 60+00

JOB NO.
05970-048C

SEQUENCE NO.
C4.6R

SHEET NO.
15 OF 30

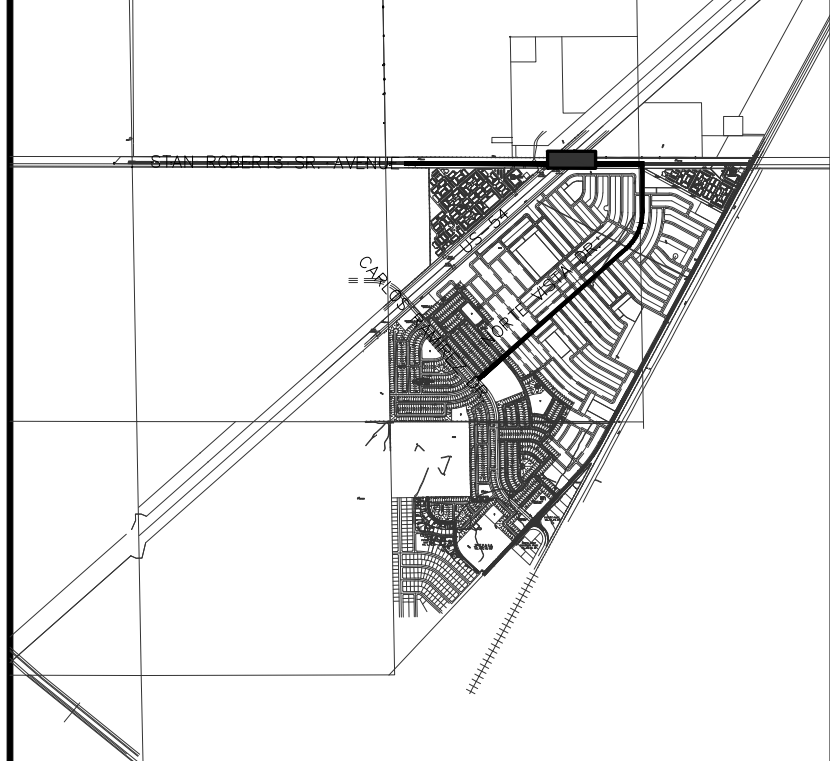


NOTES:

GRAPHIC SCALE
0 20 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
4	24" VERTICAL GATE VALVE WITH MANHOLE			1 EA
5	6" COM. AIR RELEASE/VACUUM VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



KEY MAP
1" = 4000'

1" = 40' HORIZONTAL
1" = 5' VERTICAL

REV.	DATE	BY	DESCRIPTION
1	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

**STOP!
CALL BEFORE YOU DIG**

Hector Martinez

HECTOR MARTINEZ
132659
PROFESSIONAL ENGINEER
07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS

413 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM

PH (915) 842-4900
FAX (915) 542-2807
TYPE Registration Number: T-757
JOB NO. 05970-048C

FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

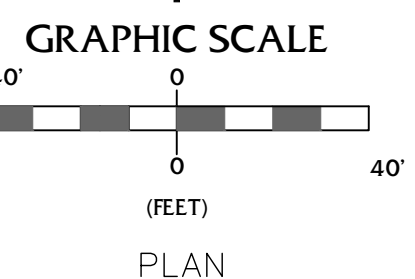
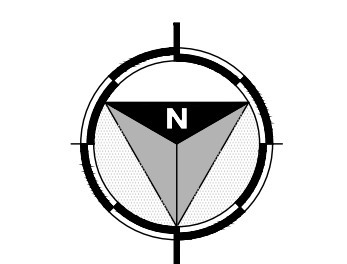
SHEET TITLE:
STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
FROM STA. 60+00 TO STA. 70+00

JOB NO.
05970-048C

SEQUENCE NO.
C4.7R

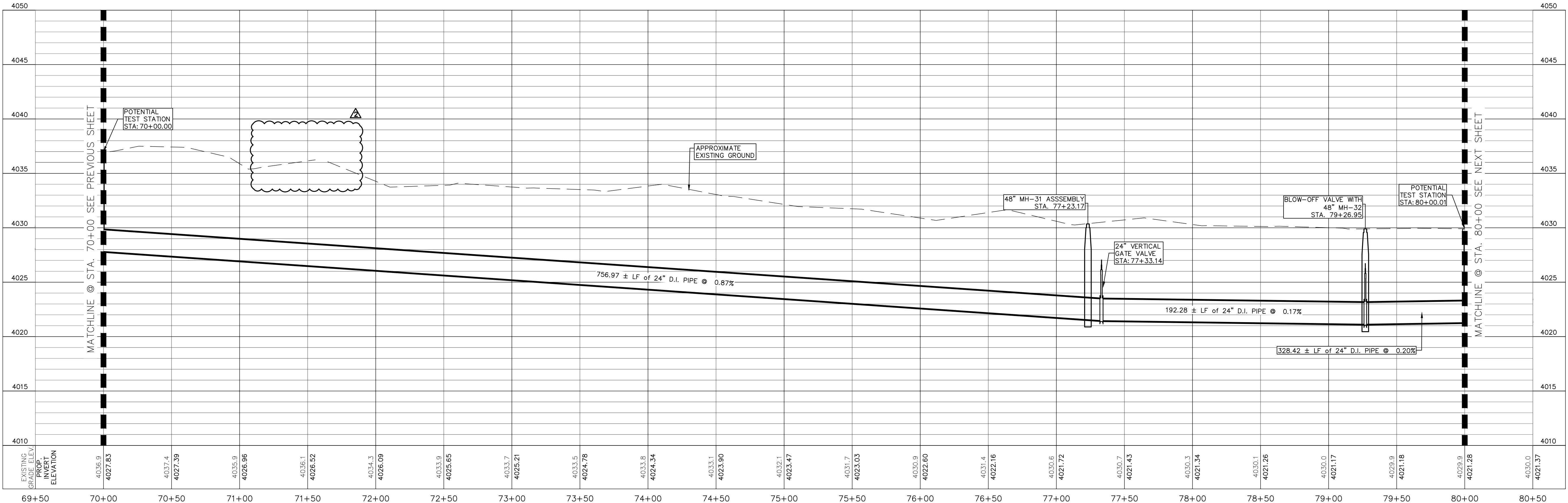
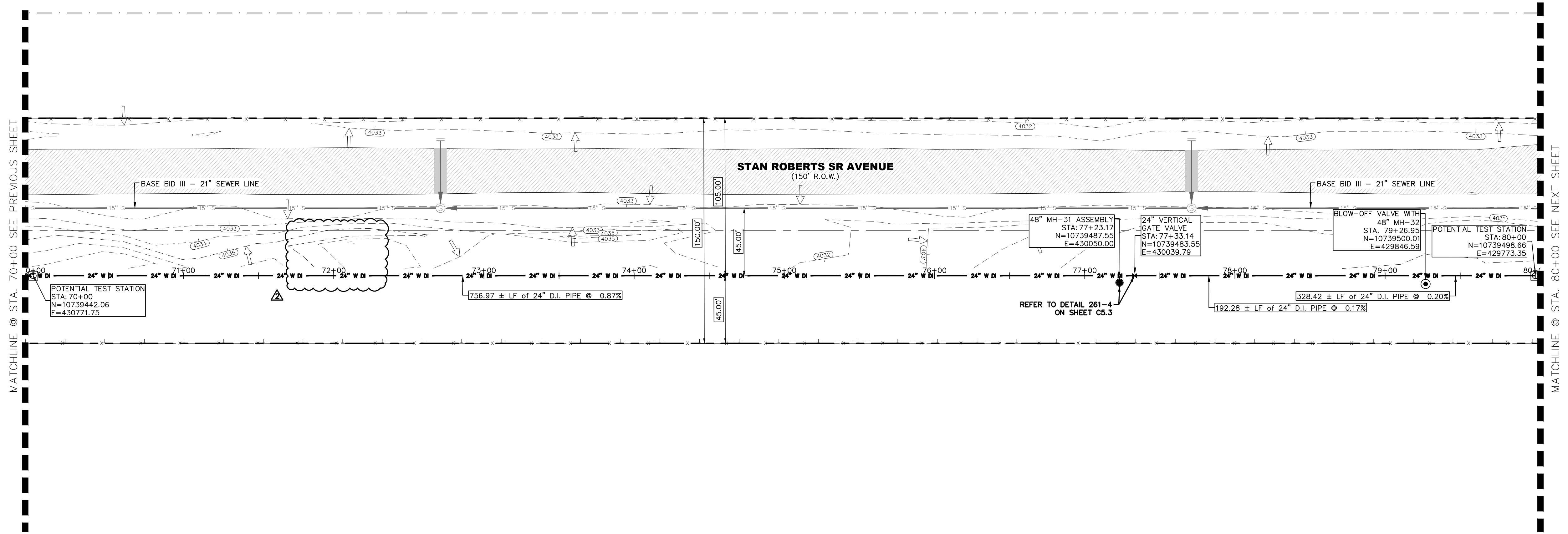
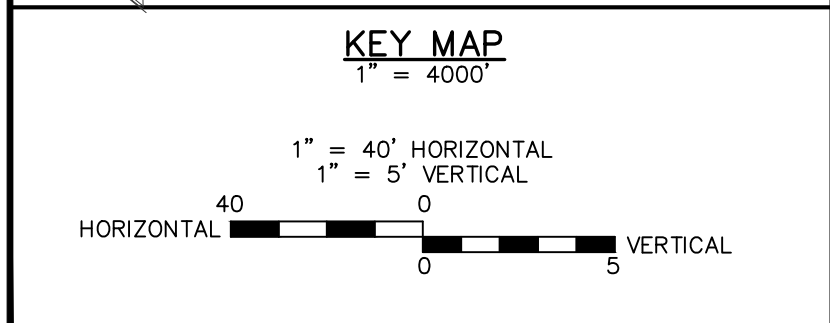
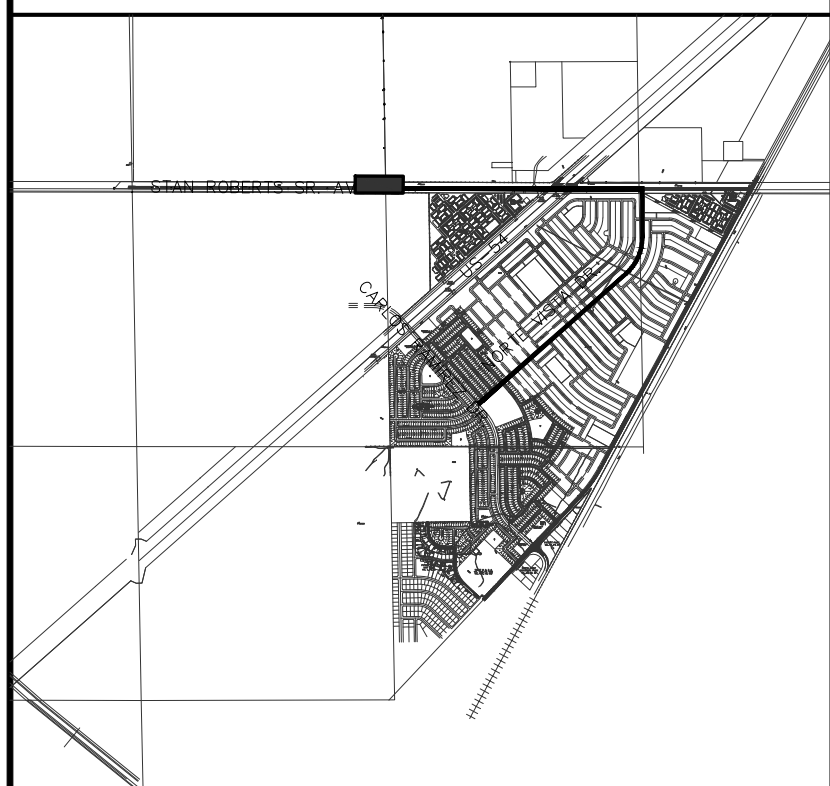
SHEET NO.
16 OF 30

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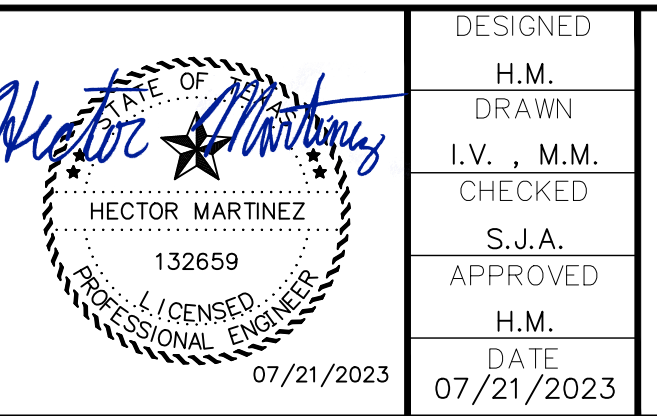
NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
6	24" BLOW-OFF VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
 BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
1	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151



DESIGNED: H.M. DRAWN: I.V., M.M. CHECKED: S.J.A. APPROVED: H.M. DATE: 07/21/2023

BROCK & BUSTILLOS INC.
 CONSULTING CIVIL ENGINEERS
 LAND SURVEYORS
 411 EXECUTIVE CENTER
 EL PASO, TEXAS 79902
 WWW.BROCKBUSTILLOS.COM
 PH (915) 842-4800
 FAX (915) 542-2887
 TSPC Registration Number: T-757
 JOB NO. 05970-048C



FRANKLIN EAST 24" WATER LINE
 EXTENSION PHASE II (NORTE VISTA DR
 TO STAN ROBERTS SR. AVE.)

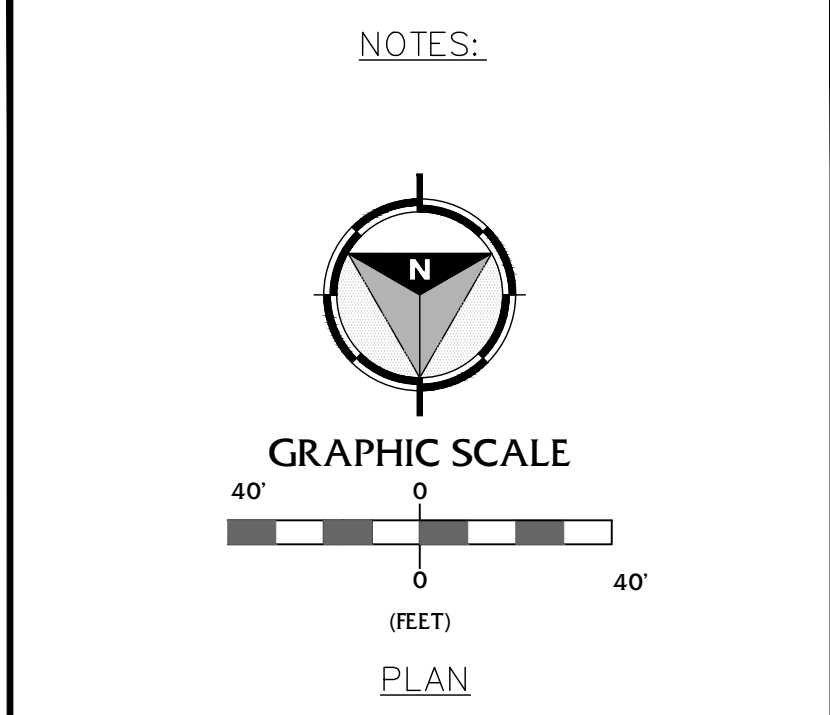
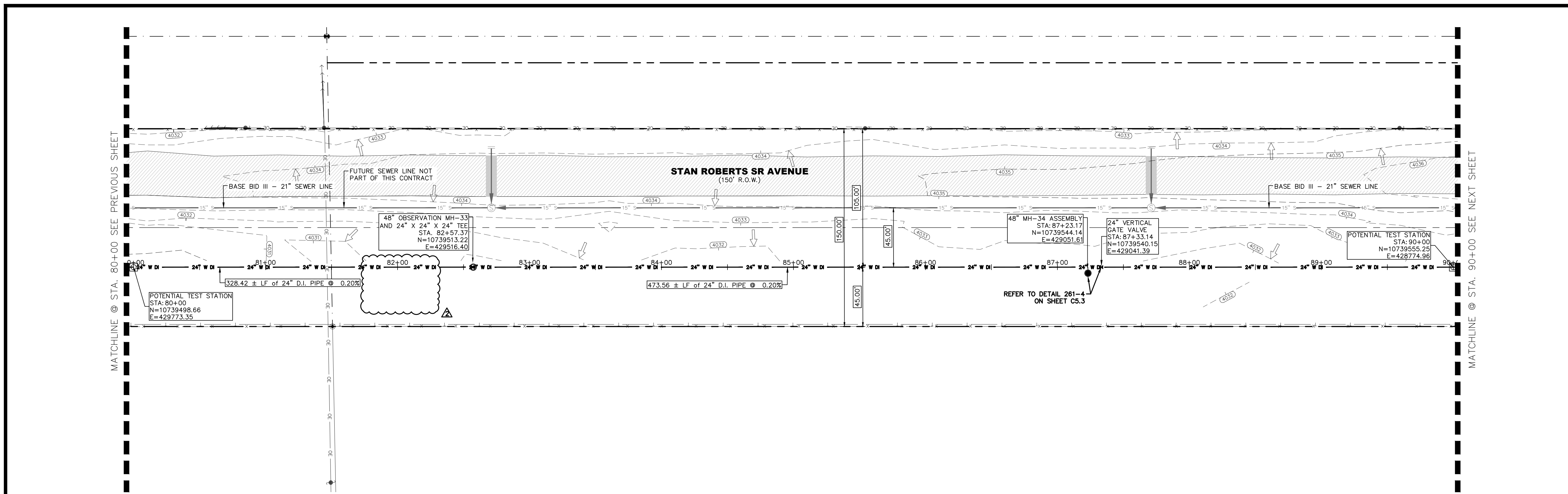
SHEET TITLE:
 STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
 FROM STA. 70+00 TO STA. 80+00

JOB NO.
 05970-048C

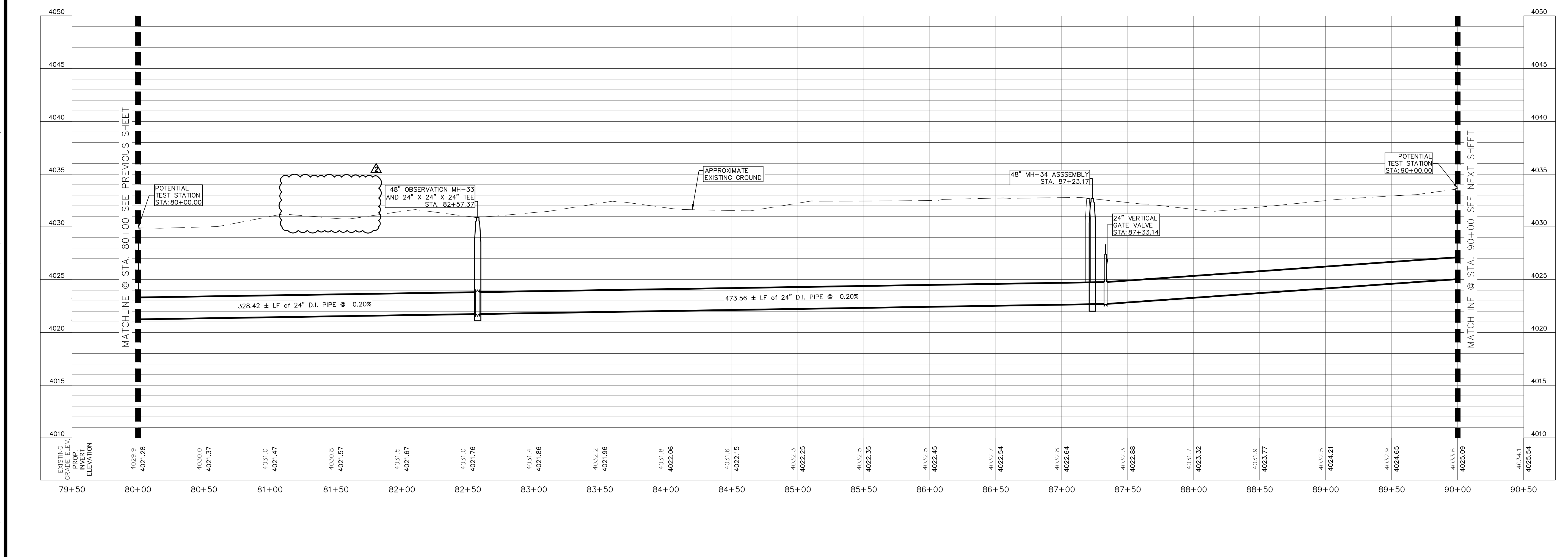
SEQUENCE NO.
 C4.8R

SHEET NO.
 17 OF 30

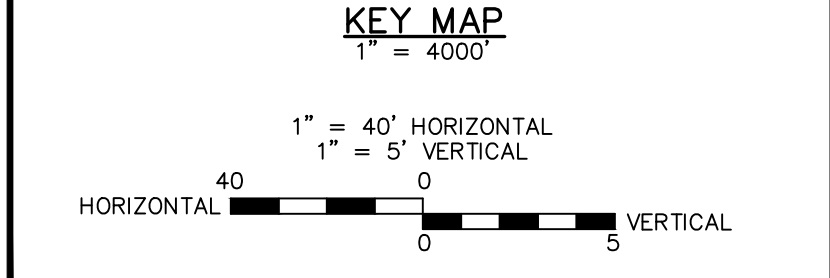
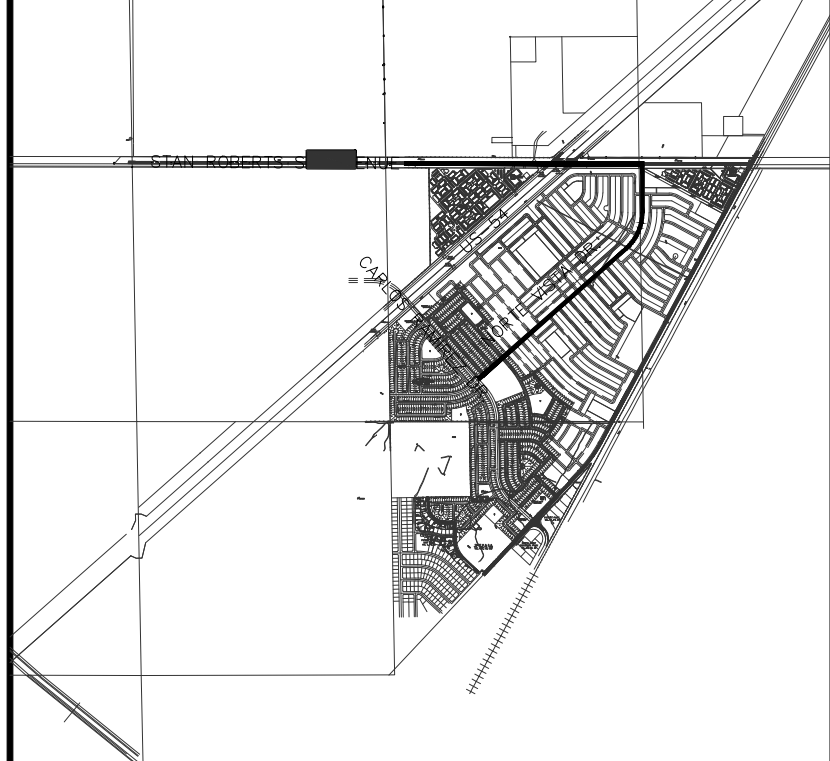
17/02/2023
 S:\V\0410\05970 - EL PASO WATER - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN-CARLOS RAMIREZ TO STAN ROBERTS SR AVE.PWP.dwg
 11/20/2023
 S:\V\0410\05970 - EL PASO WATER - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN-CARLOS RAMIREZ TO STAN ROBERTS SR AVE.PWP.dwg



NO.	ITEM	STATION	ASBUILT	QUANTITY	UNIT
2	24" DI APPROVED WATERLINE			1000	LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1	EA
7	OBSERVATION POINT WITH 48" MANHOLE			1	EA
10	TRENCH SAFETY SYSTEM			1000	LF



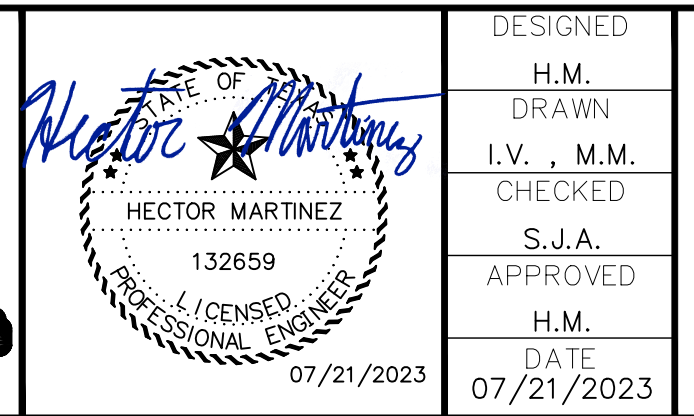
BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEI GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
1	07/21/2023	I.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151



DESIGNED
H.M.
DRAWN
I.V., M.M.
CHECKED
S.J.A.
APPROVED
H.M.
DATE
07/21/2023

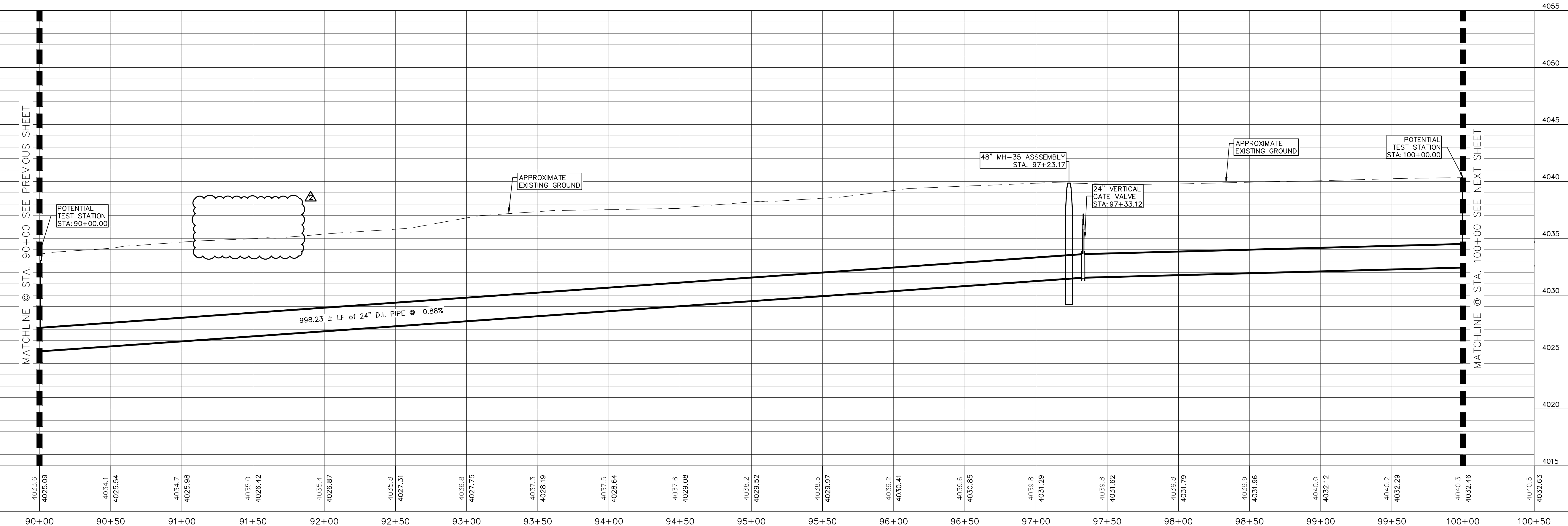
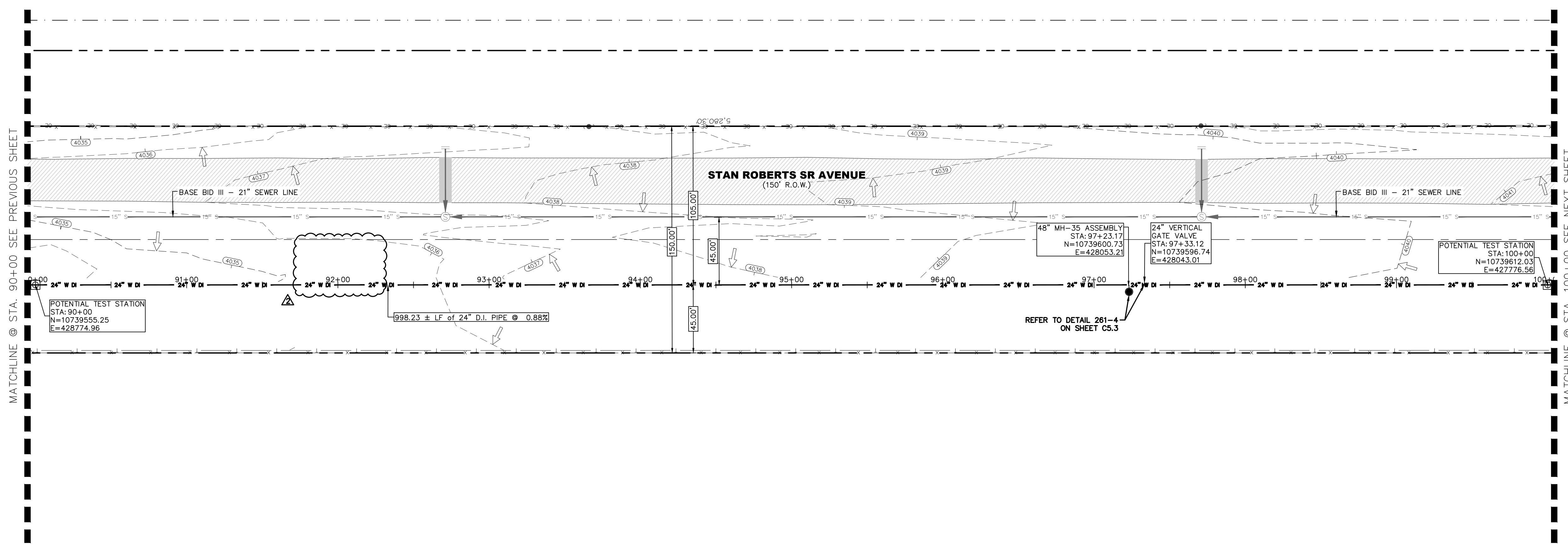
BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS
411 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM
PH (915) 542-4800
FAX (915) 542-2897
TXPE Registration Number: T-737
JOB NO. 05970-048C



FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
FROM STA. 80+00 TO STA. 90+00

JOB NO.
05970-048C
SEQUENCE NO.
C4.9R
SHEET NO.
18 OF 30

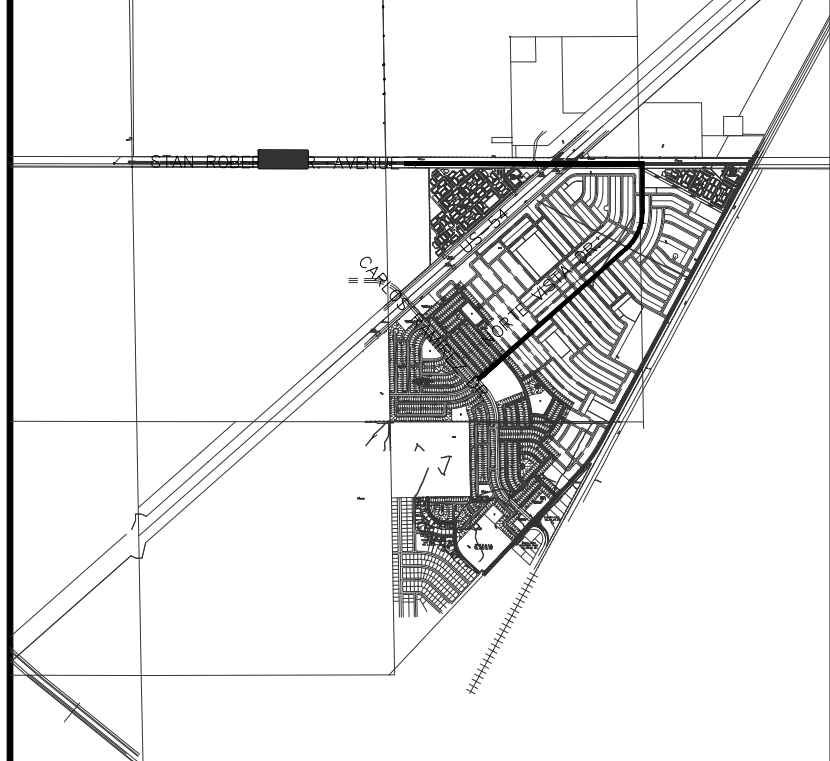


NOTES:

GRAPHIC SCALE
0 20 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



KEY MAP
1" = 4000'

1" = 40' HORIZONTAL
1" = 5' VERTICAL

11/20/2018
 S:\P\1040\048C - EL PASO WATER - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN-CARLOS RAMIREZ TO STAN ROBERTS SR P&P.dwg
 11/20/2018
 S:\P\1040\048C - EL PASO WATER - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN-CARLOS RAMIREZ TO STAN ROBERTS SR P&P.dwg

REV.	DATE	BY	DESCRIPTION
1	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
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TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

**STOP!
CALL BEFORE YOU DIG**

Hector Martinez

HECTOR MARTINEZ
132659
LICENSED PROFESSIONAL ENGINEER
07/21/2023

DESIGNED
H.M.
DRAWN
I.V., M.M.
CHECKED
S.J.A.
APPROVED
H.M.
DATE
07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS
417 EXECUTIVE CENTER
EL PASO, TEXAS 79902
WWW.BROCKBUSTILLOS.COM
PH (915) 842-4900
FAX (915) 542-2867
TYPE Registration Number: T-757
JOB NO. 05970-048C

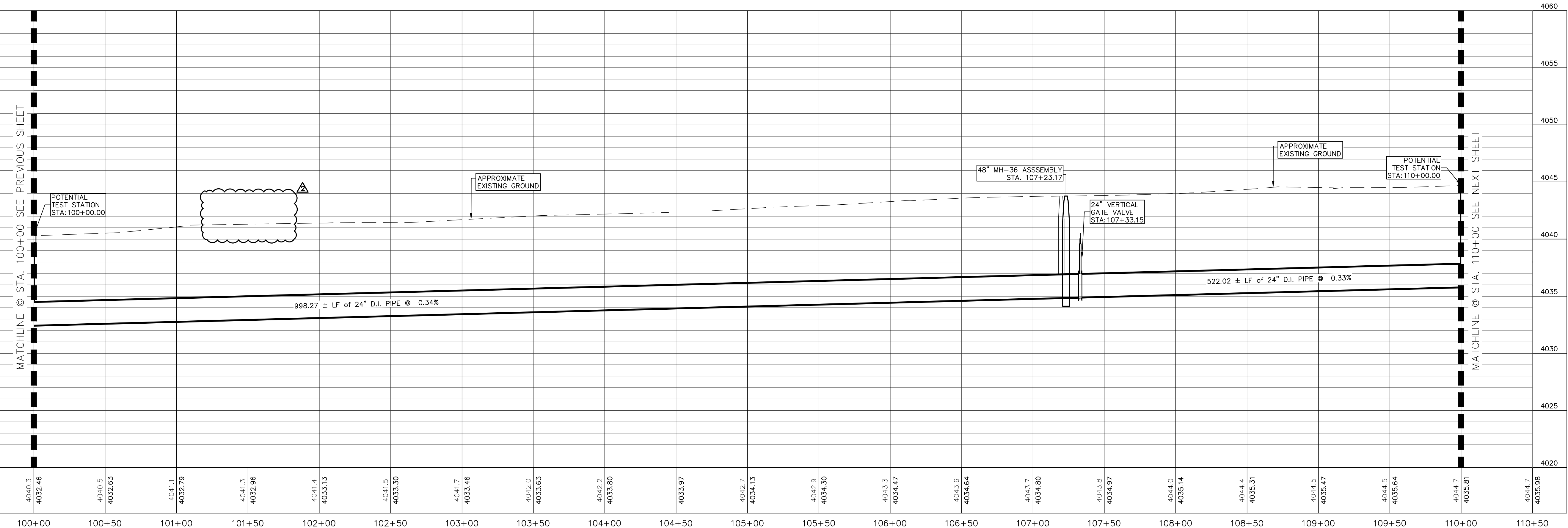
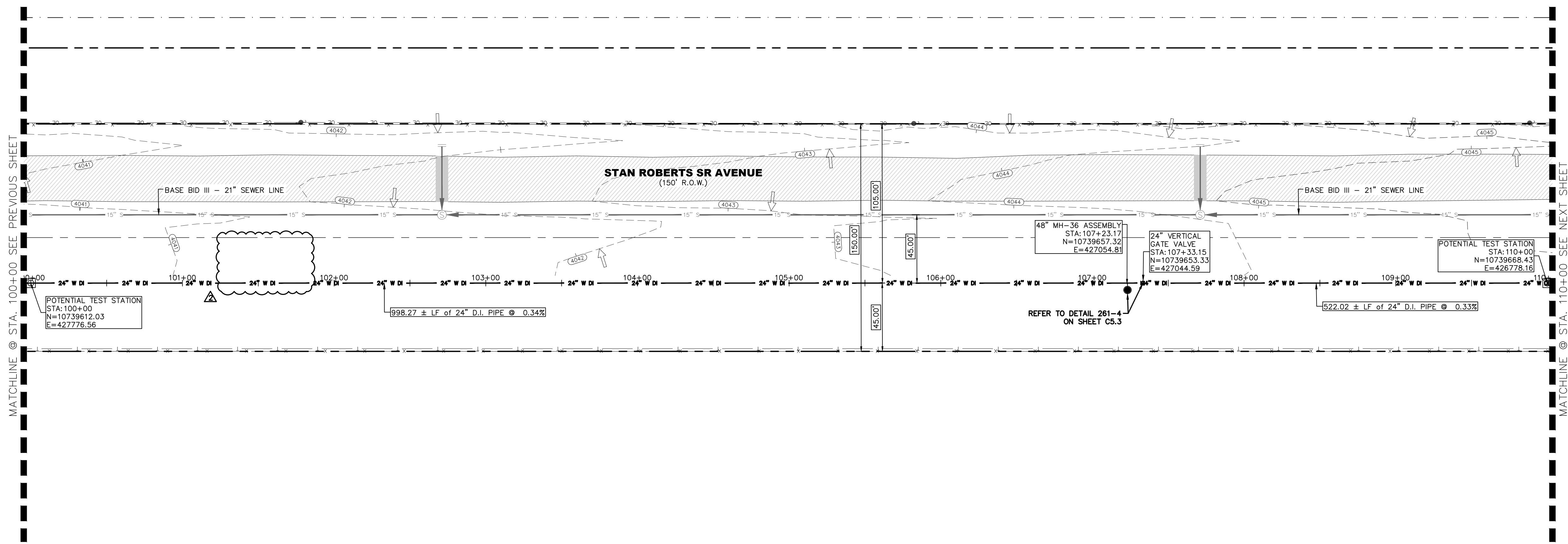
FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
FROM STA. 90+00 TO STA. 100+00

JOB NO.
05970-048C

SEQUENCE NO.
C4.10R

SHEET NO.
19 OF 30

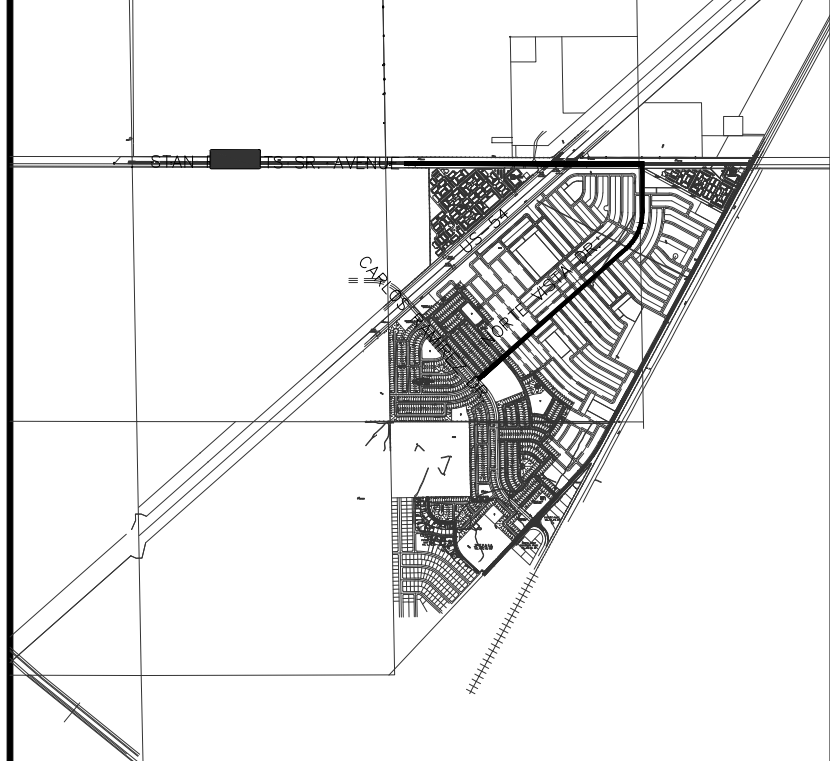


NOTES:

GRAPHIC SCALE
0 20 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



KEY MAP
1" = 4000'

1" = 40' HORIZONTAL
1" = 5' VERTICAL

11/20/2023
 S:\PROJECTS\0970 - EL PASO WATER - FB8 ENGINEERING\048C - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN-CARLOS RAMIREZ TO STAN ROBERTS SR PAPER\048C-11 - C4.11 STAN ROBERTS SR PAPER.dwg

REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	I.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
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VERIZON COMMUNICATIONS	(800) 624-9675
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S.J.A.
APPROVED
H.M.
DATE
07/21/2023

BROCK & BUSTILLOS INC.
CONSULTING CIVIL ENGINEERS
LAND SURVEYORS

417 EXECUTIVE CENTER
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PH (915) 542-4900
FAX (915) 542-2887
TXPE Registration Number: T-757
JOB NO. 05970-048C

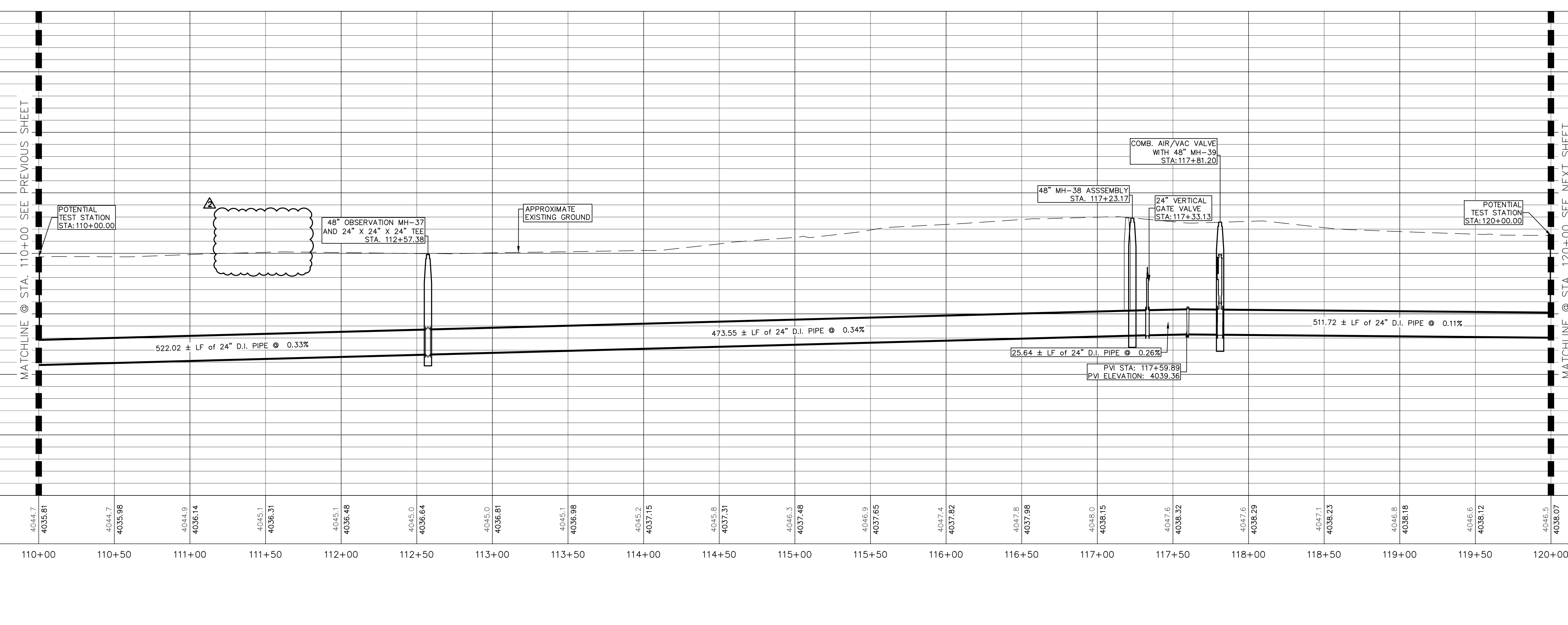
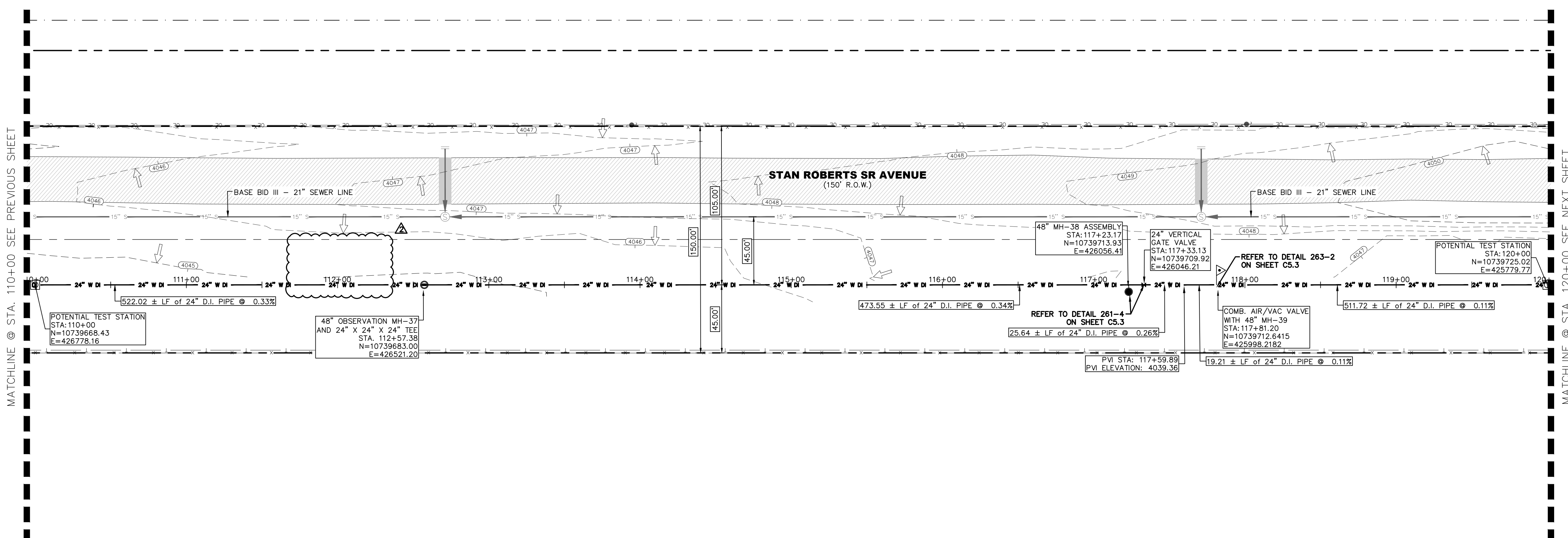
FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
FROM STA. 100+00 TO STA. 110+00

JOB NO.
05970-048C

SEQUENCE NO.
C4.11R

SHEET NO.
20 OF 30

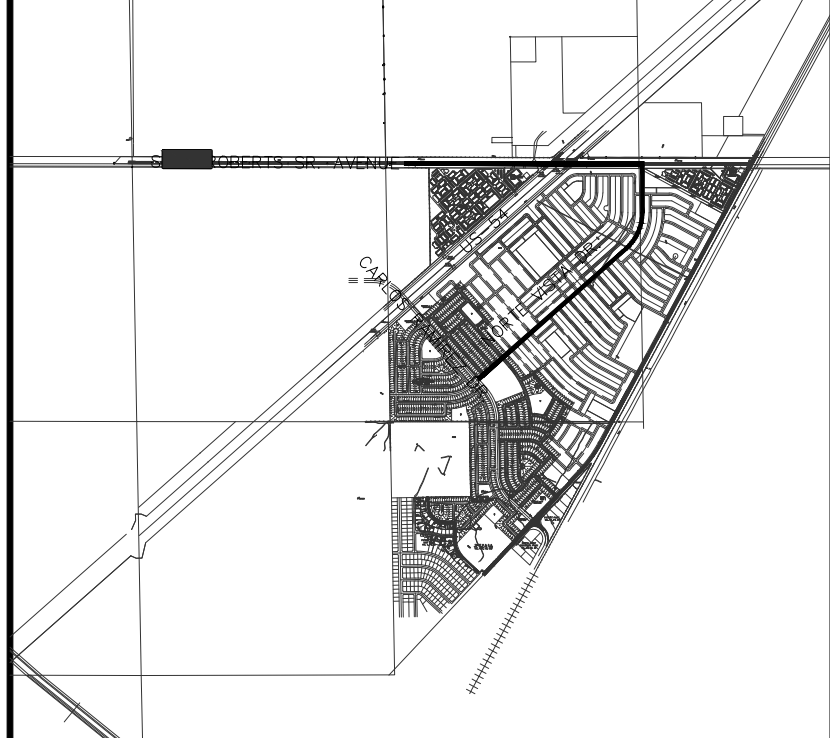


NOTES:

GRAPHIC SCALE
0 20 40
(FEET)
PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
5	6" COM. AIR RELEASE/VACUUM VALVE WITH MANHOLE			1 EA
7	OBSERVATION POINT WITH 48" MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
 BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



KEY MAP
 1" = 4000'
 1" = 5' VERTICAL
 HORIZONTAL 40 0 40 VERTICAL 0 5

REV.	DATE	BY	DESCRIPTION
1	07/21/2023	LV	ADDENDUM #8

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151

STOP! CALL BEFORE YOU DIG

Hector Martinez

DESIGNED H.M. DRAWN I.V. CHECKED S.J.A. APPROVED H.M. DATE 07/21/2023

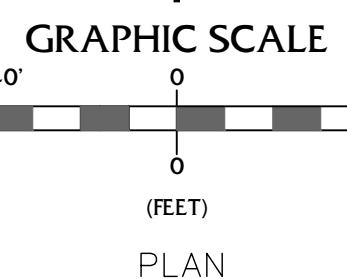
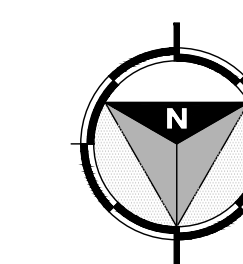
BROCK & BUSTILLOS INC.
 CONSULTING CIVIL ENGINEERS
 LAND SURVEYORS
 411 EXECUTIVE CENTER EL PASO, TEXAS 79902 WWW.BROCKBUSTILLOS.COM
 PH (915) 843-4900 FAX (915) 542-2807 T99C Registration Number: T-757 JOB NO. 05970-048C

FRANKLIN EAST 24" WATER LINE EXTENSION PHASE II (NORTE VISTA DR TO STAN ROBERTS SR. AVE.)

SHEET TITLE:
 STAN ROBERTS SR. AVENUE - PLAN AND PROFILE FROM STA. 11+00 TO STA. 120+00

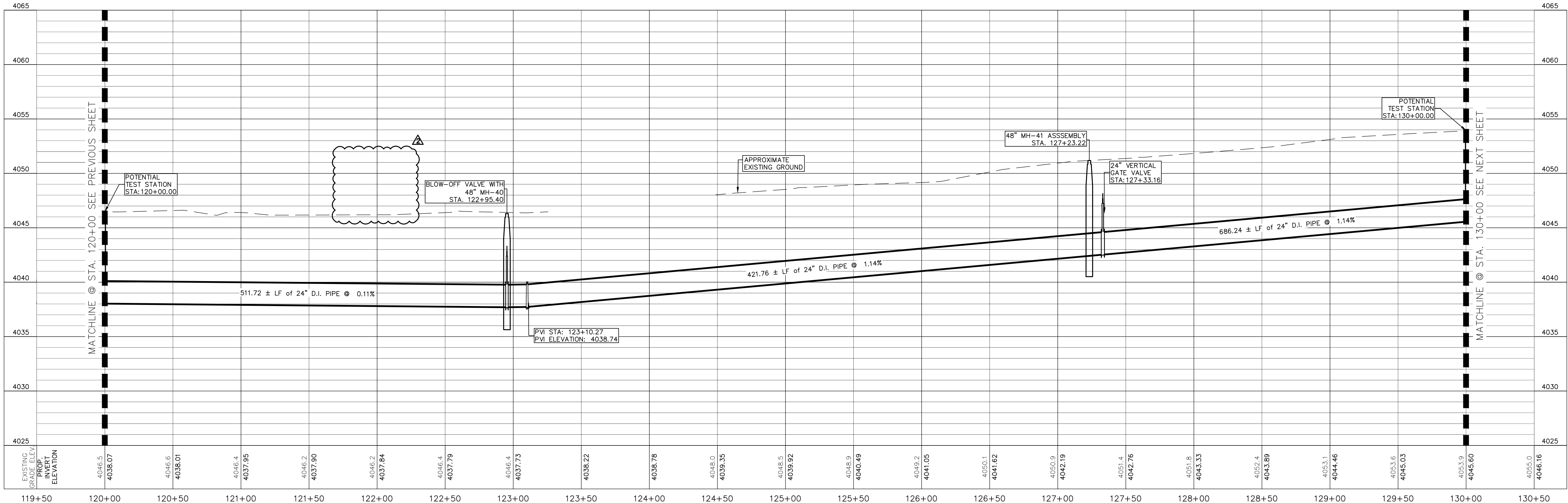
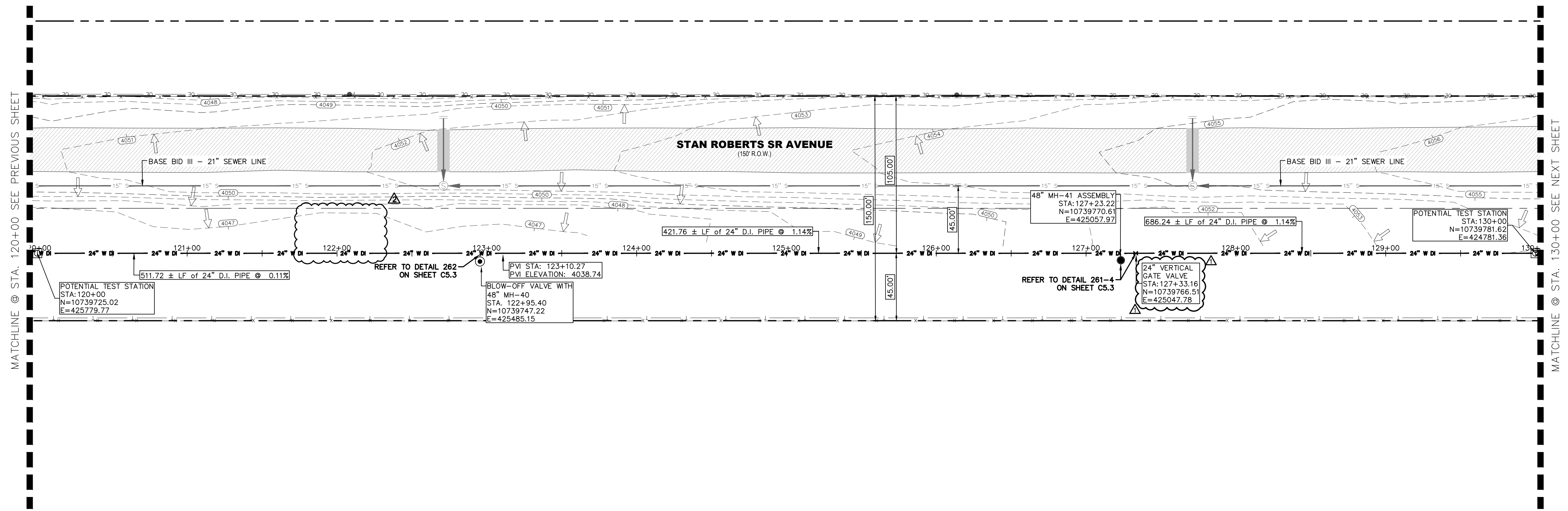
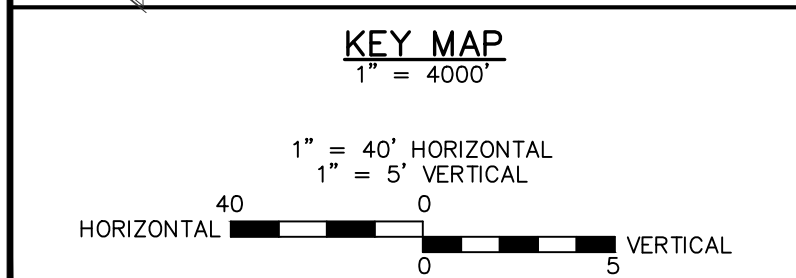
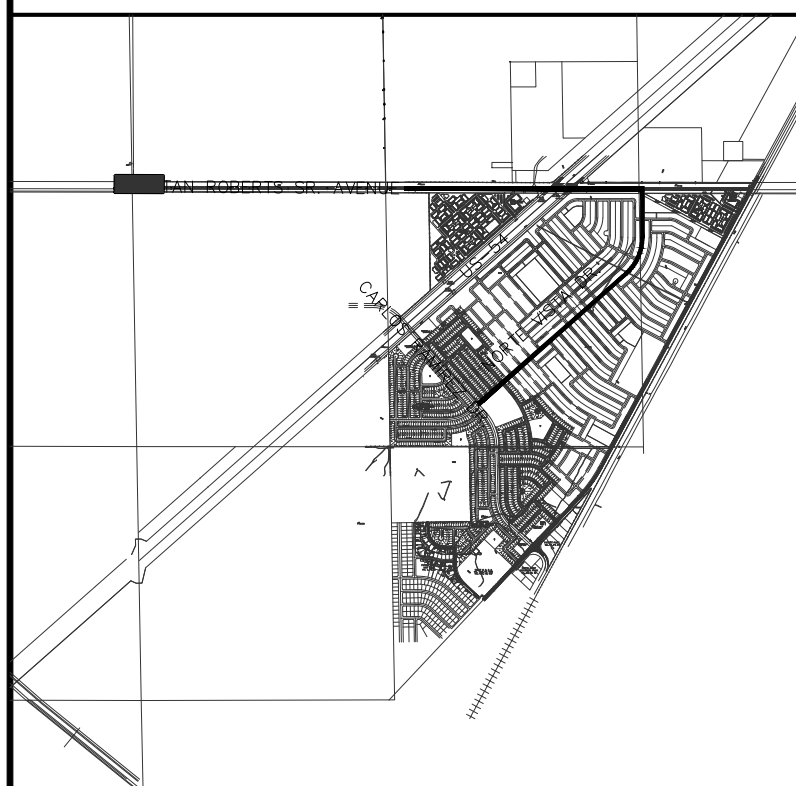
JOB NO. 05970-048C
 SEQUENCE NO. C4.12R
 SHEET NO. 21 OF 30

NOTES:



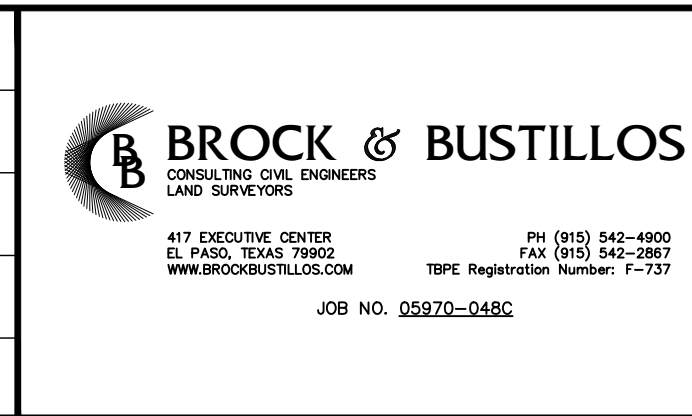
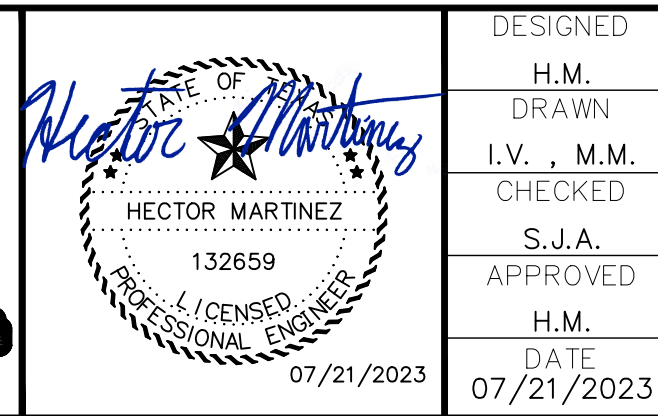
NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			1000 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			1 EA
6	24" BLOW-OFF VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			1000 LF

BENCHMARK:
 BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
1	06/12/2023	Y.C./A.C	LABEL AND/OR QUANTITIES REVISED
2	07/21/2023	L.V.	ADDENDUM #8

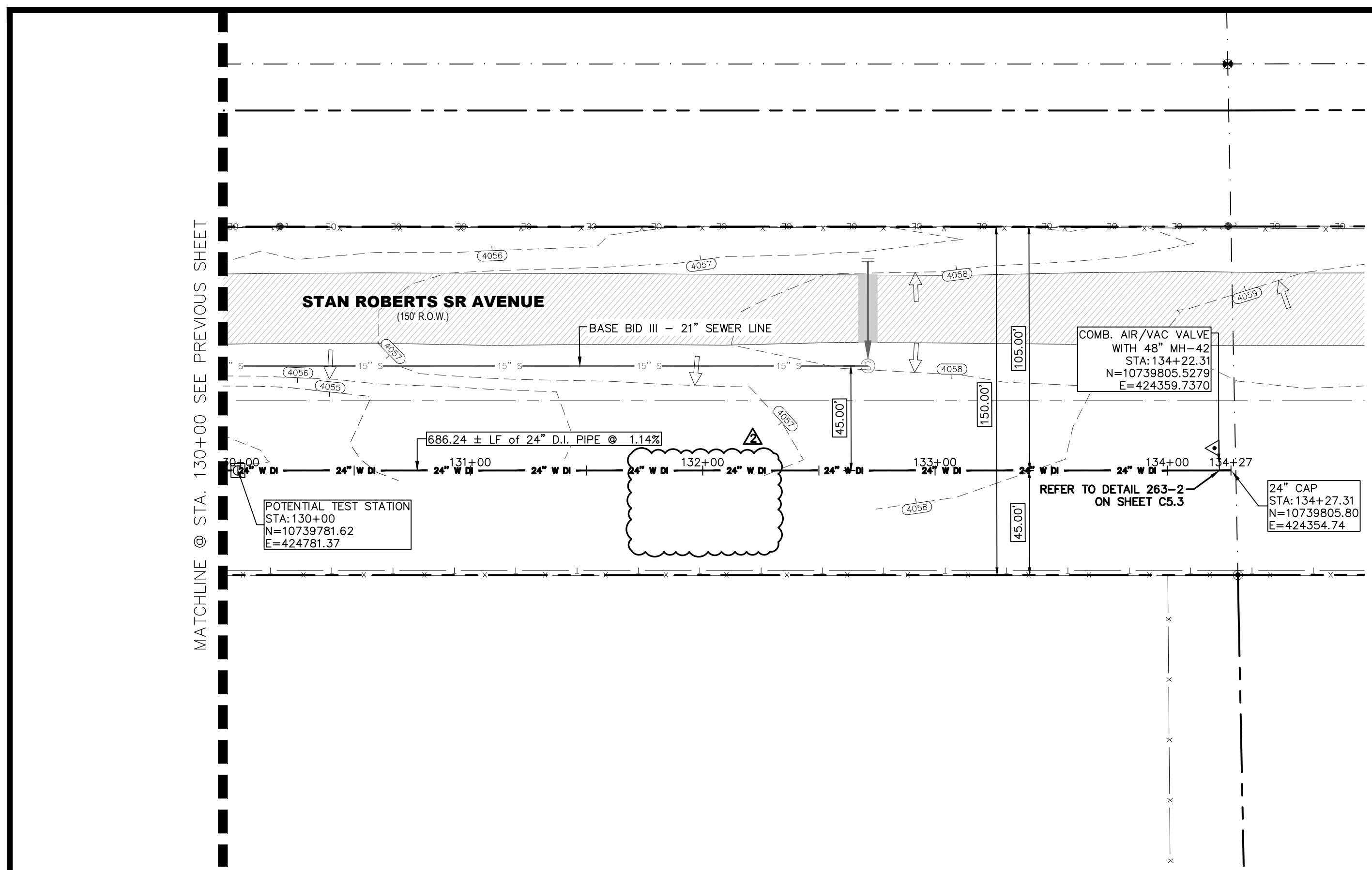
UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
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AT&T GENERAL	(915) 595-5151



FRANKLIN EAST 24" WATER LINE
 EXTENSION PHASE II (NORTE VISTA DR
 TO STAN ROBERTS SR. AVE.)
 SHEET TITLE:
 STAN ROBERTS SR. AVENUE - PLAN AND PROFILE
 FROM STA. 120+00 TO STA. 130+00

JOB NO.
 05970-048C
 SEQUENCE NO.
 C4.13R
 SHEET NO.
 22 OF 30

17/02/2018
 S:\V\0410\0970 - EL PASO WATER - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN-CARLOS RAMIREZ TO STAN ROBERTS SR AVE - C4.13 STAN ROBERTS SR AVE.dwg

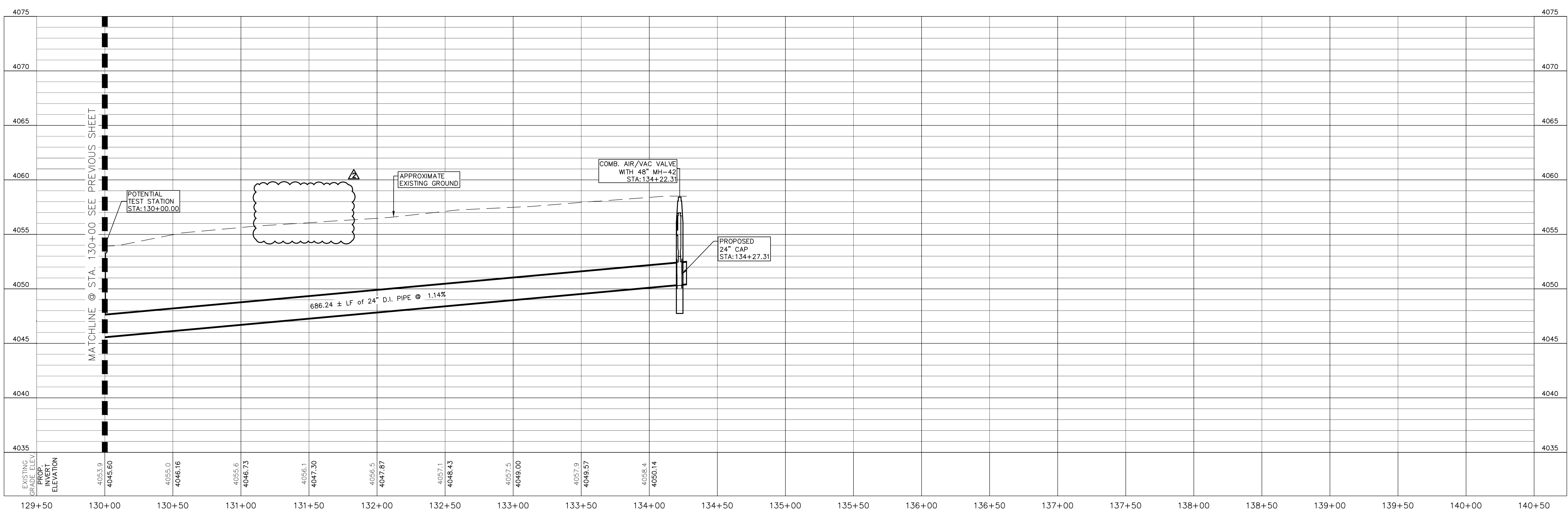


NOTES:

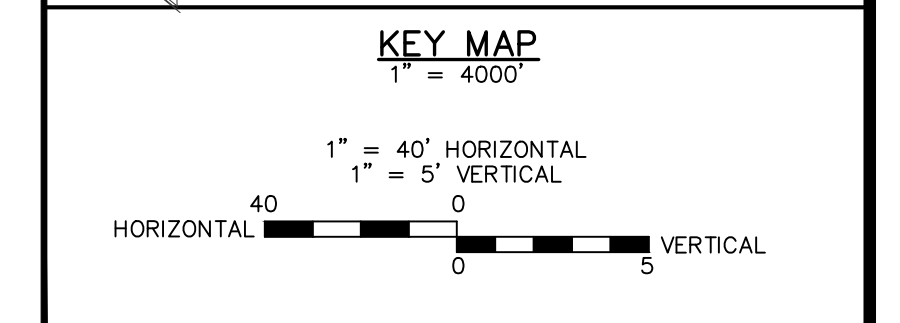
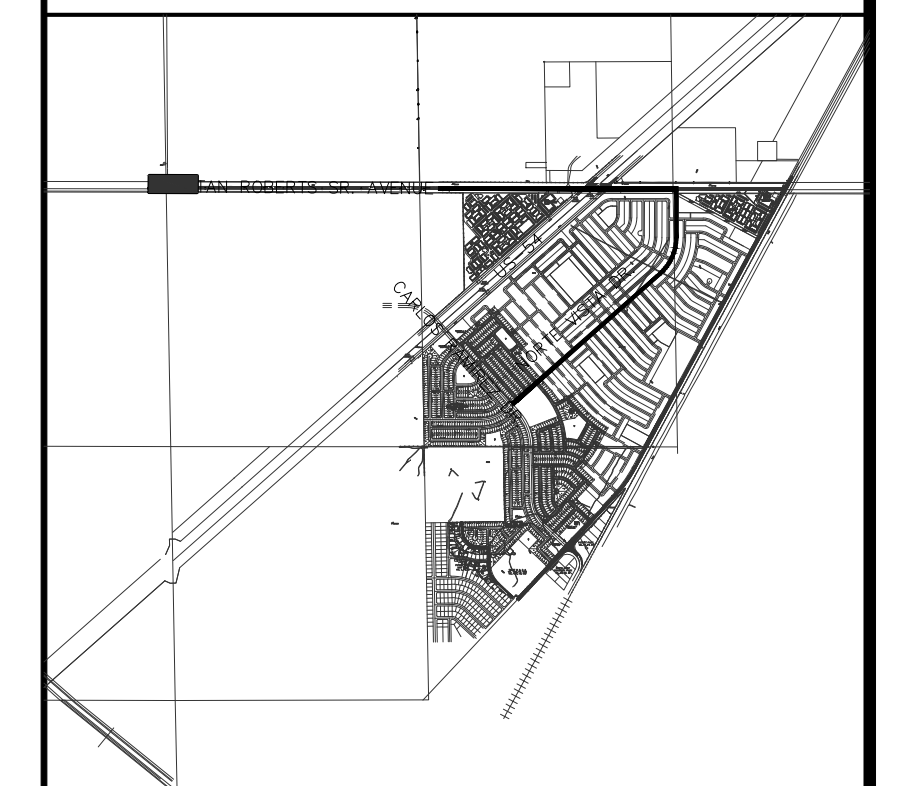
GRAPHIC SCALE
(FEET)

PLAN

NO.	ITEM	STATION	ASBUILT	QUANTITY
2	24" DI APPROVED WATERLINE			427 LF
4	24" VERTICAL GATE VALVE IN MANHOLE			0 EA
5	RELEASE/VACUUM VALVE WITH MANHOLE			1 EA
10	TRENCH SAFETY SYSTEM			427 LF

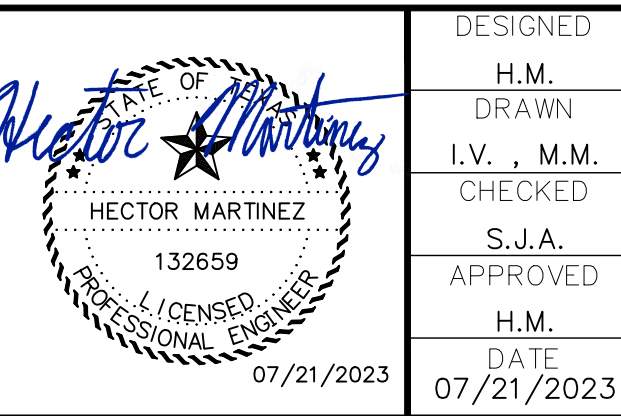


BENCHMARK:
 BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.



REV.	DATE	BY	DESCRIPTION
Δ	06/12/2023	V.C./A.C	LABEL AND/OR QUANTITIES REVISED
Δ	07/21/2023	I.V.	ADDENDUM #8

UTILITY LOCATOR SERVICES	
TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
HOLLY ENERGY PARTNERS	(915) 494-0549
TEXAS GAS SERVICE	(800) 959-5325
KINDER MORGAN	(915) 843-2441
AT&T GENERAL	(915) 595-5151



DESIGNED
H.M.
DRAWN
I.V., M.M.
CHECKED
S.J.A.
APPROVED
H.M.
DATE
07/21/2023

BROCK & BUSTILLOS INC.
 CONSULTING CIVIL ENGINEERS
 LAND SURVEYORS

413 EXECUTIVE CENTER
 EL PASO, TEXAS 79902
 WWW.BROCKBUSTILLOS.COM

PH (915) 542-4800
 FAX (915) 542-2807
 TSPC Registration Number: T-757
 JOB NO. 05970-048C

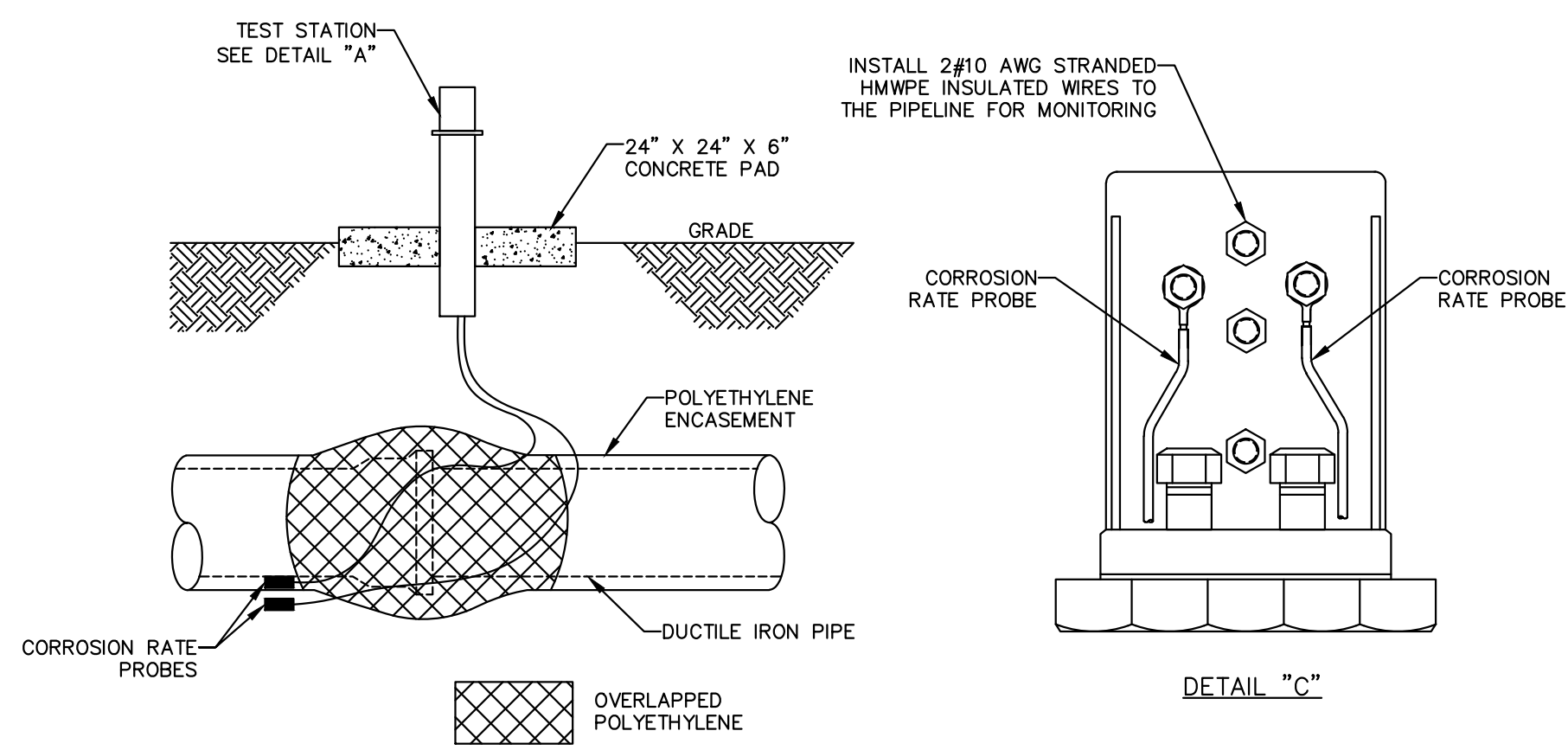


FRANKLIN EAST 24" WATER LINE
 EXTENSION PHASE II (NORTE VISTA DR
 TO STAN ROBERTS SR. AVE.)

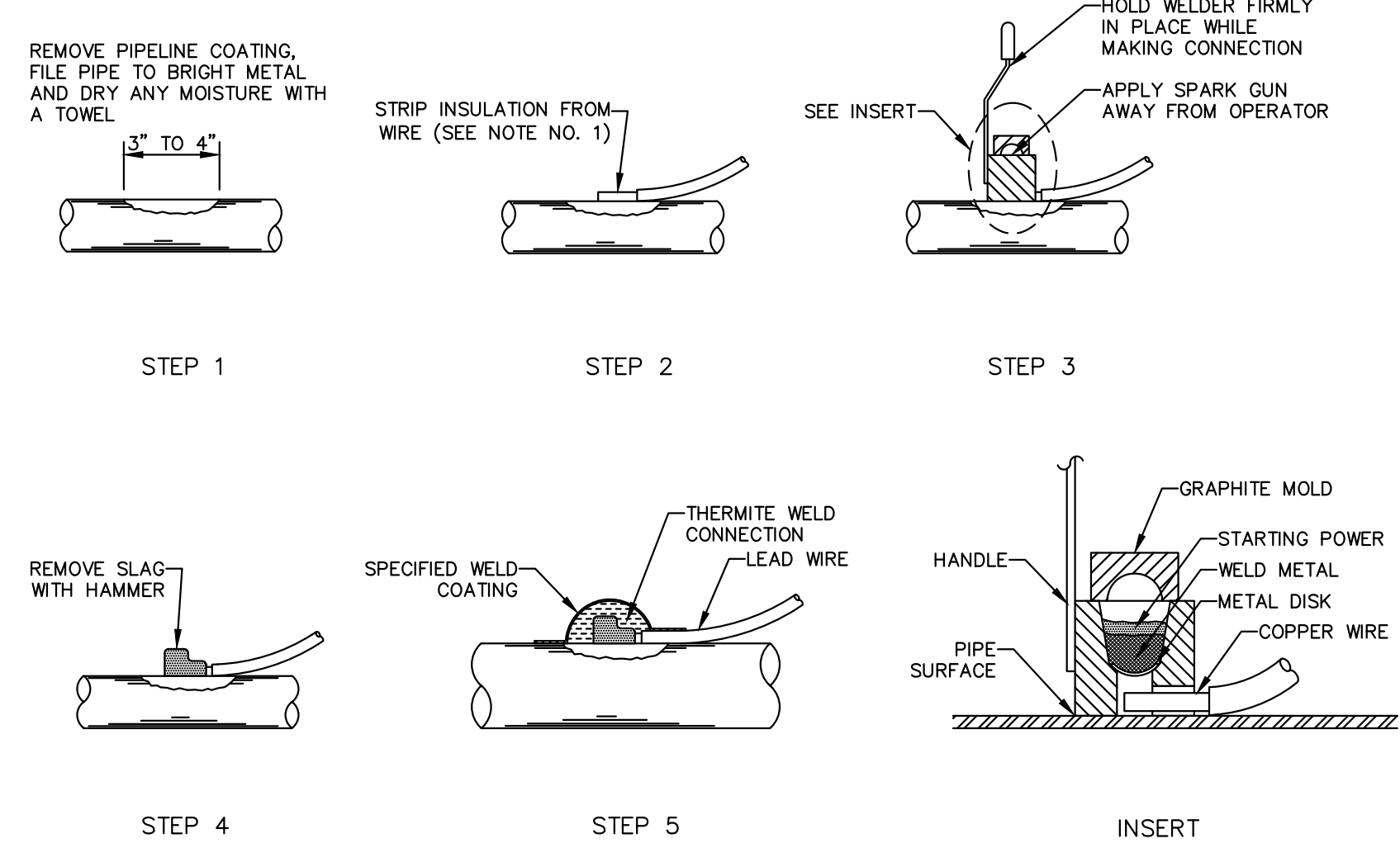
SHEET TITLE:
 STAN ROBERTS SR. AVENUE – PLAN AND PROFILE
 FROM STA. 130+00 TO STA. 134+50

JOB NO. 05970-048C
SEQUENCE NO. C4.14R
SHEET NO. 23 OF 30

11/20/2018
 S:\P\0410\05970 - EL PASO WATER - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN-CARLOS RAMIREZ TO STAN ROBERTS SR AVENUE\C4.1 - C4.14 STAN ROBERTS SR P&P.dwg
 I:\Projects\05970 - EL PASO WATER - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN-CARLOS RAMIREZ TO STAN ROBERTS SR AVENUE\C4.1 - C4.14 STAN ROBERTS SR P&P.dwg



1 TYPE MTS MONITORING TEST STATION FOR DUCTILE IRON PIPE INSTALLATION SCALE: N.T.S.

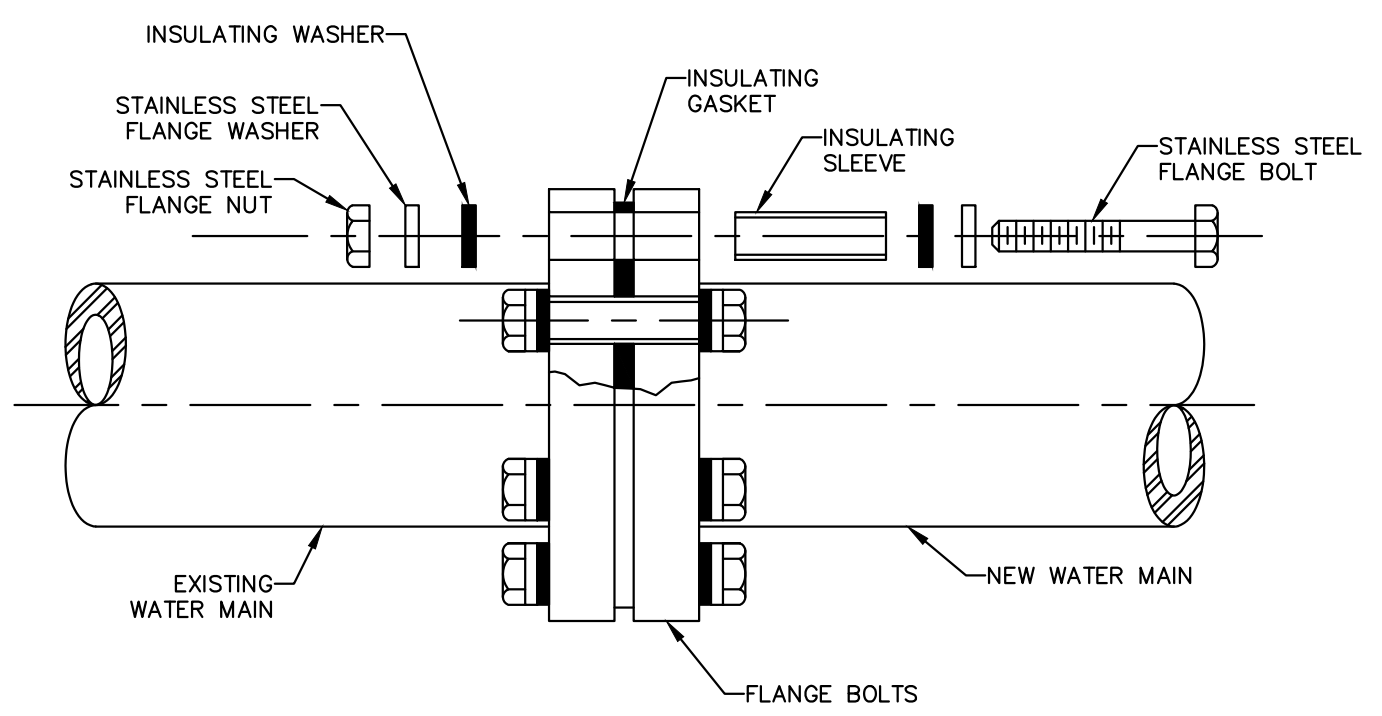


2 THERMITE WELD CONNECTION SCALE: N.T.S.

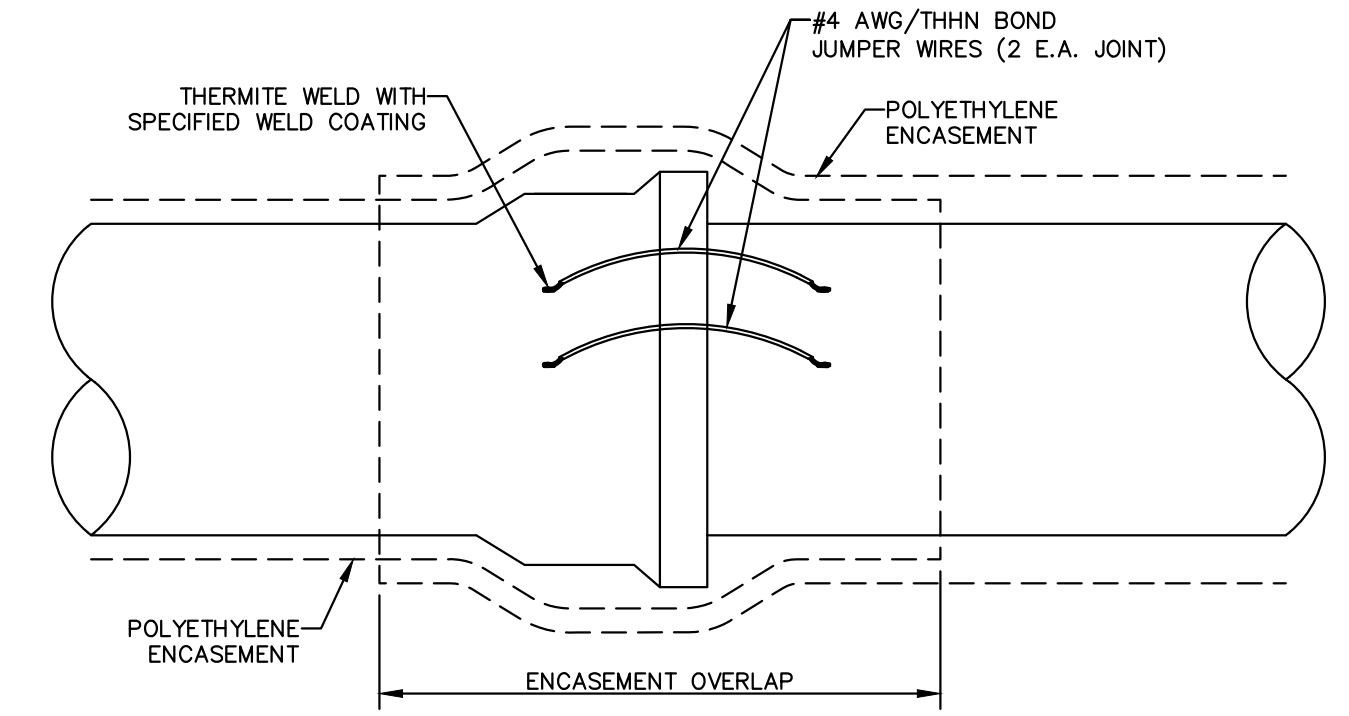
- GENERAL PROCEDURE**
- WHEN USING NO. 10 TO NO. 14 AWG SOLID OR STRANDED WIRE, IT WILL BE NECESSARY TO INSTALL A COPPER SLEEVE OF ADEQUATE SIZE OVER THE BARE END OF THE WIRE AND CRIMP IN PLACE BEFORE ATTEMPTING TO MAKE THE CONNECTION. THE WIRE SHOULD PROTRUDE AT LEAST 1/8" FROM THE END OF THE SLEEVE.
 - INSERT THE CONDUCTOR INTO THE MOLD NOTING ANY SPECIAL INFORMATION UNDER "POSITIONING" FOR APPLICATION TYPE IN THE MANUFACTURER'S INSTRUCTIONS PACKAGED WITH THE WELDER.
 - INSERT STEEL DISK IN BOTTOM OF CAVITY INSIDE MOLD. POUR THE WELD METAL INTO MOLD BEING CAREFUL NOT TO UPSET THE STEEL DISK. SQUEEZE THE BOTTOM OF THE TUBE TO LOOSEN ALL THE STARTING POWDER AND SPREAD IT EVENLY OVER THE WELD METAL. PLACE A SMALL AMOUNT OF STARTING POWDER ON THE TOPE EDGE OF THE MOLD UNDER THE COVER OPENING FOR EASY IGNITION.
 - CLOSE COVER AND IGNITE WITH THE FLINT GUN. MOVE THE FLINT GUN AWAY QUICKLY TO PREVENT FOULING. IF FLINT GUN SHOULD BE FOULED, SOAK IT IN HOUSEHOLD AMMONIA.
 - AFTER IGNITION HOLD THE WELDER IN PLACE FOR A MOMENT TO ALLOW THE WELD TO SOLIDIFY. AFTER THE WELD HAS COOLED, REMOVE THE SLAG WITH A CHIPPING HAMMER OR WIRE BRUSH.
 - COAT CONNECTION AND THE ENTIRE PREPARED SURFACE.
 - CLEAN THE COVER EVERY 6 TO 10 WELDS.
 - WET OR DAMP MOLDS WILL PRODUCE POROUS WELDS. MOLDS MUST BE DRIED OUT BEFORE ATTEMPTING TO WELD.
 - CONNECTIONS ARE TO BE PLACED A MINIMUM OF 3" APART. UNSUCCESSFUL WELDS ARE TO BE ABANDONED AND MOVED TO ANOTHER PREPARED SURFACE NOT LESS THAN 3' AWAY.

- NOTES:**
- ALL JOINTS ARE TO BE JOINT BONDED TO PROVIDE ELECTRICAL CONTINUITY ALONG THE ENTIRE LENGTH OF PIPELINE.
 - PROVIDE ELECTRICALLY ISOLATED FLANGES AT ALL CONNECTIONS TO EXISTING PIPELINES.
 - ALL JOINTS SHALL BE MJ VALVES UNLESS SHOWN OTHERWISE.
 - PROVIDE CATHODIC PROTECTION TEST STATIONS EVERY 1,000 LF OF APPROVED PIPE. TEST STATION SHALL BE OUT OF THE FUTURE ROADWAY, BEHIND BACK OF CURB.
 - CONTRACTOR SHALL FIELD VERIFY ALL EXISTING PIPE JOINTS AND COORDINATE FABRICATION OF PIPE COMPONENTS REQUIRED TO COMPLETE ALL PIPING CONNECTIONS PRIOR TO PACING THE ORDER FOR THE NEW PIPE. ALL DIMENSIONS SHALL BE FIELD VERIFIED. FAILURE TO LOCATE AND VERIFY EXISTING JOINTS AND INCORPORATE IN THE SHOP DRAWINGS PRIOR TO FABRICATION SHALL NOT BE CAUSE FOR ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL COORDINATE ADJUSTMENTS WITH THE PIPE MANUFACTURER AND NOTIFY ENGINEER AND OWNER. COORDINATION WITH THE MANUFACTURER SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
 - CONTRACTOR SHALL PERFORM NON-DESTRUCTIVE SURFACE EXPLORATION ON ALL EXISTING UTILITIES THAT CROSS THE PROPOSED PIPELINE AND SUBMIT RESULTS TO ENGINEER PRIOR TO ORDERING MATERIALS.
 - APPROVED PIPE TO BE SUBMITTED BY CONTRACTOR AND APPROVED BY ENGINEER.
 - COPPER SLEEVE BE ATTACHED TO THE CABLE END WHERE IT IS TO BE THERMITE WELDED (CADWELDED)
 - MANUFACTURE RECOMMENDATIONS FOR INSTALLATION ARE TO BE FOLLOWED WHEN INSTALLING INDUSTRY STANDARD PERMANENT REFERENCE ELECTRODES.
 - TEST FOR STRAY CURRENT INTERFERENCE PRIOR TO BEGINNING OF CATHODIC PROTECTION.
 - NO GRAVEL IS TO BE USED NEAR ANY PORTION OF THE CATHODIC PROTECTION.

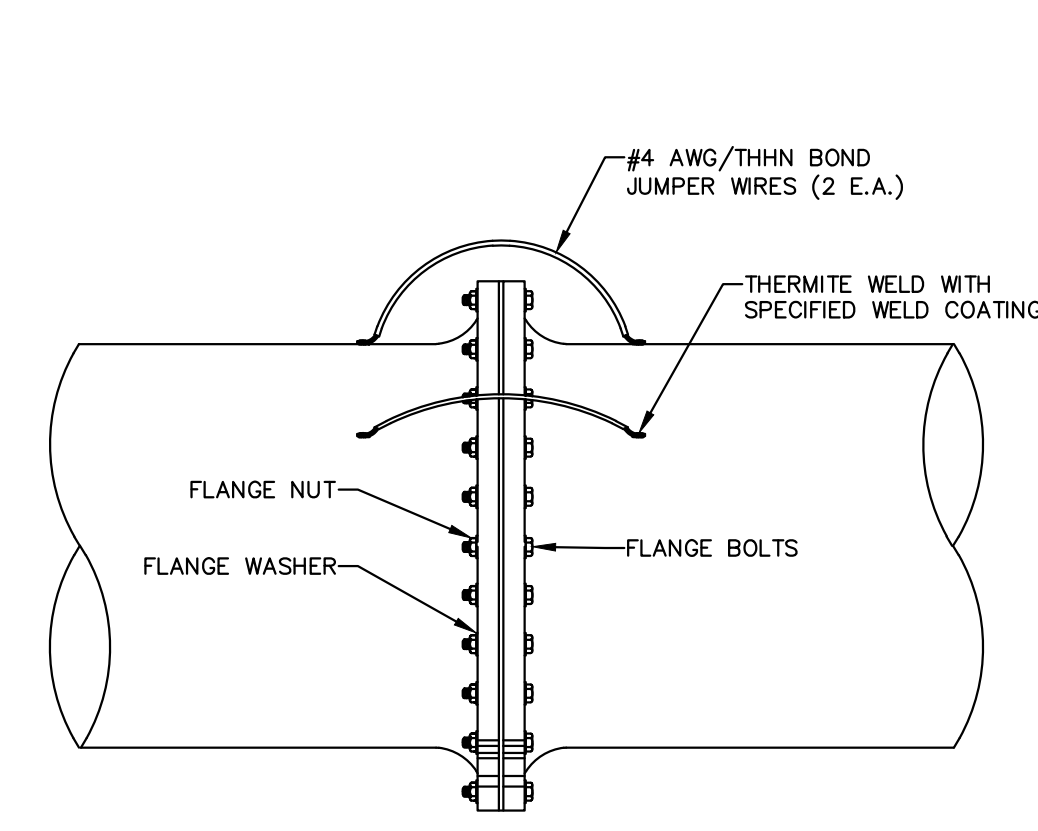
EL PASO WATER UTILITIES NORTE VISTA STREET 24-INCH WATER LINE EXTENSION PHASE II EL PASO, TEXAS TEST STATION SCHEDULE DUCTILE IRON PIPE		EL PASO WATER UTILITIES STAN ROBERTS SR AVENUE DRIVE 24-INCH WATER LINE EXTENSION EL PASO, TEXAS TEST STATION SCHEDULE DUCTILE IRON PIPE			
STATION NO.	DESCRIPTION	TYPE	STATION NO.	DESCRIPTION	TYPE
20+87	TIE-IN TO EXISTING WATERLINE	ITS	5+00	POTENTIAL TEST STATION	PTS
26+00	POTENTIAL TEST STATION	PTS	10+00	POTENTIAL TEST STATION	PTS
31+00	POTENTIAL TEST STATION	PTS	20+00	POTENTIAL TEST STATION	PTS
36+00	POTENTIAL TEST STATION	PTS	30+00	POTENTIAL TEST STATION	PTS
41+00	POTENTIAL TEST STATION	PTS	40+00	POTENTIAL TEST STATION	PTS
46+00	POTENTIAL TEST STATION	PTS	50+00	POTENTIAL TEST STATION	PTS
51+00	POTENTIAL TEST STATION	PTS	60+00	POTENTIAL TEST STATION	PTS
56+00	POTENTIAL TEST STATION	PTS	70+00	POTENTIAL TEST STATION	PTS
61+00	POTENTIAL TEST STATION	PTS	80+00	POTENTIAL TEST STATION	PTS
66+00	POTENTIAL TEST STATION	PTS	90+00	POTENTIAL TEST STATION	PTS
71+00	POTENTIAL TEST STATION	PTS	100+00	POTENTIAL TEST STATION	PTS
76+00	POTENTIAL TEST STATION	PTS	110+00	POTENTIAL TEST STATION	PTS
			120+00	POTENTIAL TEST STATION	PTS
			130+00	POTENTIAL TEST STATION	PTS



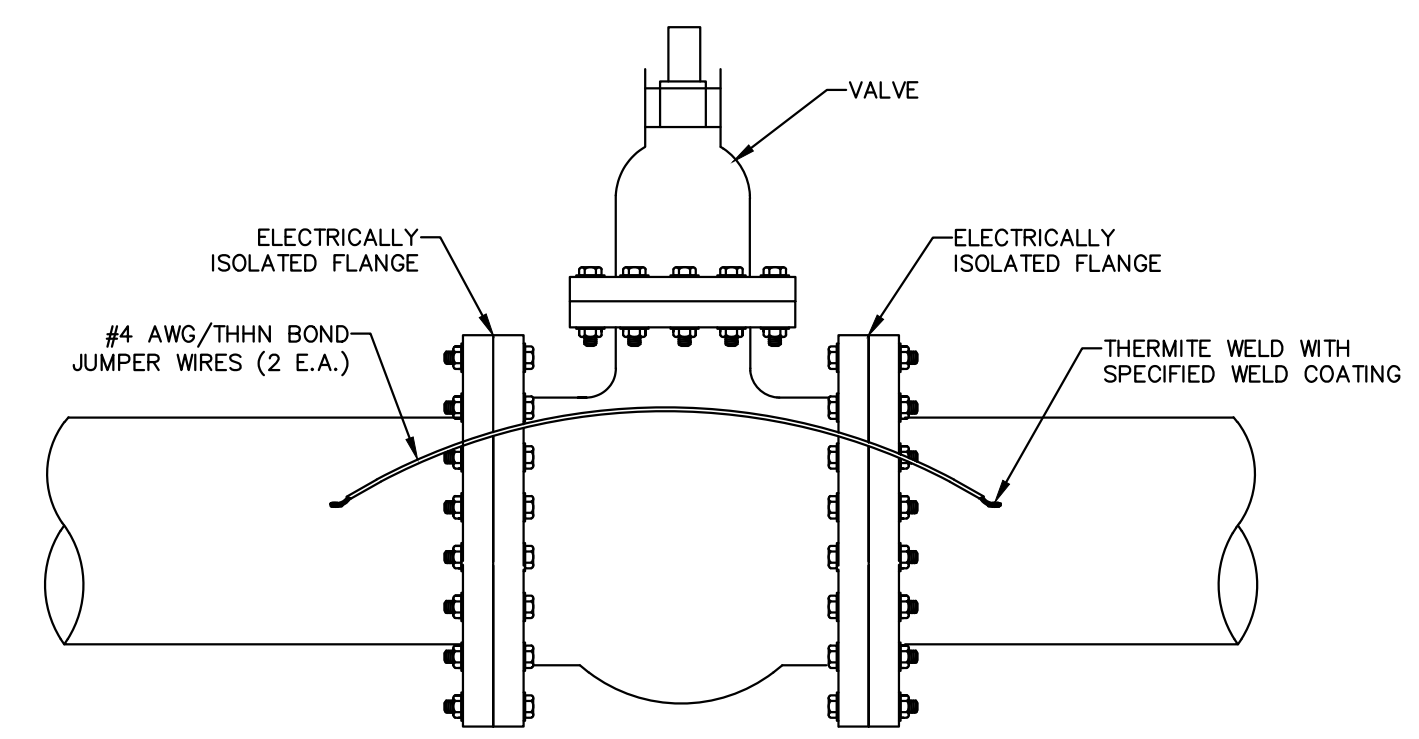
3 FLANGED ISOLATION KIT SCALE: N.T.S.



4 TYPICAL BOND FOR DUCTILE IRON PIPE JOINT SCALE: N.T.S.

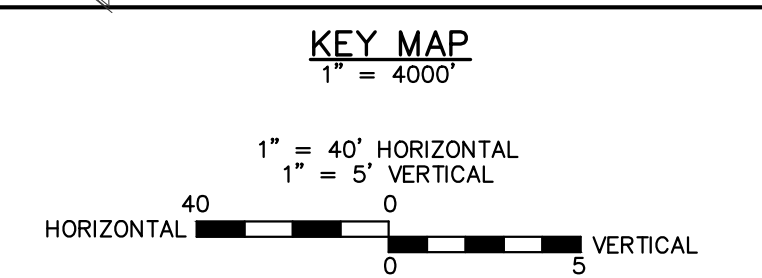


5 TYPICAL FLANGE BOND CONNECTION SCALE: N.T.S.



6 TYPICAL BONDING ACROSS IN-LINE VALVE SCALE: N.T.S.

BENCHMARK:
BASIS OF BEARING IS THE TEXAS STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE, No. 4203, NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), DETERMINED VIA THE EL PASO COUNTY VIRTUAL REFERENCE STATION (V.R.S.) NETWORK. ELEVATIONS AND CONTOURS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88), GEOID 12A AS SHOWN ON THE EL PASO WATER DESIGN PLANS FOR THE NORTHEAST DYER/RAILROAD INTERCEPTOR, DATED SEPTEMBER 2, 2014 BY CEA GROUP, JOB NO. 1040-010-WS.

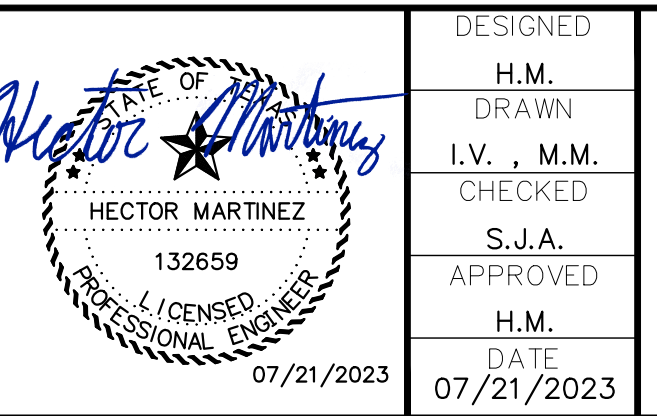


DATE: _____ AREA(S) OF SITE WITH CONTROL: _____

REV.	DATE	BY	DESCRIPTION
Δ	07/21/2023	LV	ADDENDUM #6

UTILITY LOCATOR SERVICES

TIME WARNER COMMUNICATIONS	(915) 775-7415
EL PASO ELECTRIC COMPANY	(915) 877-3400
EL PASO WATER UTILITIES	(915) 594-5500
VERIZON COMMUNICATIONS	(800) 624-9675
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FRANKLIN EAST 24" WATER LINE
EXTENSION PHASE II (NORTE VISTA DR
TO STAN ROBERTS SR. AVE.)

SHEET TITLE: CATHODIC DETAILS

JOB NO. 05970-048C
SEQUENCE NO. C6.1R
SHEET NO. 28 OF 30

11/20/2018 11:20:28 AM S:\P\0410\05970 - EL PASO WATER - FSE ENGINEERING\048C - FRANKLIN EAST WATERLINE EXTENSION PHASE II - DESIGN-CARLOS RAMIREZ TO STAN ROBERTS\DESIGN\C6.1 CATHODIC DETAILS.dwg