



CITY OF PROVIDENCE, RHODE ISLAND

Department: Providence Water

RFP Title: Trinity Square Area Water Main Rehabilitation

Opening Date: 08/15/2023

Addendum #: 3

Issue Date: 08/04/2023

The purpose of this addendum is:

Added attachments, modifications and amendments



ADDENDUM NO. 3

TO: ALL CONTRACT DOCUMENT HOLDERS OF RECORD
ALL PROSPECTIVE BIDDERS

FROM: PROVIDENCE WATER
125 DUPONT DRIVE
PROVIDENCE, RHODE ISLAND 02907
PHONE: (401) 521-6300

DATE ISSUED: WEDNESDAY, AUGUST 2, 2023

RE: TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23

BID OPENING DATE: TUESDAY, AUGUST 15, 2023 AT 2:15 PM

BID OPENING LOCATION: BOARD OF CONTRACT AND SUPPLY MEETING
CITY COUNCIL CHAMBERS
PROVIDENCE CITY HALL
25 DORRANCE STREET
PROVIDENCE, RHODE ISLAND 02903

LAST WRITTEN QUESTIONS DUE: SATURDAY, AUGUST 5, 2023

This Addendum No. 3, including all referenced attachments, modifies, amends, and supplements designated parts of the Contract Documents to the above-referenced project and shall be part of the Contract Documents as provided in the "Instructions to Bidders" for the above-referenced project.

Acknowledge receipt of this Addendum by inserting its number and date on page 00 41 00 – 1 of the Bid Form. Failure to do so may subject the Bidder to disqualification.

The Contract Documents are hereby modified, amended, and supplemented as follows:

ATTACHMENTS

The following attachments are included with this Addendum:

1. Specification Section 004100 – Bid Form (Revised)
2. Updated Contract Drawings (10 Sheets): Sheets C-1, C-3, C-6, C-7, C-9, C-11, C-14, C-18, C-19, and C-21
3. Additional Appendix F Standard Details
 - a. Typical New 2-inch Blowoff Assembly
 - b. Typical New 2-inch Blowoff Assembly (on existing main)
 - c. New 2-inch Wedge Blowoff Assembly (on existing main)
 - d. PWSB Typical Detail Ductile Iron Domestic and Fire Services 4"+ (FS-1)
 - e. PWSB Typical Detail Ductile Iron Domestic and Fire Services 4"+ (FS-2)

ADDENDUM NO. 2

Under **WRITTEN QUESTIONS AND COMMENTS SUBMITTED**, modify the Response to Question No. 8 to the follow (Question 8 repeated):

- 8. QUESTION:** The spec calls for CCTV before and after lining. This is not typical for Providence Water. Is this a typo or a requested change? This will add considerable time and cost.
- RESPONSE:** The pre-lining CCTV requirement is removed by Addendum No. 3.

SPECIFICATIONS

1. **SECTION 004100 – BID FORM: REPLACE** Section 004100 Bid Form (provided in Addendum No. 1) in its entirety with the attached revised Section 004100 – Bid Form (Revised).
2. **SECTION 01025 - MEASUREMENT AND PAYMENT (provided in Addendum No. 1): MODIFY** as follows:
 - a. Page 010125-2, Paragraph 1.04A.1, Line 1, **REMOVE** “4C” and **REPLACE** with “4B”.
 - b. Page 010125-2, Paragraph 1.04B.1, Line 4, **REMOVE** “Item 4C” and **REPLACE** with “Items 4A and 4B”.
 - c. Page 010125-4, Paragraph 1.05 B.1, Line 15, **DELETE** the words “traffic control as specified in Section 01576;”

- d. Page 010125-6, Paragraph 1.09, **REMOVE** “(ITEMS 9A THRU 9D)” and **REPLACE** with “(ITEM 9)”.
- e. Page 010125-6, Paragraph 1.09.A.1, Line 2, **REMOVE** “(Items 9A and 9B)” and **REPLACE** with “(Item 9)”.
- f. Page 010125-6, Paragraph 1.09.B.1, Line 2, **REMOVE** “Items 9A and 9B” and **REPLACE** with “Item 9”.
- g. Page 010125-7, Paragraph 1.09.B.2, Line 2, **REMOVE** “shall be made under Items 1A and 1B” and **REPLACE** with the words “shall be made for the relevant mainline pipe size under Items 1B, 1C, 1D and 1E”.
- h. Page 010125-9, Paragraph 1.14.B.1, Line 3, **DELETE** the words “traffic control, traffic signage; traffic flaggers”
- i. Page 010250-10, Paragraph 1.15.B.1, Line 5, **DELETE** the words “traffic control, traffic signage; traffic flaggers”.
- j. Page 010125-12, Paragraph 1.19 B.1, Line 1, **DELETE** the words “uniformed traffic control Police officers” and **REPLACE** with “traffic control Flaggers”.
- k. Page 01025-13, Paragraph 1.19 C.1.a, Line 3, **DELETE** the words “shall be paid separately, as identified in other bid items” and **REPLACE** with “shall be paid under the applicable bid items of work to perform the overall contract work (with the exception of this item and Police Details that will be paid under Item 20).”.
- l. Page 01025-13, Paragraph 1.20 C.1.a, Line 3, **DELETE** the words “shall be paid separately, as identified in other bid items” and **REPLACE** with “shall be paid under the applicable bid items of work to perform the overall contract work (with the exception of this item and Flaggers that will be paid under Item 19).”.
- m. Page 01025-14, Paragraph 1.23, **REVISE** title of Item to ““DIG DOWN” SERVICE ACCESS FOR BUILDING ENTRY REFUSAL AND BYPASS CONNECTION AT CURB STOP OR BLOW BACK OF CNU COPPER SERVICES”.
- n. Page 01025-15, Paragraph 1.23 A., **ADD** the follow new paragraph A.2:
 - “2. An excavation for a Blow Back of CNU Copper Services may be necessary as directed and approved by the Owner. Measurement for Blow Back of CNU Copper Services shall be at actual number of service connections performed in the field to complete the work.”

- o. Page 01025-15, Paragraph 1.23 B.1., Line 3, after the word “underground”, **ADD** the words “or to access the Copper CNU service for a blow back of the service after the cement lining of the mainline pipe is completed”.
 - p. Page 01025-15, Paragraph 1.23 B.1., Line 15, after the word “specifications,”, **ADD** the words “return the service to its original function,”.
3. **SECTION 02656 – TEMPORARY SERVICES:** Page 02656-1, after Paragraph 1.01.G, **ADD** the following new paragraph:
- “ H. Temporary bypass piping is required for all work areas where property water services along any water main will be out of service for more than one 8-hour period. ”
4. **SECTION 02656 – TEMPORARY SERVICES:** Page 02656-3, Paragraph 3.01 B., Line 14, **DELETE** the words “This shall be accomplished at no cost to the Owner.”.
5. **SECTION 02760 – CLEANING AND LINING WATER MAINS [page 02760-3]: DELETE** Paragraph 1.06.B through Paragraph 1.06.G in its entirety.
6. **APPENDIX F – TYPICAL CONSTRUCTION DETAILS: ADD** the details in Attachment 3 as
- 38. Typical New 2-inch Blowoff Assembly
 - 39. Typical New 2-inch Blowoff Assembly (on existing main)
 - 40. New 2-inch Wedge Blowoff Assembly (on existing main)
 - 41. PWSB Typical Detail Ductile Iron Domestic and Fire Services 4”+ (FS-1)
 - 42. PWSB Typical Detail Ductile Iron Domestic and Fire Services 4”+ (FS-2)

DRAWINGS

1. **SHEET C-1, C-3, C-6, C-7, C-9, C-11, C-14, C-18, C-19, AND C-21: MODIFY** as shown in the attached drawings (10) included in the Addendum. Clouds in the drawings indicate modifications.

WRITTEN QUESTIONS AND COMMENTS SUBMITTED

All questions asked during the pre-bid conference meeting are documented with responses provided in the pre-bid conference meeting report that is included with Addenda No. 2 and No. 3. The follow additional questions were also received.

1. **QUESTION:** On the bid form, each page has a subtotal for pages 1-8, and page nine's total is only the police detail. But the "TOTAL BASE BID PRICE (Items 1-18" excludes both traffic control allowances and would then void the "Subtotal Page 00 41 00-8" which includes item 19. Please clarify.

RESPONSE: The Bid Form (Revised) is attached to this Addendum No. 3 corrections the Total Base Bid to include Items 1 through 20.

2. **QUESTION:** Do we get paid for the short DIP nipples in each access pit under the lining item or the DIP item?

RESPONSE: Please review Specification Section 01025 Measurement and Payment. Payment for pipe replacement, fitting, and jointing for access pits required for cleaning and lining at new pipe openings not already shown on the Drawings shall be included in the price item by pipe size for cleaning and lining.

3. **QUESTION:** There are no bid items for 16" or 30" DIP. Can you please add these items to the bid sheet.

RESPONSE: PWSB is not proceeding with the work shown on the Drawings that requires pipe segment replacements of 16-, 20-, and 30-inch pipe. Updated drawings are included as Attachment 3 to this Addendum No. 3.

4. **QUESTION:** Why is there no bypass bid items? This isn't fair to the contractor. Too many changes take place based on field conditions to not have a linear foot price for each diameter of temporary bypass piping. To further clarify on question No. 9, if a lump sum item is being used for the bypass, then we need a proposed layout so if changes occur, we can adjust the price accordingly. I still believe a linear foot unit price is the only way to handle the bypass on this project. Also, can you clarify that bypass is only necessary on streets being cleaned and lined.

RESPONSE: Section 02656 Temporary Services requires the Contractor to submit a Temporary Bypass Plan to PWSB and/or Designee. Development guidelines for the temporary bypass plan are included in this specification section (Paragraph 2.01 A.6). All property fire service shall be connected by temporary bypass piping of the same size as the fire service.

Temporary bypass piping is required for all work areas where property water services along any water main that will be out of service for more than one 8-hour period.

5. **QUESTION:** Item 15 01025-10 1.16 8" Concrete Sub base – It doesn't indicate that any drilling or pinning is required for the concrete preparation. Do we need to include it in our pricing?

RESPONSE: The section and paragraph referenced include the words "connection of the reinforcement to the existing concrete"; elsewhere the specification states that the work shall be in accordance with Appendix E, which includes details for City of Providence or State road standards, which shows the standards for integration of the new concrete subbase with the existing concrete subbase.

6. **QUESTION:** Do we excavate and blow back copper CNU shown on drawings but not being removed?

RESPONSE: Yes, copper CNUs will be blown back as directed on a case-by-case basis as approved by PSWB. The response has been corrected in the Pre-Bid Report with this addendum. This item will be paid for under Item S-3 of Section 004100 Bid Form, which has also been corrected (see response to Question 7).

7. **QUESTION:** Bid item S-3 is for building entry refusal. Price is set for \$2,000.00. On 02656-3 3.01 installation B it states that after failed attempts to gain access to meter, contractor to dig at curb stop at our expense. Which is it? The bid item makes more sense since we have no idea how many times this will occur.

RESPONSE: The words "This shall be accomplished at no cost to the Owner" are deleted from Paragraph 3.01B in Section 02656 per this Addendum. Bid Item S-3 in the revised Bid Form (Section 004100 attached to this Addendum) is renamed as ""DIG DOWN" SERVICE ACCESS FOR BUILDING ENTRY REFUSAL FOR BYPASS CONNECTION AT CURB STOP OR BLOWBACK OF CNU COPPER SERVICES" to address this situation. Addendum No. 3 addresses these updates.

8. **QUESTION:** Page 01025-7 1.10 Lead CNU – Contract states that remove or cap corp at the water main and cut and crimp lead service and remove upper section of curb box. How do we get paid if we dig on 3' of each side of the water main service markout and nothing is there? In the past, there has been a dry hold bid item for inaccurate markouts. Please advise.

RESPONSE: Bid Item 13 Test Pits covers this situation.

9. **QUESTION:** If a layout for the bypass is not provided, and item remains lump sum instated of linear foot bid items by diameter, how will we know what the guidelines are for installing 6" bypass instead of 4"? How do we get paid for additional bypass we didn't anticipate at bid time?

RESPONSE: Please see response to Question 4.

10. QUESTION: The fire hydrant bid item off of the 16" & 30" needs to have separate bid items. It's a much high cost than hydrants off of smaller diameter water mains.

RESPONSE: Replacement of anchor tees on 16- and 30-inch pipe has been eliminated from this contract. Please see Response to Question 3 and the Revised Bid Form included in this Addendum.

11. QUESTION: We need a bid item for a 30" stub removal.

RESPONSE: Please see Response to Question 3. Stub removals on 16- and 30-inch pipe will only entail the installation of a cap on the existing tee and plugging of the existing service pipe; to be included in the cost of the cap under Item 2.

12. QUESTION: What do we do with CNU's that are copper?

RESPONSE: Please see Response to Question 6.

13. QUESTION: Since the bid items include the bypass as a lump sum, Layout and cost are on the contractor. Could you please get me a copy of the distribution map for the project area? As this contract will have multiple Phases, the Distribution map would be a huge help in developing the phases, and the bypass for each phase.

RESPONSE: Addendum No. 2 includes the distribution map as an attachment.

14. QUESTION: There are several locations that call for removal of 30 inch tees for sidelines, and installation of 30 inch tees for hydrants (C-1 & C-7), but the bid items only pay for 6, 8, 10, and 12 inch Ductile Iron pipe. There is no item for 16, 20, or 30 inch Ductile Iron Pipe. Please clarify how the contractor is to be reimbursed for the work to install these short segments.

RESPONSE: Please see Response to Question 3.

15. QUESTION: On Plain Street (sheet C-9 and C-14) there are several items that need clarification.

a. On sheet C-9, the 10 inch main from Emmett St to Frank St is labeled as CI, then as DI, and again as CI. Is this a typographical error? If there is a transition from cast, to ductile, and back to cast, are the extents known? Or will the contractor be responsible to determine the limits of Cleaning and lining of the Cast iron segments?

RESPONSE: See the Contract Drawings in Attachment No. 3 of this Addendum.

b. On Plain Street the Main transitions from 10 inch at Frank to 12 inch at Oldham / Borden intersection. Is there in fact a reducer along that extent? Is the location known, or is the contractor responsible for determining the location?

RESPONSE: See the Contract Drawings in Attachment No. 3 of this Addendum.

- c. At the intersection of the main on Plain Street with the 20 inch Main on Oldham, is the 20 inch being connected to the 12 inch (or 10 inch) and the 6 inch on Oldham? The work callouts do not show a 20 inch cross, or tees being installed. Please clarify exactly what is happening in this intersection.

RESPONSE: This work was revised. See the attached updated Contract Drawing sheets.

- 16. QUESTION:** Does the lumps sum bypass bid item No. 11 only include the bypass required for cleaning and lining?

RESPONSE: Please see Response to Question 4.

- 17. QUESTION:** There are fire hydrant tie ins on 16", 20", and 30" water mains. Will these mains require bypass while shut down and if so what size?

RESPONSE: Please see Response to Question 3.

- 18. QUESTION:** C Test by Contractor Page 02760-3 Para 1.06-C – The contractor needs to know how many test pits will be required.

RESPONSE: C-Value Testing will not be required for this project. The specification section was updated in Addendum No. 3.

- 19. QUESTION:** Please see the attached two diversity pages. Please confirm that they do not need to be submitted with the bid. I don't think they do but please confirm.

RESPONSE: These forms do not need to be submitted with the bid. Refer to Section 001000 BOCS RFP and Section 002113 Instructions to Bidder for bid requirements.

- 20. QUESTION:** I see that you have checked off that we need professional liability insurance. This doesn't seem like it would be in our scope. We are not design engineers and I have never seen this required on a construction contract. Please advise. If you add up all the general liability limits it equals 4/12. This is very uncommon. I have ½ GL with a 9m umbrella which is very common as it gives 10mm per occurrence and 10mm aggregate coverage. This should be a sufficient amount of coverage. Please advise.

RESPONSE: Professional Liability Insurance is for coverage of any professional services that the Contractor may need in order to perform the work of the Contract.

- 21. QUESTION:** When the spec says two copies, does that mean an original and one copy or an original and two copies? Please clarify.

RESPONSE: One original and one copy is acceptable.

22. QUESTION: The paving items, (14 A through 14 D and item 15) include traffic Control, Signage, And Flaggers. Is this intentional, or will the flaggers be paid for under the Flagger item 19?

RESPONSE: Traffic Control Flaggers will be paid for under Bid Item 19. All traffic control, with the exception of Flaggers (Item 19) and Police Details (Item 20), shall be paid under the applicable bid items of work to perform the overall contract work. The Specifications were modified in Addendum No. 3.

23. QUESTION: The bid form, page 00 41 00 – 9 asks for the subtotals for pages 2-9, but the Total Base Bid Price is not the sum of pages 2-9, it is the sum of Items 1 through 18, excluding police and flaggers. Please confirm that is the intent.

RESPONSE: See Response to Question 1.

24. QUESTION: With the new bid date of 8/15/23, will the final completion date be pushed back from 7/1/23?

RESPONSE: Final Completion of the project will remain as 7/1/24.

25. QUESTION: In the pre-bid meeting report it states the contractor will be directed to blow back copper CNU's on a case by case basis. We counted 55 copper CNU's. How do we blow them back? How do we get paid? Where do we dig the pits, in the street or sidewalk? What if curb box can't be found? Blowing back 55 services which require excavations to do so, is far too big of an expense to not have a bid item for the work. Please advise.

RESPONSE: See the Response to Question 7.

26. QUESTION: In the questions 2 response, it states to review section 01025 paragraph 1.04B. That section only mentions the branch pipe. Is it safe to assume that the branch pipe means the lateral and that will in fact be paid for the mainline pipe on each side of the hydrant tee?

RESPONSE: Branch piping is not located on the mainline pipe on each side of the tee. On pipe 12-inch and smaller payment in Items 4A and 4B are for the anchor tee and all pipe, fittings, valve, and all work associated with installing and restraining the hydrant assembly to the anchor tee. On 16-inch and 30-inch, Items 4A and 4B are for the pipe, adapters, valve, fittings and all work associated with installing and restraining the hydrant assembly to the existing tee.

27. QUESTION: Your response to question 10 states that we will be responsible for capping or plugging the tees only and not removing them. Just to clarify, on sheet C-1 Westminster St. @ #7000, do we cap the 30" tee or remove it? Still on Westminster St on the 16" main between #700 & #674, do we cap the 16" tee or remove it? On C-18 Blackstone St. @ #344 on the 16" main, do we cap the tee or remove it? We just want to be clear on those.

RESPONSE: See the Response to Question 11.

28. QUESTION: Just to clarify, on the streets where we are removing large and small CNU's and installing hydrants, there is no bypass piping required. It's a lump sum bypass item with no provisions for this type of work. Please advise.

RESPONSE: Please see the Response to Question 4.

29. QUESTION: Your response to question #9 states that laterals over 10' long will be 8" in diameter. This doesn't make much sense to us. For example, on Sheet C-3 on Fricker Street @hydrant P1472, the 6" hydrant lateral is 20' long. Will the contractor be expected to install a 6"x6"x6" tee, 6" gate valve, 6"x8" reducer, 20' of 8" DIP pipe, back into another 6"x8" reducer, only to connect back into the 6" MJ on the fire hydrant? I assume this is only for mains 8" and great. Please clarify this is what is to be expected.

RESPONSE: See the updated Contract Drawings in Attachment No. 3 of Addendum No. 3.

30. QUESTION: In Section 01025-7 "payment for cast iron CNU's for 6" and 8"" are paid under Item 1A and 1B. How do we get paid for removing the CNU's on 10", 16", 20", and 30" pipe? There is no bid item.

RESPONSE: Paragraph 1.09.B.2 on Page 01025-7 was updated in this Addendum for 4" and 6" CI CNU service removals on 6", 8", 10" and 12" mainline pipe. With regard to CI CNU removals on 16-, 20-, and 30-inch pipe, please see the Response to Question 3.

-END OF ADDENDUM NO. 3-

Attachment 1
Revised Bid Form



**BID FORM
TO
PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

This Bid is submitted to the City of Providence, Board of Contract and Supply, Department of the City Clerk, Room 311, Providence City Hall, 25 Dorrance Street, Providence, Rhode Island 02903.

The undersigned declares that the only persons or parties interested in this Bid as principals are as stated; that the Bid is made without any collusion with other persons, firms, or corporations; that all the Contract Documents dated June 2023 have been carefully examined; that the undersigned is fully informed in regard to all conditions pertaining to the Work and the places where it is to be done, and from them the undersigned makes this Bid. These prices shall cover all expenses incurred in performing the Work required under the Contract Documents, of which this Bid Form is a part.

If a Notice of Award accompanied by unsigned copies of the Agreement and all other applicable Contract Documents is delivered to the undersigned after the actual date of the opening of the Bids, the undersigned, in accordance with the Standard General Conditions of the Construction Contract as amended and/or modified by the Supplementary Conditions, will execute and return all copies of the Agreement and all other applicable Contract Documents to Owner. The premiums for all Bonds and Insurance required shall be paid by Contractor and shall be included in the Contract Prices. The undersigned Bidder further agrees that the Bid Security accompanying this Bid shall become the property of Owner if the Bidder fails to execute the Agreement as stated above.

The undersigned hereby agrees to fully complete the Work within the times specified in the Contract Documents and in the Agreement.

The undersigned acknowledges receipt of addenda numbered:

In accordance with the above understanding, the undersigned proposes to perform the Work, furnish all materials and complete the Work in its entirety in the manner and under the conditions required at the prices listed as follows:

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
BASE BID**

<u>ITEM NO.</u>	<u>ESTIMATED QUANTITY</u>	<u>BRIEF DESCRIPTION OF ITEMS WITH UNIT BID PRICE IN WORDS</u>	<u>UNIT BID PRICE IN FIGURES</u>	<u>AMOUNT IN FIGURES</u>
1A	500 LF	Furnish and Install 4-inch D.I. Water Main _____	\$ _____	\$ _____
		per linear foot		
1B	7,500 LF	Furnish and Install 6-inch D.I. Water Main _____	\$ _____	\$ _____
		per linear foot		
1C	1,400 LF	Furnish and Install 8-inch D.I. Water Main _____	\$ _____	\$ _____
		per linear foot		
1D	500 LF	Furnish and Install 10-inch D.I. Water Main _____	\$ _____	\$ _____
		per linear foot		
1E	1,100 LF	Furnish and Install 12-inch D.I. Water Main _____	\$ _____	\$ _____
		per linear foot		
2	60,000 LBS	Furnish and Install D.I. Pipe Fittings _____	\$ _____	\$ _____
		per pound		
3A	17 EA	Furnish and Install 4-inch Gate Valve _____	\$ _____	\$ _____
		each		
3B	191 EA	Furnish and Install 6-inch Gate Valve _____	\$ _____	\$ _____
		each		
Subtotal Page 00 41 00-2			\$ _____	\$ _____

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
BASE BID**

ITEM NO.	ESTIMATED QUANTITY	BRIEF DESCRIPTION OF ITEMS WITH UNIT BID PRICE IN WORDS	UNIT BID PRICE IN FIGURES	AMOUNT IN FIGURES
3C	27 EA	Furnish and Install 8-inch Gate Valve _____	\$ _____	\$ _____
		each		
3D	9 EA	Furnish and Install 10-inch Gate Valve _____	\$ _____	\$ _____
		each		
3E	23 EA	Furnish and Install 12-inch Gate Valve _____	\$ _____	\$ _____
		each		
4A	88 EA	Furnish and Install New Hydrant Assembly, 6" Branch _____	\$ _____	\$ _____
		each		
4B	18 EA	Furnish and Install New Hydrant Assembly, 8" Branch _____	\$ _____	\$ _____
		each		
5A	40,000 LF	Cleaning and Lining Existing 6" C.I. Water Main (including the removal of existing 6" valves and appurtenances during the cleaning and lining process) _____	\$ _____	\$ _____
		per linear foot		
Subtotal Page 00 41 00-3			\$ _____	\$ _____

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
BASE BID**

<u>ITEM NO.</u>	<u>ESTIMATED QUANTITY</u>	<u>BRIEF DESCRIPTION OF ITEMS WITH UNIT BID PRICE IN WORDS</u>	<u>UNIT BID PRICE IN FIGURES</u>	<u>AMOUNT IN FIGURES</u>
5B	6,000 LF	Cleaning and Lining Existing 8" C.I. Water Main (including the removal of existing 8" valves and appurtenances during the cleaning and lining process)	\$	\$
		per linear foot		
5C	1,300 LF	Cleaning and Lining Existing 10" C.I. Water Main (including the removal of existing 10" valves and appurtenances during the cleaning and lining process)	\$	\$
		per linear foot		
5D	4,000 LF	Cleaning and Lining Existing 12" C.I. Water Main (including the removal of existing 12" valves and appurtenances during the cleaning and lining process)	\$	\$
		per linear foot		
6A	1 EA	Reconnect Existing 3/4" Copper Water Service	\$	\$
		each		
6B	4 EA	Reconnect Existing 1" Copper Water Service	\$	\$
		each		
6C	1 EA	Reconnect Existing 2" HDPE Water Service	\$	\$
		each		
Subtotal Page 00 41 00-4			\$	\$

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
BASE BID**

<u>ITEM NO.</u>	<u>ESTIMATED QUANTITY</u>	<u>BRIEF DESCRIPTION OF ITEMS WITH UNIT BID PRICE IN WORDS</u>	<u>UNIT BID PRICE IN FIGURES</u>	<u>AMOUNT IN FIGURES</u>
6D	4 EA	Reconnect Existing 2" Copper Water Service each	\$ _____	\$ _____
6E	6 EA	Reconnect Existing 1" Water Service each	\$ _____	\$ _____
7A	60 LF	Furnish and Install 2" Copper Tubing for Water Service per linear foot	\$ _____	\$ _____
7B	3 EA	Furnish and Install 2" Corporation Stop, Service Saddle, Curb Stop, and Service Box each	\$ _____	\$ _____
8	2 EA	Furnish and Install 2" Blowoff Assembly each	\$ _____	\$ _____
9	4 EA	2" Cast Iron CNU Service Removal each	\$ _____	\$ _____
10	335 EA	Lead CNU Service Removal each	\$ _____	\$ _____
Subtotal Page 00 41 00-5			\$ _____	\$ _____

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
BASE BID**

<u>ITEM NO.</u>	<u>ESTIMATED QUANTITY</u>	<u>BRIEF DESCRIPTION OF ITEMS WITH UNIT BID PRICE IN WORDS</u>	<u>UNIT BID PRICE IN FIGURES</u>	<u>AMOUNT IN FIGURES</u>
11	Lump Sum	Temporary By-Pass Piping System (2- , 4-, and 6-inch)		
		_____	\$ _____	\$ _____
		Lump Sum		
12A	100 CY	Gravel Borrow		
		_____	\$ _____	\$ _____
		per cubic yard		
12B	100 CY	Common Fill		
		_____	\$ _____	\$ _____
		per cubic yard		
12C	100 CY	Crushed Stone		
		_____	\$ _____	\$ _____
		per cubic yard		
13	200 CY	Test Pits		
		_____	\$ _____	\$ _____
		per cubic yard		
14A	770 SY	Furnish and Place Temporary Bituminous Sidewalk - 2"		
		_____	\$ _____	\$ _____
		per square yard		
14B	4,700 SY	Furnish and Place Street Pavement - 4" Permanent Bituminous		
		_____	\$ _____	\$ _____
		per square yard		
Subtotal Page 00 41 00-6			\$ _____	\$ _____

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
BASE BID**

<u>ITEM NO.</u>	<u>ESTIMATED QUANTITY</u>	<u>BRIEF DESCRIPTION OF ITEMS WITH UNIT BID PRICE IN WORDS</u>	<u>UNIT BID PRICE IN FIGURES</u>	<u>AMOUNT IN FIGURES</u>
14C	1,100 SY	Furnish and Place Street Pavement - 6" Permanent Bituminous		
		_____	\$ _____	\$ _____
		per square yard		
14D	200 SY	Furnish and Place Street Pavement - 9" Permanent Bituminous		
		_____	\$ _____	\$ _____
		per square yard		
15	1,100 SY	Furnish and Place 8" Concrete Base		
		_____	\$ _____	\$ _____
		per square yard		
16	117,000 SY	Mill and Overlay Bituminous Pavement Restoration (2" Depth) (Permanent)		
		_____	\$ _____	\$ _____
		per square yard		
17A	330 SY	Bituminous Sidewalk (Driveway) Restoration - 3"		
		_____	\$ _____	\$ _____
		per square yard		
17B	770 SY	Concrete Sidewalk Restoration		
		_____	\$ _____	\$ _____
		per square yard		
17C	100 SY	Concrete Sidewalk and Driveway Restoration -		
		_____	\$ _____	\$ _____
		per square yard		
Subtotal Page 00 41 00-7			\$ _____	\$ _____

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
BASE BID**

<u>ITEM NO.</u>	<u>ESTIMATED QUANTITY</u>	<u>BRIEF DESCRIPTION OF ITEMS WITH UNIT BID PRICE IN WORDS</u>	<u>UNIT BID PRICE IN FIGURES</u>	<u>AMOUNT IN FIGURES</u>
17D	100 SY	Concrete Wheelchair Ramps Restoration		
		_____	\$ _____	\$ _____
		per square yard		
18A	20 LF	Furnish and Install Granite Curbing (Vertical Face)		
		_____	\$ _____	\$ _____
		per linear foot		
18B	20 LF	Furnish and Install Precast Concrete Curbing (Vertical Face)		
		_____	\$ _____	\$ _____
		per linear foot		
18C	20 LF	Furnish and Install Bituminous Curbing (Vertical Face)		
		_____	\$ _____	\$ _____
		per linear foot		
18D	20 LF	Cast-in-Place Concrete Curbing		
		_____	\$ _____	\$ _____
		per linear foot		
18E	690 LF	Remove and Reset Existing Granite Curbing		
		_____	\$ _____	\$ _____
		per linear foot		
19	\$ 900,000.00 ALLOWANCE	Traffic Control - Flaggers		
		Nine hundred thousand dollars and zero cents	\$ 900,000.00	\$ 900,000.00
		_____ allowance		
		Subtotal Page 00 41 00-8	\$ _____	\$ _____

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
BASE BID**

<u>ITEM NO.</u>	<u>ESTIMATED QUANTITY</u>	<u>BRIEF DESCRIPTION OF ITEMS WITH UNIT BID PRICE IN WORDS</u>	<u>UNIT BID PRICE IN FIGURES</u>	<u>AMOUNT IN FIGURES</u>
20	\$ 900,000.00 ALLOWANCE	Traffic Control - Police Details Nine hundred thousand dollars and zero cents allowance	\$ 900,000.00	\$ 900,000.00
Subtotal Page 00 41 00-9			\$ _____	\$ _____
 TOTAL BASE BID PRICE (Items 1-20)				
Subtotal Page 00 41 00-2			\$ _____	\$ _____
Subtotal Page 00 41 00-3			\$ _____	\$ _____
Subtotal Page 00 41 00-4			\$ _____	\$ _____
Subtotal Page 00 41 00-5			\$ _____	\$ _____
Subtotal Page 00 41 00-6			\$ _____	\$ _____
Subtotal Page 00 41 00-7			\$ _____	\$ _____
Subtotal Page 00 41 00-8			\$ _____	\$ _____
Subtotal Page 00 41 00-9			\$ _____	\$ _____
 TOTAL BASE BID PRICE (Items 1-20)				
_____			\$	_____
Total Base Bid Price WRITTEN (Items 1-20)			Total Base Bid Price (Figures)	

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
SUPPLEMENTAL UNIT PRICES**

S-1A	Furnish and Install 1" Copper Tubing for Water Service	
	per linear foot (written)	\$ per linear foot (figures)
S-1B	Furnish and Install 1.5" Copper Tubing for Water Service	
	per linear foot (written)	\$ per linear foot (figures)
S-1C	Furnish and Install 1" Corporation Stop, Service Saddle, Curb Stop, and Service Box	
	each (written)	\$ each (figures)
S-1D	Furnish and Install 1.5" Corporation Stop, Service Saddle, Curb Stop, and Service Box	
	each (written)	\$ each (figures)
S-2	Obstructions (associated with the Cleaning and Lining Operations for the 6", 8", 10", and 12" water main above)	
	each (written)	per each (figures)
S-3	"Dig Down" Service Access for Building Entry Refusal for Bypass Connection at Curb Stop or Blowback for CNU Copper Services	
	Two thousand dollars and zero cents each (written)	\$2,000.00 per each (figures)
S-4A	Furnish and Install 6-inch Single Line Stop Device	
	each (written)	\$ per each (figures)
S-4B	Furnish and Install 8-inch Single Line Stop Device	
	each (written)	\$ per each (figures)

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
SUPPLEMENTAL UNIT PRICES**

S-4C	Furnish and Install 10-inch Single Line Stop Device	\$
	each (written)	per each (figures)
S-4D	Furnish and Install 12-inch Single Line Stop Device	\$
	each (written)	per each (figures)
S-5A	Furnish and Install 6-inch Insertion Valve	\$
	each (written)	per each (figures)
S-5B	Furnish and Install 8-inch Insertion Valve	\$
	each (written)	per each (figures)
S-5C	Furnish and Install 10-inch Insertion Valve	\$
	each (written)	per each (figures)
S-5D	Furnish and Install 12-inch Insertion Valve	\$
	each (written)	per each (figures)
S-6A	Flowable Fill	\$
	per cubic yard (written)	per cubic yard (figures)
S-6B	Miscellaneous Concrete	\$
	per cubic yard (written)	per cubic yard (figures)

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**BID FORM
SUPPLEMENTAL UNIT PRICES**

S-7	Trench Rock Excavation and Removal		
	Two hundred fifty dollars and zero cents	\$250.00	
	per cubic yard (written)		per cubic yard (figures)
S-8A	Brick/Paver Restoration		
		\$	
	per square yard		per square yard (figures)
S-8B	Cobblestone Restoration		
		\$	
	per square yard		per square yard (figures)
S-9	Infrared Bituminous Pavement Restoration		
		\$	
	per square yard		per square yard (figures)

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**LABOR RATES
for ADDITIONAL WORK not specified above**

Labor Rates per hour - Includes insurance, fringes, and overhead (Submission of Certified Payrolls required)

Use additional sheets if necessary

A	Classification	\$	
			Standard Rate per hour
		\$	
			Overtime Rate per hour
B	Classification	\$	
			Standard Rate per hour
		\$	
			Overtime Rate per hour
C	Classification	\$	
			Standard Rate per hour
		\$	
			Overtime Rate per hour
D	Classification	\$	
			Standard Rate per hour
		\$	
			Overtime Rate per hour
E	Classification	\$	
			Standard Rate per hour
		\$	
			Overtime Rate per hour
F	Classification	\$	
			Standard Rate per hour
		\$	
			Overtime Rate per hour
G	Classification	\$	
			Standard Rate per hour
		\$	
			Overtime Rate per hour

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**EQUIPMENT RATES
for ADDITIONAL WORK not specified above**

Use additional sheets if necessary

A	Type	Make	Year	\$	Rate per hour
B	Type	Make	Year	\$	Rate per hour
C	Type	Make	Year	\$	Rate per hour
D	Type	Make	Year	\$	Rate per hour
E	Type	Make	Year	\$	Rate per hour
F	Type	Make	Year	\$	Rate per hour
G	Type	Make	Year	\$	Rate per hour
H	Type	Make	Year	\$	Rate per hour
I	Type	Make	Year	\$	Rate per hour
J	Type	Make	Year	\$	Rate per hour
K	Type	Make	Year	\$	Rate per hour

**PROVIDENCE WATER
TRINITY SQUARE AREA WATER MAIN REHABILITATION
CONTRACT NO. 8-23**

**MATERIALS & SUBCONTRACTOR COST MARKUP
for ADDITIONAL WORK not specified above**

M-1 Materials Cost Markup Percentage
Contractor's Cost plus
(Submission of Original Invoices required)

Percentage (Written)

Percentage (Figures)

M-2 Subcontractor Cost Markup Percentage
Contractor's Cost plus
(Submission of Original Invoices required)

Percentage (Written)

Percentage (Figures)

The undersigned agrees that extra work, if any, will be performed in accordance with Article 10 of the Conditions of the Contract and will be paid for in accordance with Article 11 of the Conditions of the Contract.

The undersigned agrees to furnish Performance and Payment Bonds as specified with a surety company acceptable to the Owner.

Amounts shall be shown in both words and figures, where indicated. In case of discrepancy, the amount shown in words will govern.

The above prices shall include all labor, materials, bailing, shoring, removal, overhead, profit, insurance and incidentals required to complete the Work.

This project is subject to the Davis-Bacon Prevailing Wage Requirements, Federal Wage Rates, American Iron and Steel Requirements, Build America, Buy America (BABA) Requirements, EPA DBE Requirements, EPA Debarment and Suspension Requirements, EPA Prohibition on Certain Telecommunication and Video Surveillance Requirements, and Rhode Island MBE Utilization Requirements.

The undersigned acknowledges that (1) they have examined the Contract Documents thoroughly, including all the requirements specified in the Request For Proposals, Invitation to Bid and Instructions to Bidders; (2) they have had the opportunity to visit the site(s) to become familiar with local conditions that may in any manner affect cost, progress or performance of the Work; (3) they are familiar with all Federal, State and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (4) they have studied and carefully correlated Bidder's observations with the requirements of the Contract Documents.

The undersigned acknowledges that they have had the opportunity to make additional investigations and tests as they may deem necessary to determine their Bid for performance of the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

The undersigned agrees that the submission of this Bid is an incontrovertible representation that the Bidder has complied with every requirement of this Article and these Contract Documents; that no additional examinations, investigations, explorations, studies, or tests are needed; that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work; and that the Bidder provided written notice of any conflict, error, ambiguity, and/or discrepancy in the Contract Documents and that Owner's written resolution by formal written Addenda is acceptable to the Bidder.

The undersigned acknowledges that they have submitted the following with this Bid and with their Bid Forms of this Section and further that it is their sole responsibility to confirm that they have submitted all required forms and/or information with their Bid whether or not it is listed herein (failure to submit all required information may result in rejection of a Bid):

1. Bid Form 1: Bidder's Blank as the cover/first page.
2. Bid Form 2: Certification of Bidder as the second page.
3. Bid Form 3: Certificate Regarding Public Records as the third page.
4. Bid Form 4: Affidavit of City Vendor as the fourth and fifth page.
5. Forms from the Minority and Women Business Enterprise Program.
6. Forms from the EPA DBE Program.
7. Completed Bid Forms from this Section with Bid prices for each item stated in words and figures; acknowledgement of receipt of all Addenda; signed and executed City of Providence, Rhode Island Board of Contract and Supply signature page; and with included evidence of Bidder's authority to do business in the State of Rhode Island and Bidder's Rhode Island contractor license number(s).
8. Bid Security in a separate envelope from the Bid and then attached to the envelope containing the Bid.
9. Completed forms from Section 00 43 36 – Proposed Subcontractors & Suppliers, with supporting documentation as required.
10. Completed forms from Section 00 45 13 – Bidder's Qualifications, with supporting documentation as required.

Bids will remain subject to acceptance for 60 days after the Bid opening, or for such longer time period that Bidder may agree to in writing upon request of the Owner.

The names and residences of all persons and parties interested in the foregoing Bid as principals are as follows:

(Give first and last names in full. See Bid Form Article in the Instructions to Bidders.)

The undersigned hereby certifies that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.

The undersigned hereby certifies under the penalties of perjury that this Bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this section, the word "person" shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.



BOARD OF CONTRACT AND SUPPLY
CITY OF PROVIDENCE, RHODE ISLAND

BID FROM:

Company Name: _____

(SEAL)

If incorporated, State of Incorporation: _____

Date of Incorporation: _____

Type of Business (from incorporation papers): _____

By: _____

(Signature - attach evidence of authority to sign if not an individual submitting Bid)

Name (typed or printed): _____

Title: _____

Date: _____

Business Address: _____

Phone No. _____ Fax No. _____

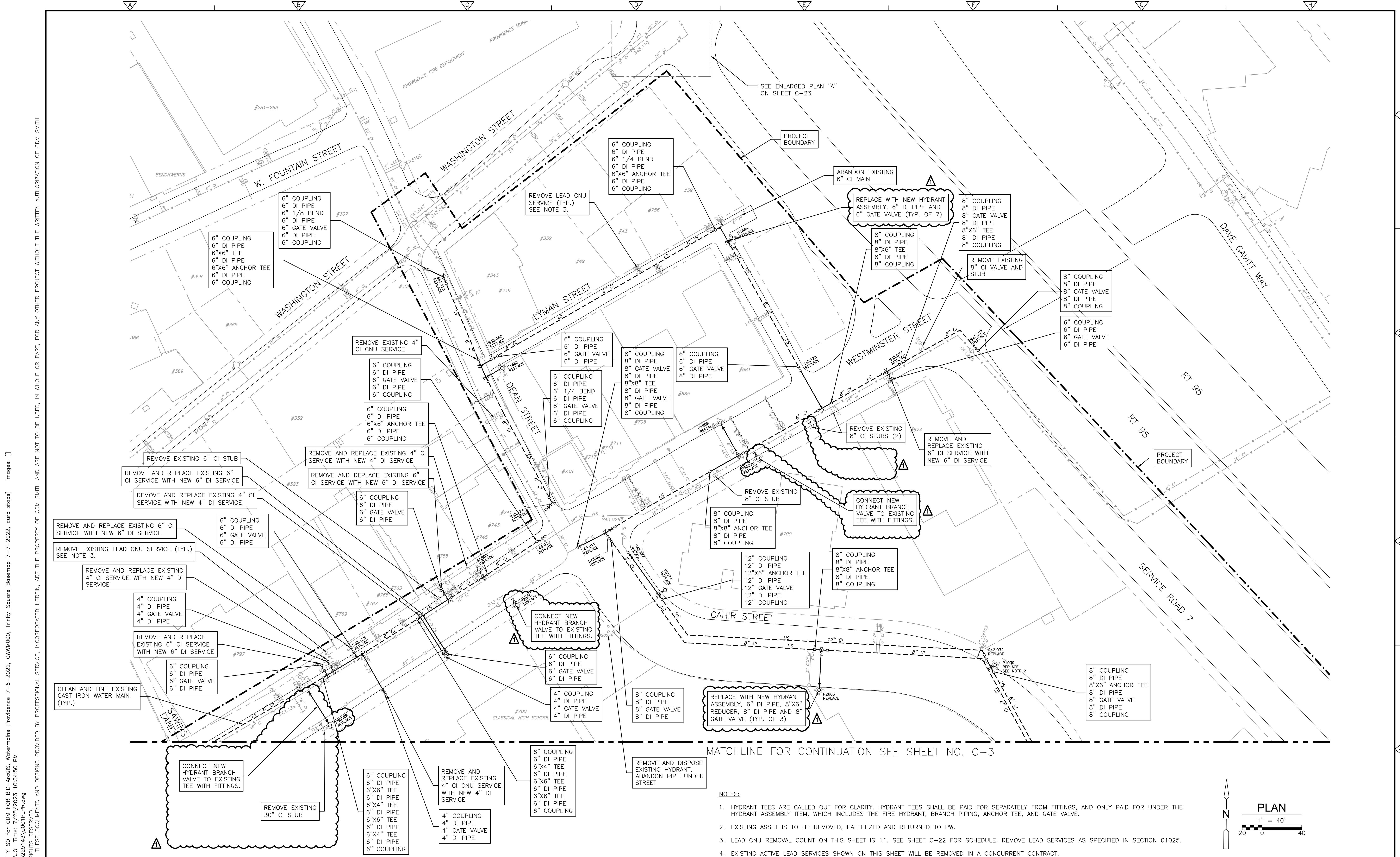
Bidder State of Rhode Island License Information:

License No.

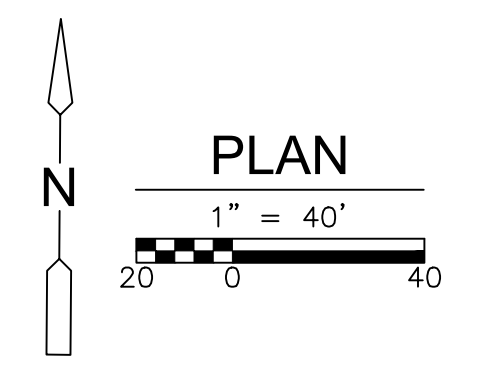
Type of License/Trade Licensed

Attachment 2

Updated Drawings



- NOTES:
- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
 - EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
 - LEAD CNU REMOVAL COUNT ON THIS SHEET IS 11. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
 - EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	07/23	JC	JD	REVISED PER ADDENDUM NO. 2

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

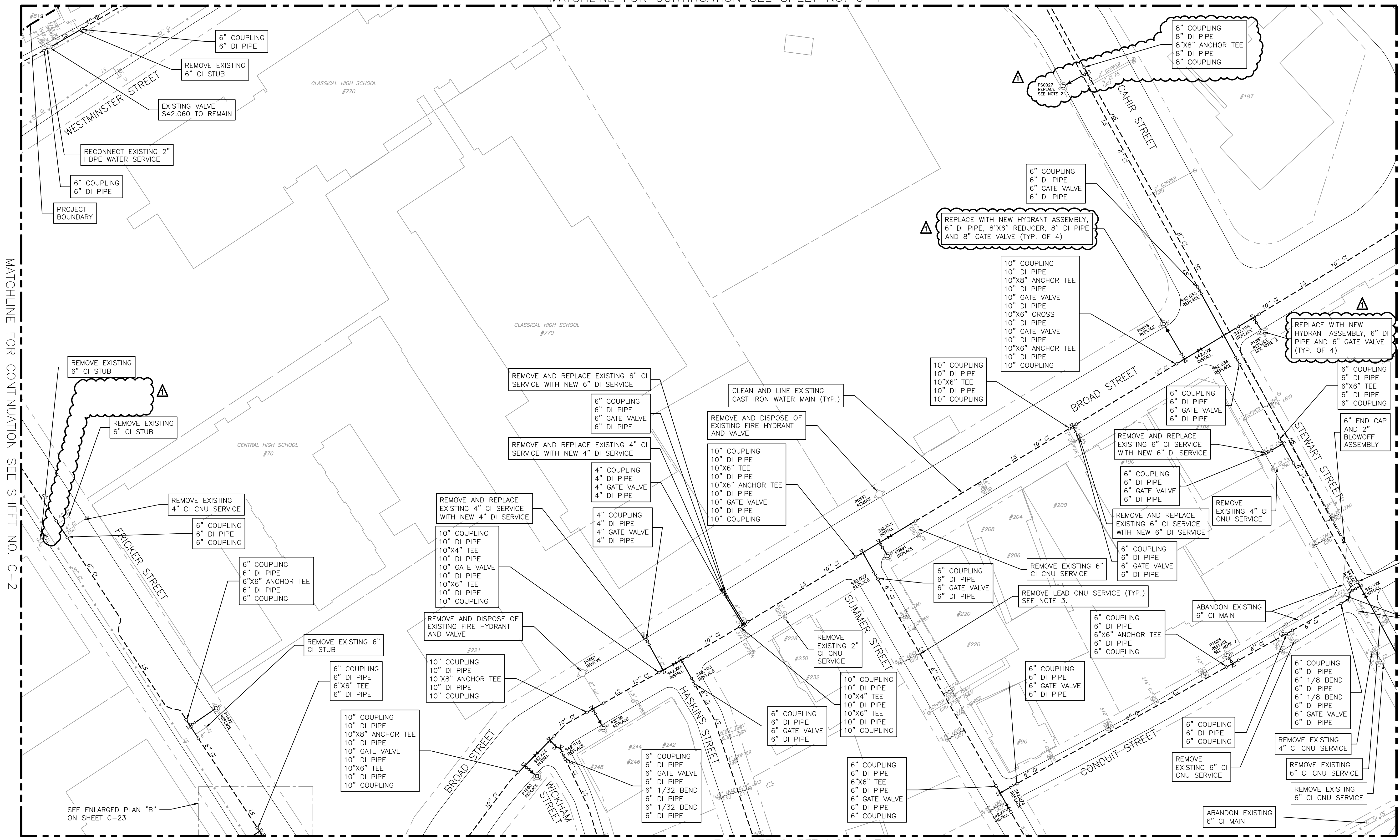
CDM Smith
 260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

AREA PLAN 1
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. **C-1**

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-1



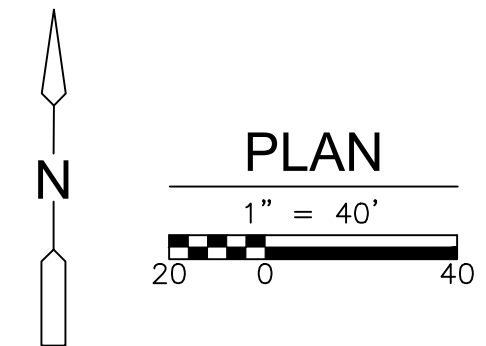
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-2

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-4

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-7

NOTES:

- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
- EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
- LEAD CNU REMOVAL COUNT ON THIS SHEET IS 12. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
- EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	07/23	JC	JD	REVISED PER ADDENDUM NO. 2

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

CDM Smith
 260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

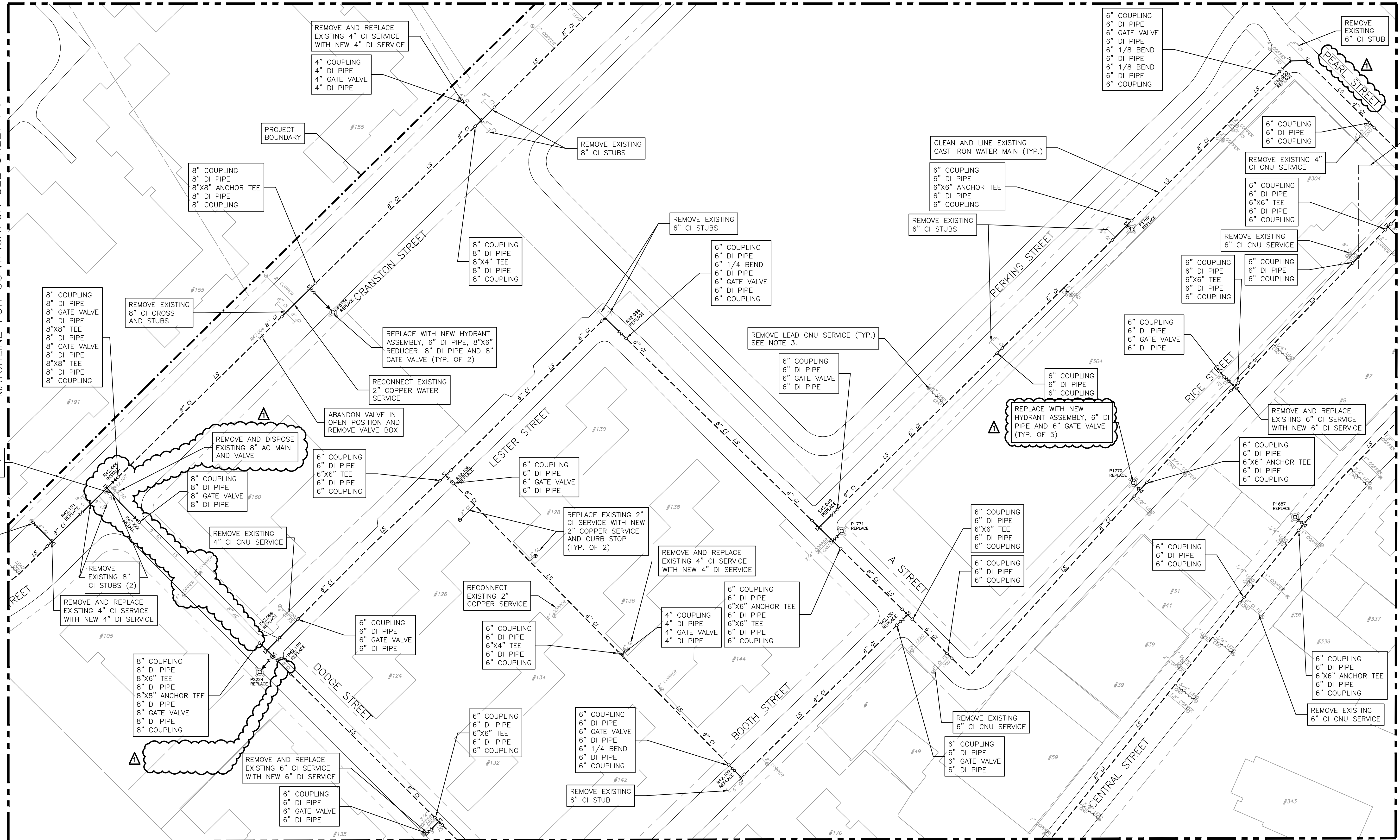
AREA PLAN 3
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-3

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-2

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-5

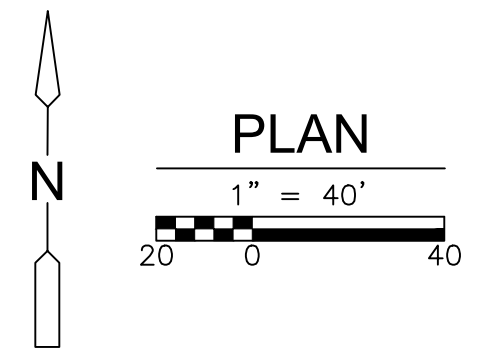
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-7

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-11



NOTES:

- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
- EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
- LEAD CNU REMOVAL COUNT ON THIS SHEET IS 10. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
- EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	07/23	JC	JD	REVISED PER ADDENDUM NO. 2

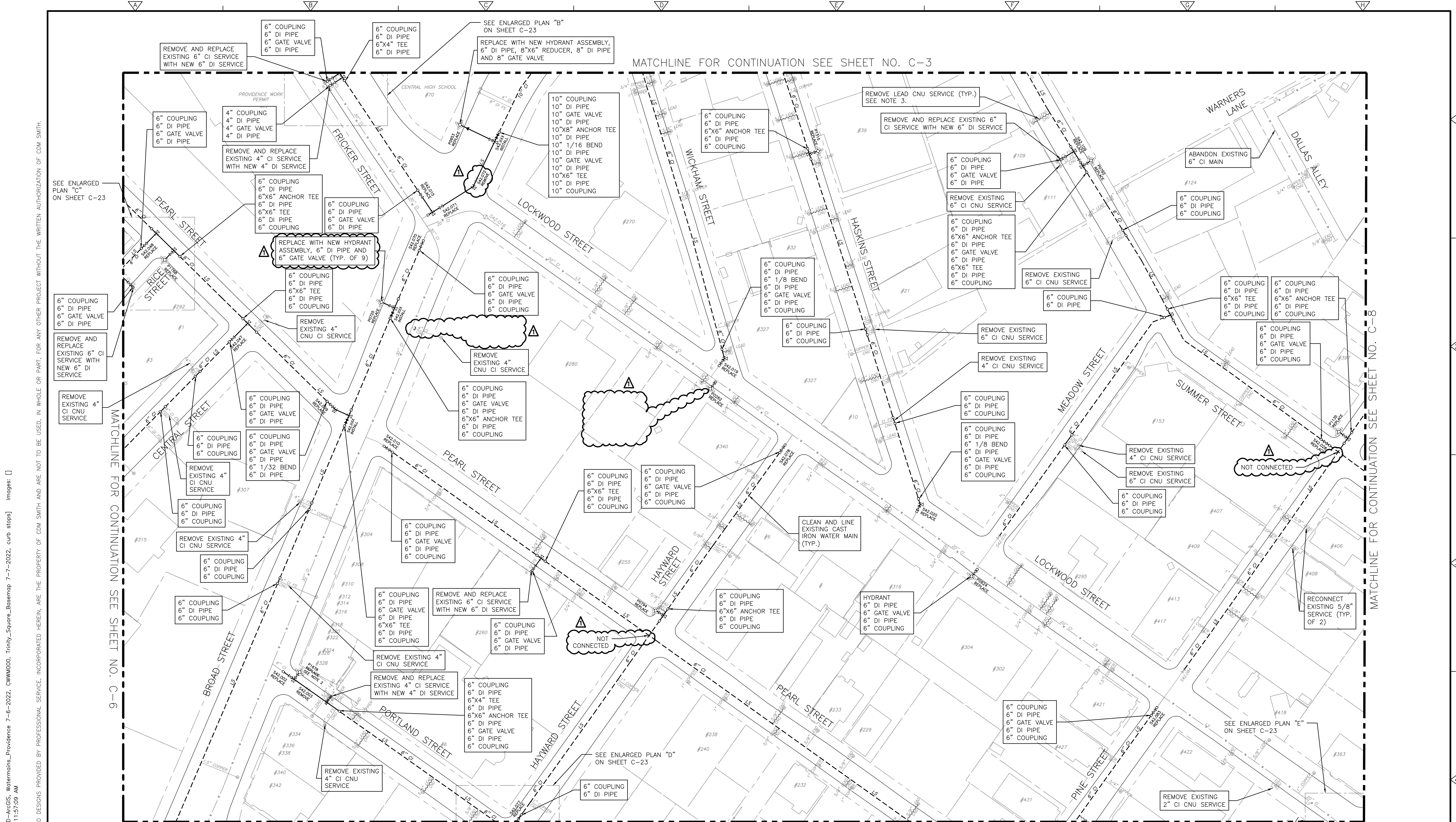
DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

CDM Smith
 260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
AREA PLAN 6
 SHEET NO. **C-6**



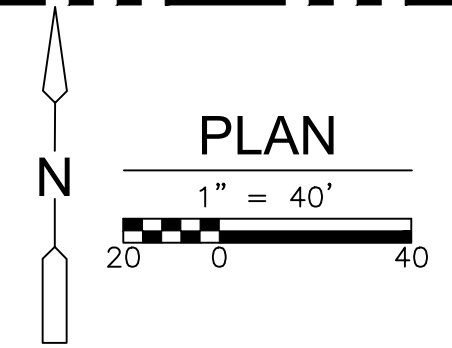
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-3

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-6

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-12

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-8

- NOTES:
- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
 - EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
 - LEAD CNU REMOVAL COUNT ON THIS SHEET IS 44. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
 - EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	07/23	JC	JD	REVISED PER ADDENDUM NO. 2

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

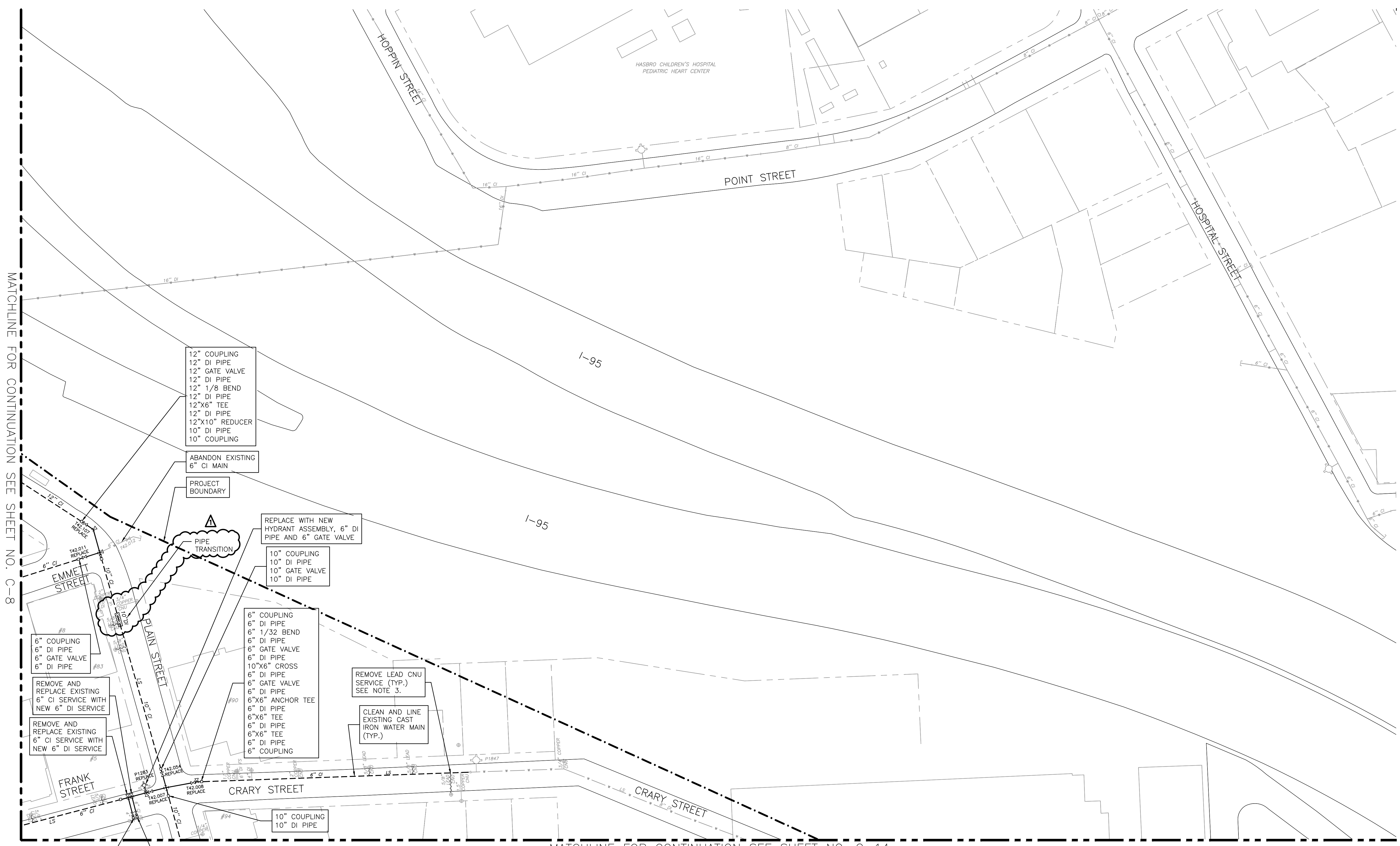
260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

AREA PLAN 7
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-7

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- 12" COUPLING
- 12" DI PIPE
- 12" GATE VALVE
- 12" DI PIPE
- 12" 1/8 BEND
- 12" DI PIPE
- 12"x6" TEE
- 12" DI PIPE
- 12"x10" REDUCER
- 10" DI PIPE
- 10" COUPLING

ABANDON EXISTING 6" CI MAIN

PROJECT BOUNDARY

PIPE TRANSITION

REPLACE WITH NEW HYDRANT ASSEMBLY, 6" DI PIPE AND 6" GATE VALVE

- 10" COUPLING
- 10" DI PIPE
- 10" GATE VALVE
- 10" DI PIPE

- 6" COUPLING
- 6" DI PIPE
- 6" 1/32 BEND
- 6" DI PIPE
- 6" GATE VALVE
- 6" DI PIPE
- 10"x6" CROSS
- 6" DI PIPE
- 6" GATE VALVE
- 6" DI PIPE
- 6"x6" ANCHOR TEE
- 6" DI PIPE
- 6"x6" TEE
- 6" DI PIPE
- 6"x6" TEE
- 6" DI PIPE
- 6" COUPLING

REMOVE LEAD CNU SERVICE (TYP.) SEE NOTE 3.

CLEAN AND LINE EXISTING CAST IRON WATER MAIN (TYP.)

- 6" COUPLING
- 6" DI PIPE
- 6" GATE VALVE
- 6" DI PIPE

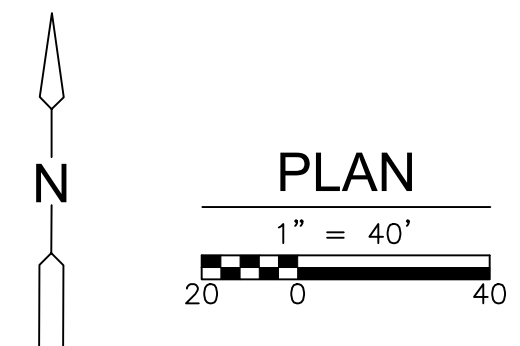
REMOVE AND REPLACE EXISTING 6" CI SERVICE WITH NEW 6" DI SERVICE

REMOVE AND REPLACE EXISTING 6" CI SERVICE WITH NEW 6" DI SERVICE

- 6" COUPLING
- 6" DI PIPE
- 6" GATE VALVE
- 6" DI PIPE

- 6" COUPLING
- 6" DI PIPE
- 6" GATE VALVE
- 6" DI PIPE

- NOTES:
1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
 2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
 3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 7. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
 4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



REV. NO.	DATE	DRWN	CHKD	REMARKS
1	07/23	JC	JD	REVISED PER ADDENDUM NO. 2

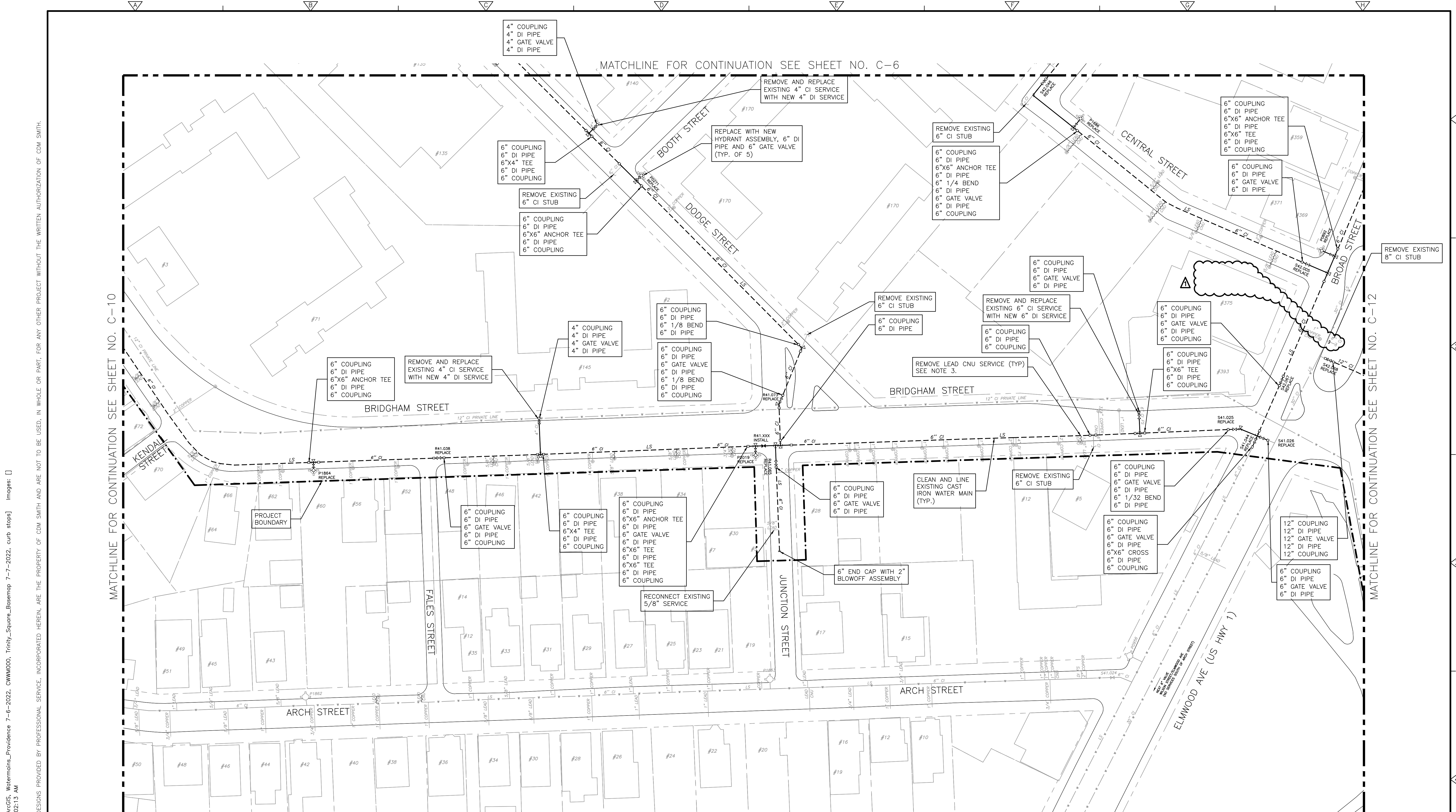
DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

AREA PLAN 9

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. **C-9**



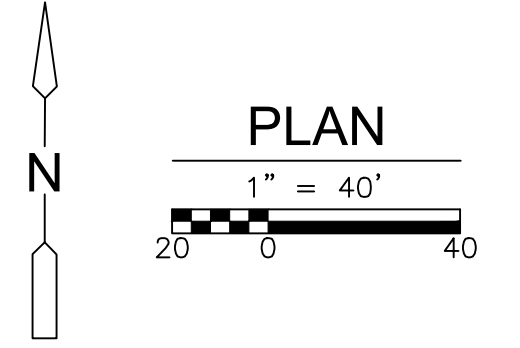
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-6

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-10

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-12

NOTES:

- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
- EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
- LEAD CNU REMOVAL COUNT ON THIS SHEET IS 6. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
- EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFS: [CDMS-2436, INTY SQ FOR CDM FOR BID-AcGIS, Watermain_Providence 7-6-2022, CWM000, Trinity_Square_BaseMap 7-7-2022, curb steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	07/23	JC	JD	REVISED PER ADDENDUM NO. 2

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

CDM Smith
 260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360

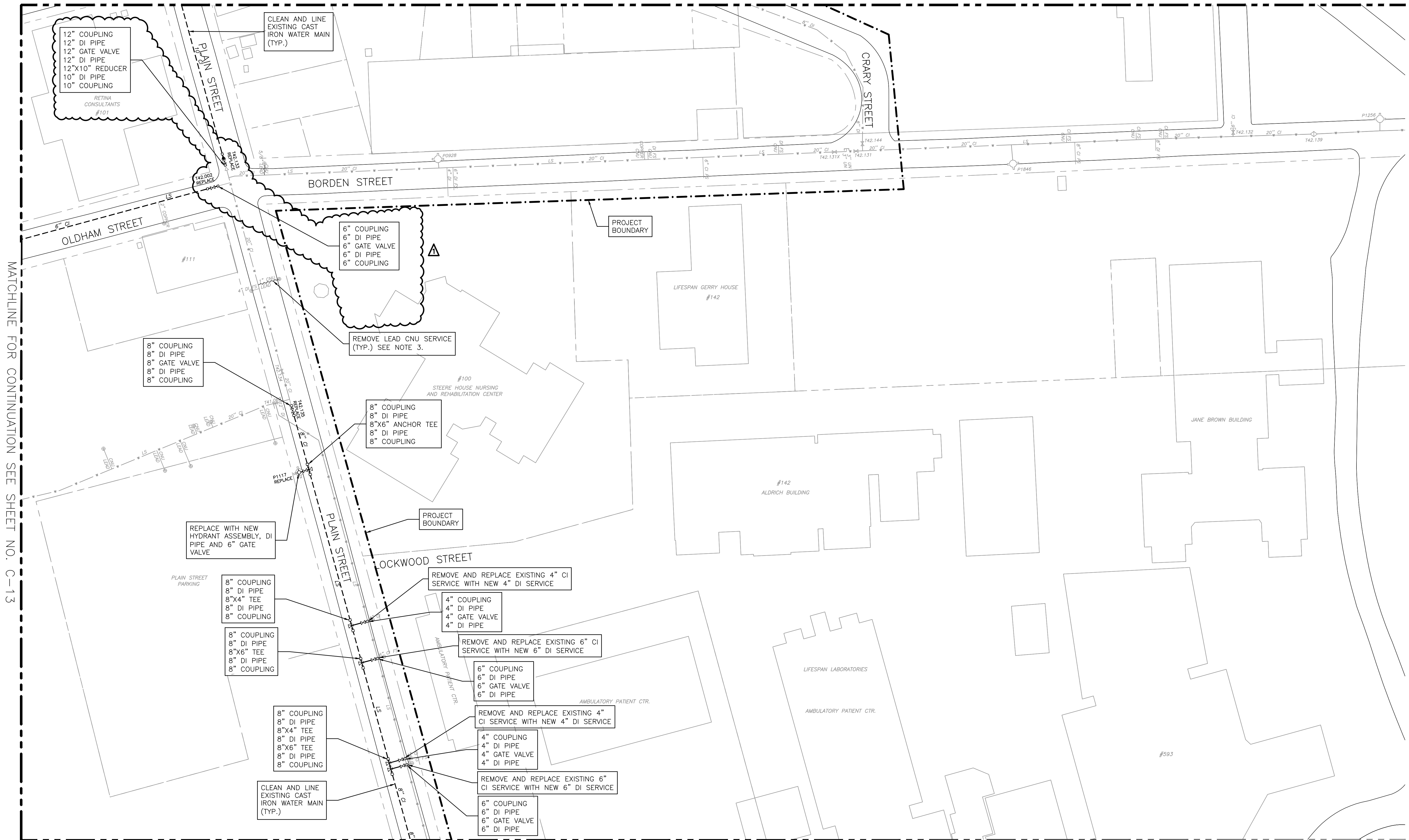


CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 11
 SHEET NO. C-11

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-11

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-9

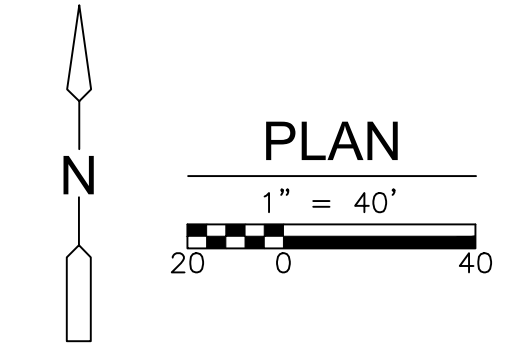


MATCHLINE FOR CONTINUATION SEE SHEET NO. C-13

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-17

NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 2. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFS: [CDMS-2436_INITY_SQ_for_CDM_FOR_BID-AcGIS_Watermain_Providence_7-6-2022_CWNW000_Trinity_Square_BaseMap_7-7-2022_curb_steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	07/23	JC	JD	REVISED PER ADDENDUM NO. 2

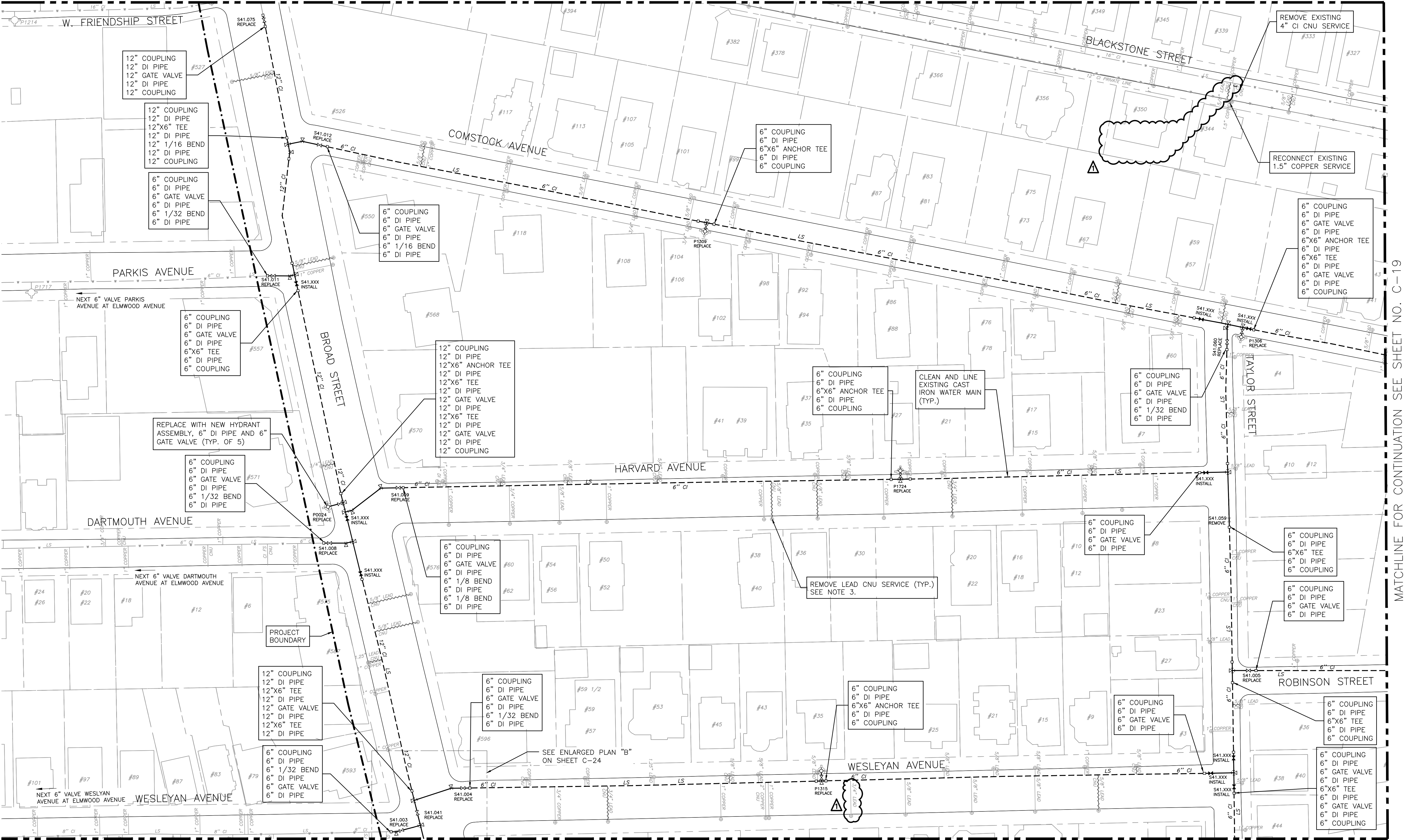
DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 14
 PROJECT NO. 1516-274596
 FILE NAME: CO01PLPR.DWG
 SHEET NO. C-14

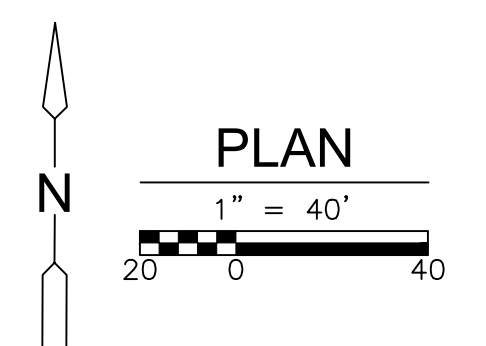
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-15



NOTES:

- HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
- EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
- LEAD CNU REMOVAL COUNT ON THIS SHEET IS 26. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
- EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-20



XREFS: [CDMS-2436, INTY SQ. FOR CDM FOR BID-AcGIS, Watermain_Providence 7-6-2022, CWNW000, Trinity_Square_BaseMap 7-7-2022, curb steps] Images: □
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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	07/23	JC	JD	REVISED PER ADDENDUM NO. 2

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

CDM Smith
 260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360



CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 18
 PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-18

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-16

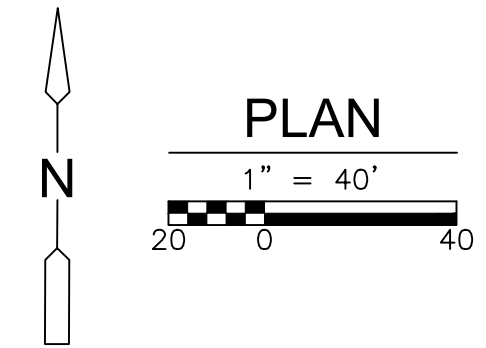


MATCHLINE FOR CONTINUATION SEE SHEET NO. C-18

MATCHLINE FOR CONTINUATION SEE SHEET NO. C-21

NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 8. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFS: [CDMS-2436_INITY_SO_for_CDM_FOR_BID-AcGIS_Watermain_Providence_7-6-2022_CWN0000_Trinity_Square_BaseMap_7-7-2022_curb_steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	07/23	JC	JD	REVISED PER ADDENDUM NO. 2

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

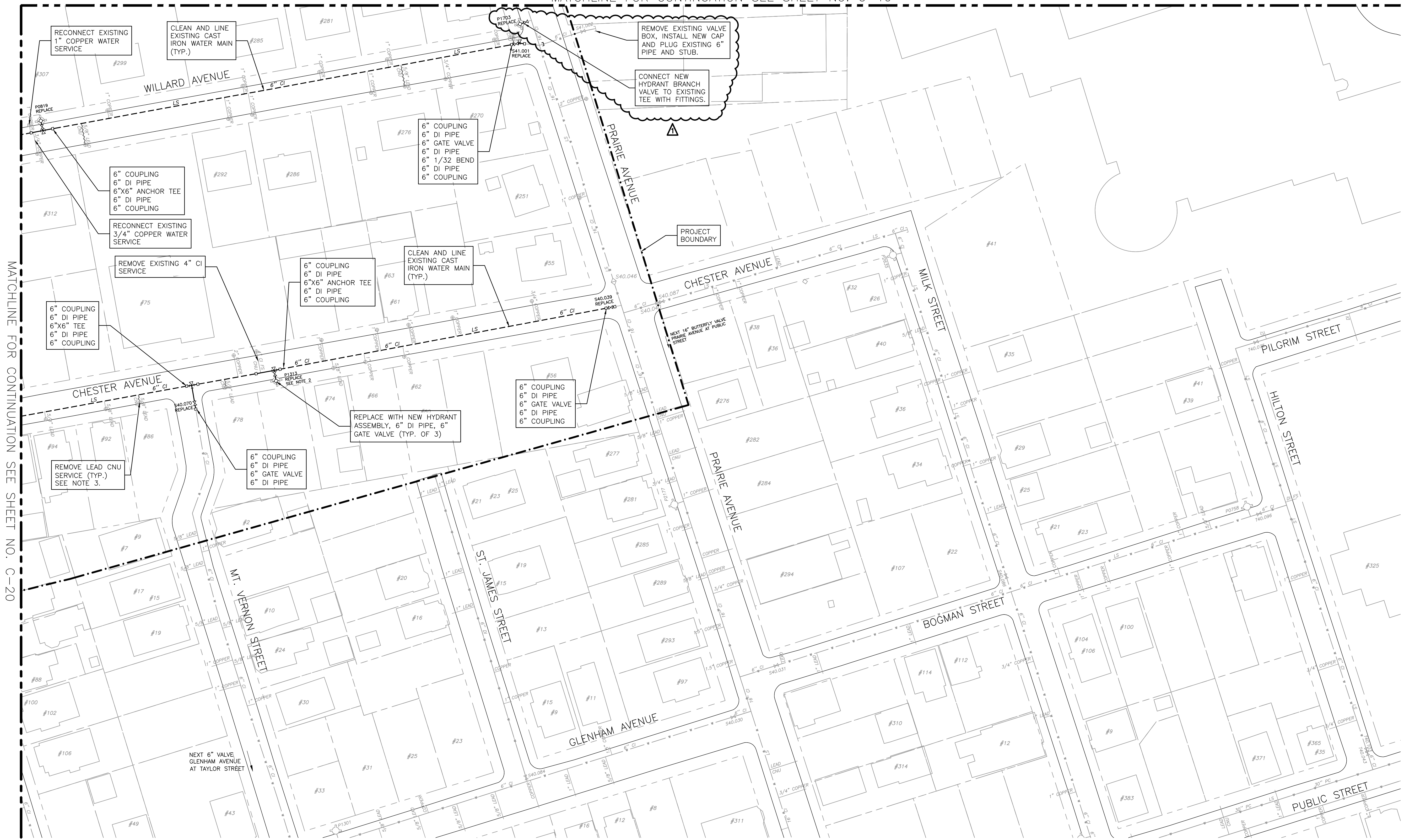


CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
WATER MAIN REHABILITATION

AREA PLAN 19

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-19

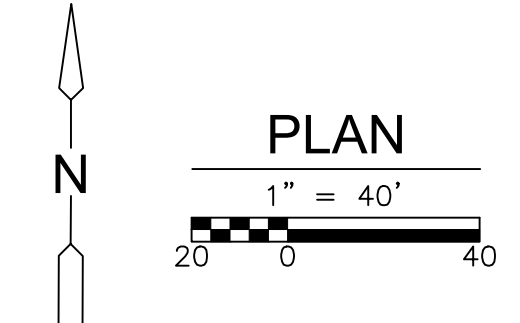
MATCHLINE FOR CONTINUATION SEE SHEET NO. C-19



MATCHLINE FOR CONTINUATION SEE SHEET NO. C-20

NOTES:

1. HYDRANT TEES ARE CALLED OUT FOR CLARITY. HYDRANT TEES SHALL BE PAID FOR SEPARATELY FROM FITTINGS, AND ONLY PAID FOR UNDER THE HYDRANT ASSEMBLY ITEM, WHICH INCLUDES THE FIRE HYDRANT, BRANCH PIPING, ANCHOR TEE, AND GATE VALVE.
2. EXISTING ASSET IS TO BE REMOVED, PALLETIZED AND RETURNED TO PW.
3. LEAD CNU REMOVAL COUNT ON THIS SHEET IS 5. SEE SHEET C-22 FOR SCHEDULE. REMOVE LEAD SERVICES AS SPECIFIED IN SECTION 01025.
4. EXISTING ACTIVE LEAD SERVICES SHOWN ON THIS SHEET WILL BE REMOVED IN A CONCURRENT CONTRACT.



XREFS: [CDMS-2436, INTY SQ. for CDM FOR BID-ArcGIS, Watermain_Providence 7-6-2022, CWN0000, Trinity_Square_BaseMap 7-7-2022, curb steps] Images: []
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REV. NO.	DATE	DRWN	CHKD	REMARKS
1	07/23	JC	JD	REVISED PER ADDENDUM NO. 2

DESIGNED BY: T. JOHNSON
 DRAWN BY: J. CABRERA
 SHEET CHK'D BY: T. JOHNSON
 CROSS CHK'D BY: J. DRAKE
 APPROVED BY: M. MOODY
 DATE: JUNE 2023

260 West Exchange Street, Suite 300
 Providence, RI 02903
 Tel: (401) 751-5360

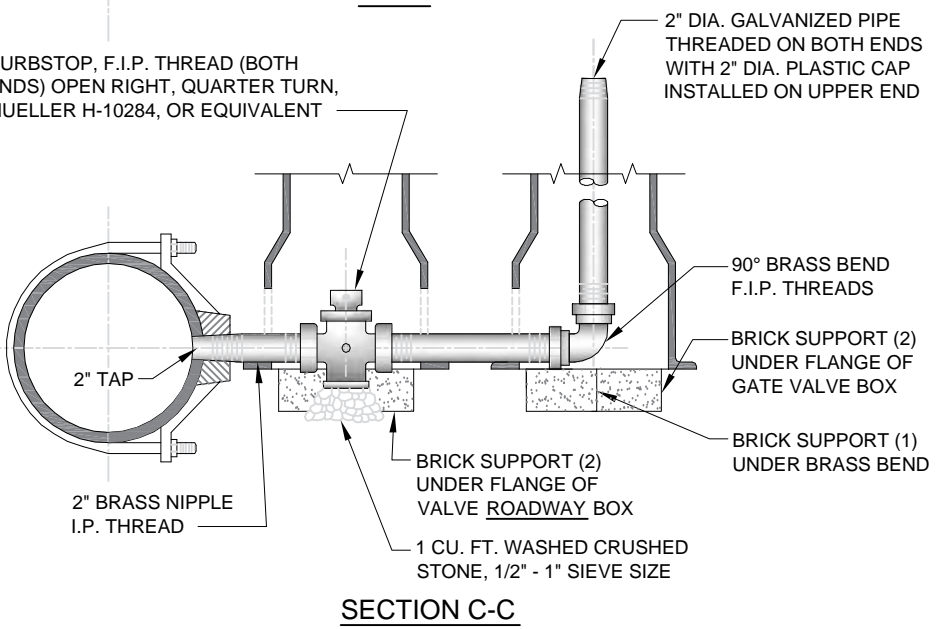
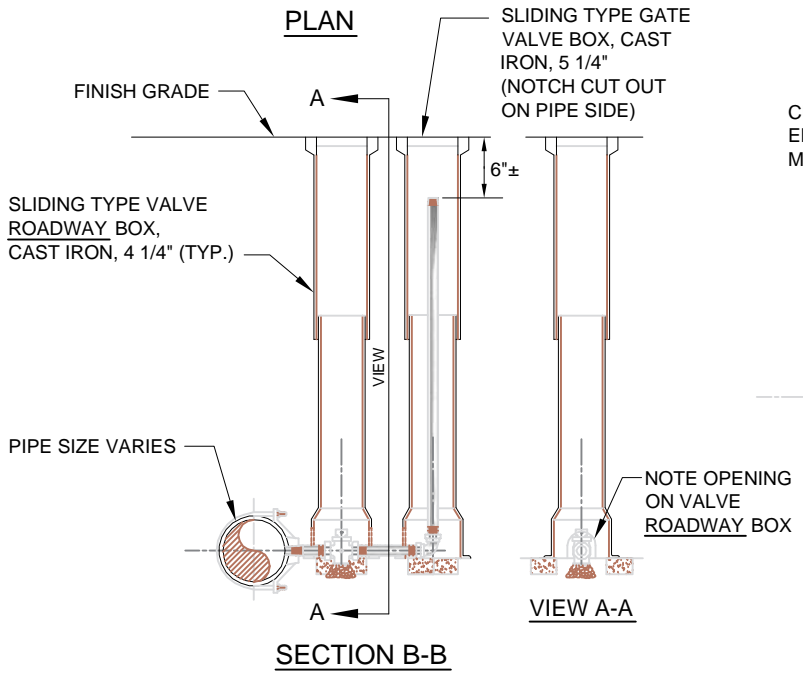
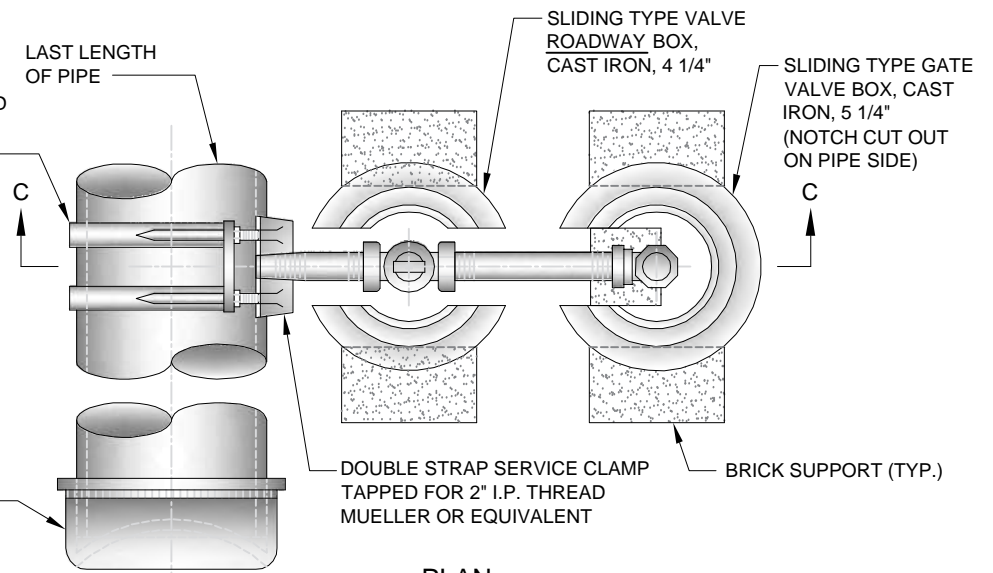
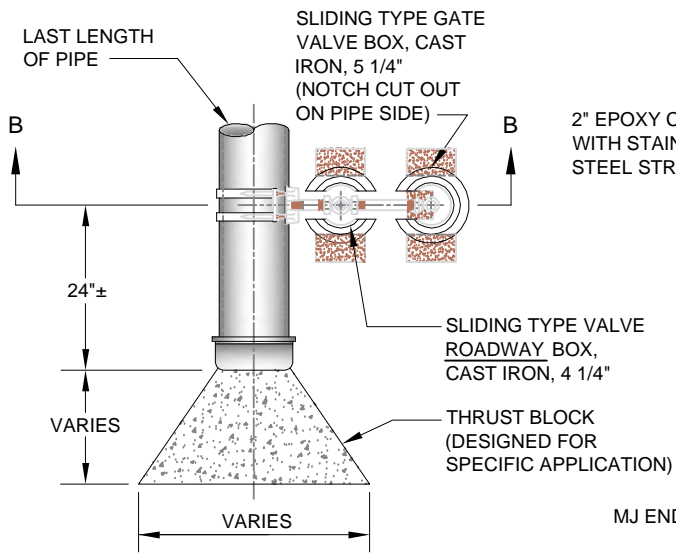


CITY OF PROVIDENCE, RHODE ISLAND
 WATER SUPPLY BOARD
 CONTRACT NO. 8-23
TRINITY SQUARE AREA
 WATER MAIN REHABILITATION

AREA PLAN 21

PROJECT NO. 1516-274596
 FILE NAME: C001PLPR.DWG
 SHEET NO. C-21

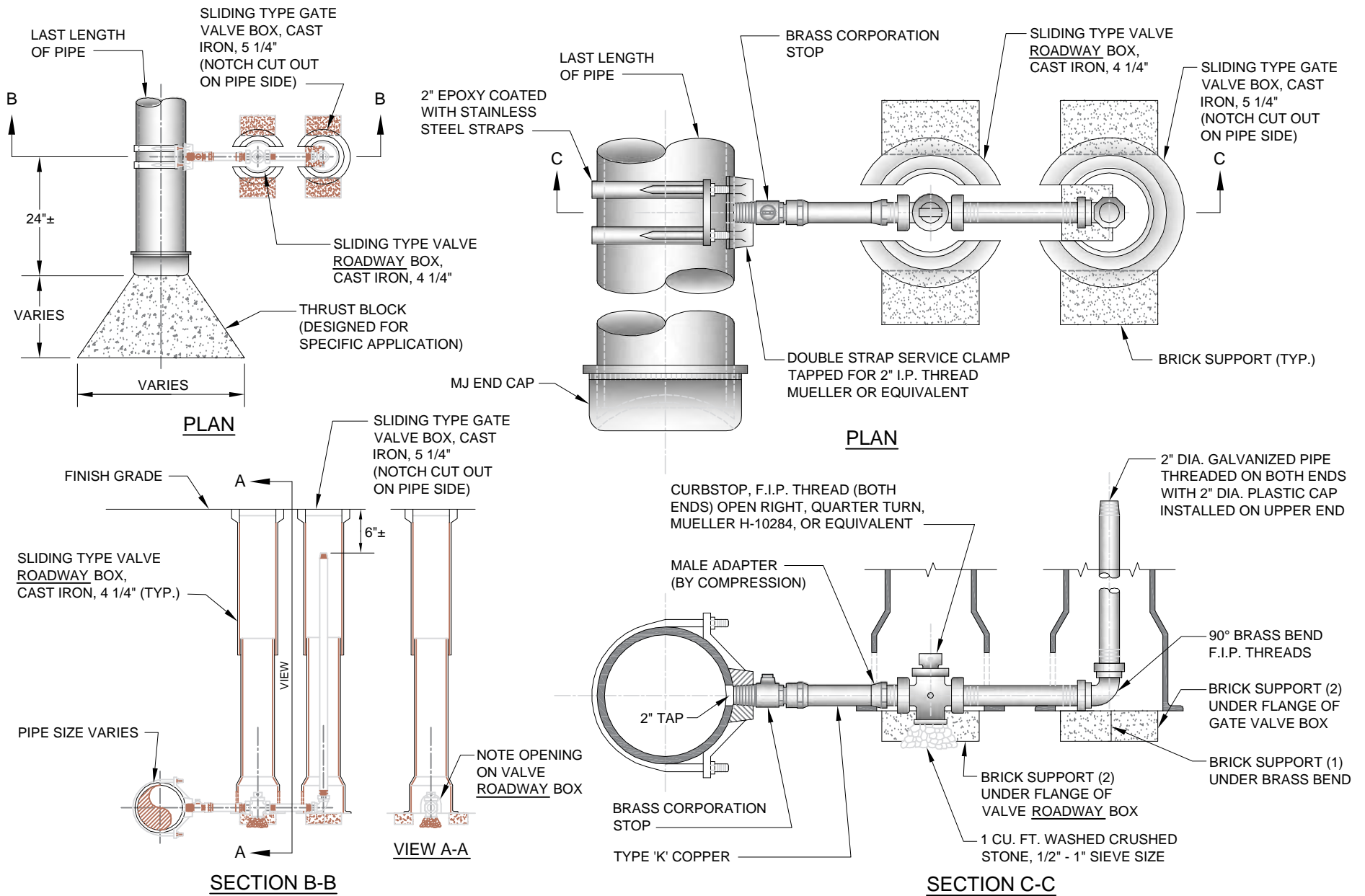
Attachment 3
Additional
Appendix F
Standard Details



Blair 3-11-13
 Senior Manager of Engineering Date

TYPICAL NEW 2-INCH BLOWOFF ASSEMBLY
 NOT TO SCALE

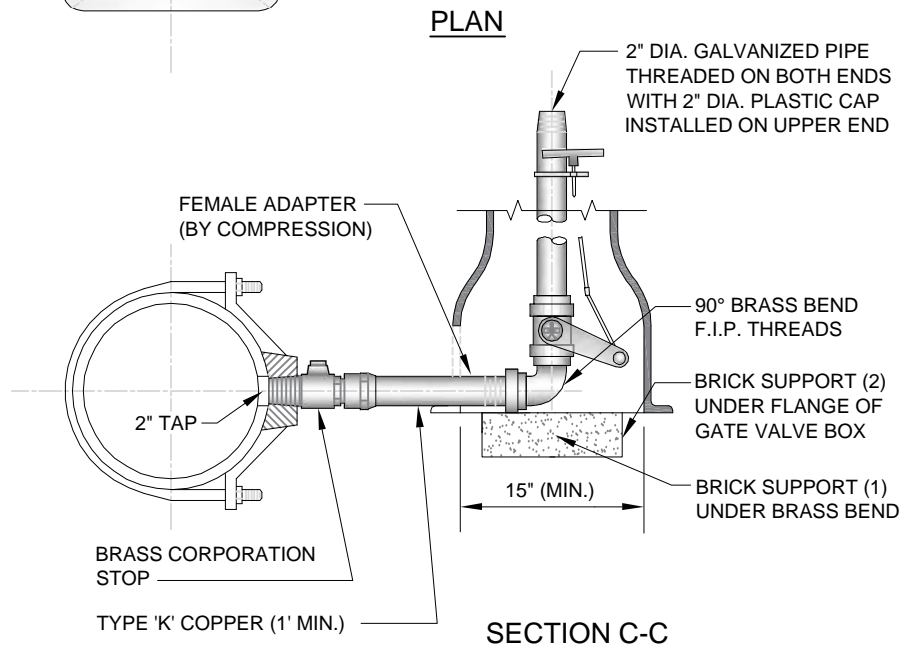
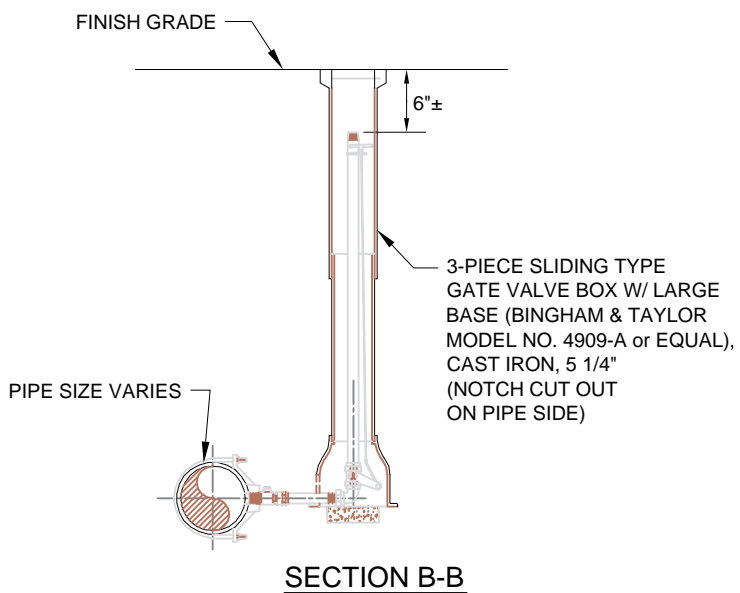
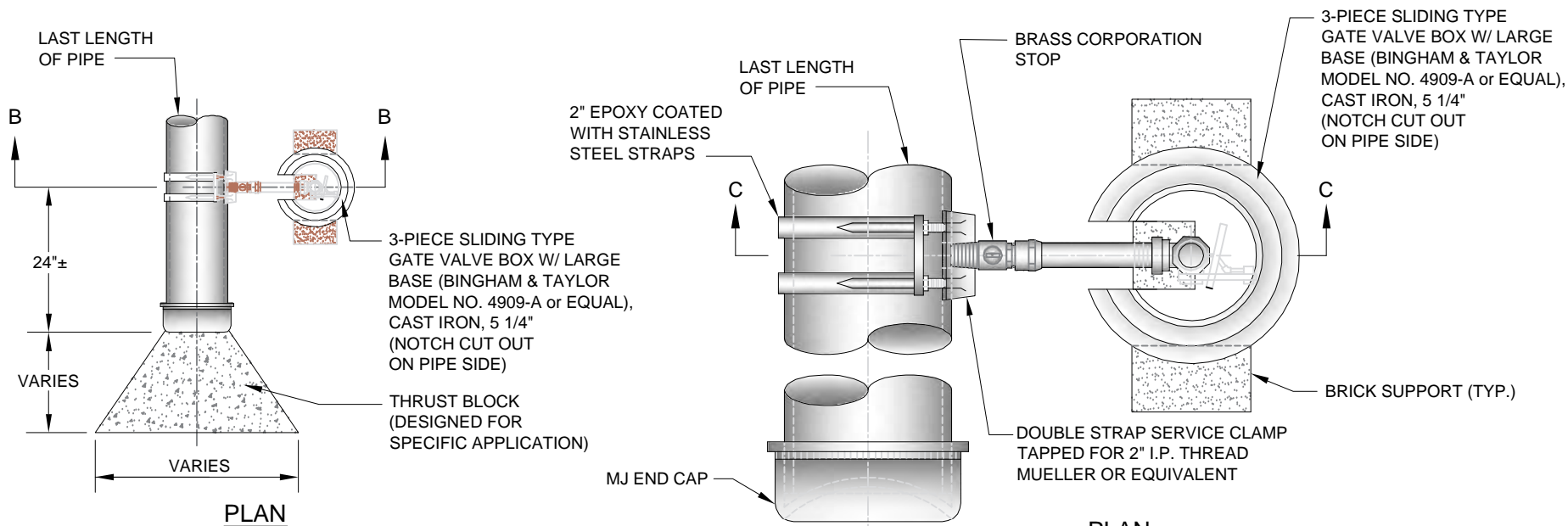




Blair 3-11-13
 Senior Manager of Engineering Date

TYPICAL NEW 2-INCH BLOWOFF ASSEMBLY
(ON EXISTING MAIN)
 NOT TO SCALE





TYPICAL
 NEW 2-INCH WEDGE BLOWOFF ASSEMBLY
 (ON EXISTING MAIN)
 NOT TO SCALE

Blair 3-11-13
 Senior Manager of Engineering Date



APPROVED PWSB MANUFACTURERS

DUCTILE IRON PIPE

- ATLANTIC STATES CAST IRON PIPE CO.
- GRIFFIN PIPE PRODUCTS CO.
- U.S. PIPE & FOUNDRY CO.

TAPPING SLEEVES & VALVES

- AMERICAN FLOW CONTROL
- CLOW VALVE CO.
- KENNEDY VALVE
- M&H VALVE CO.
- MUELLER CO.
- U.S. PIPE & FOUNDRY CO.
- AVK

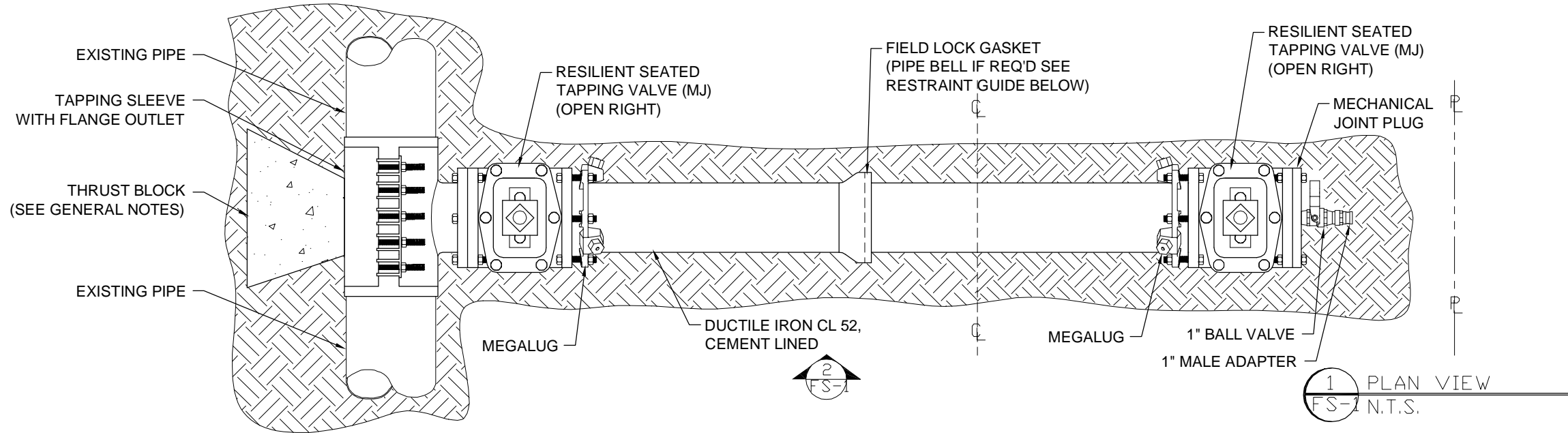
JOINT RESTRAINTS (MECHANICAL)

- EBBA IRON SALES, INC - MEGALUG

JOINT RESTRAINTS (GASKETED)

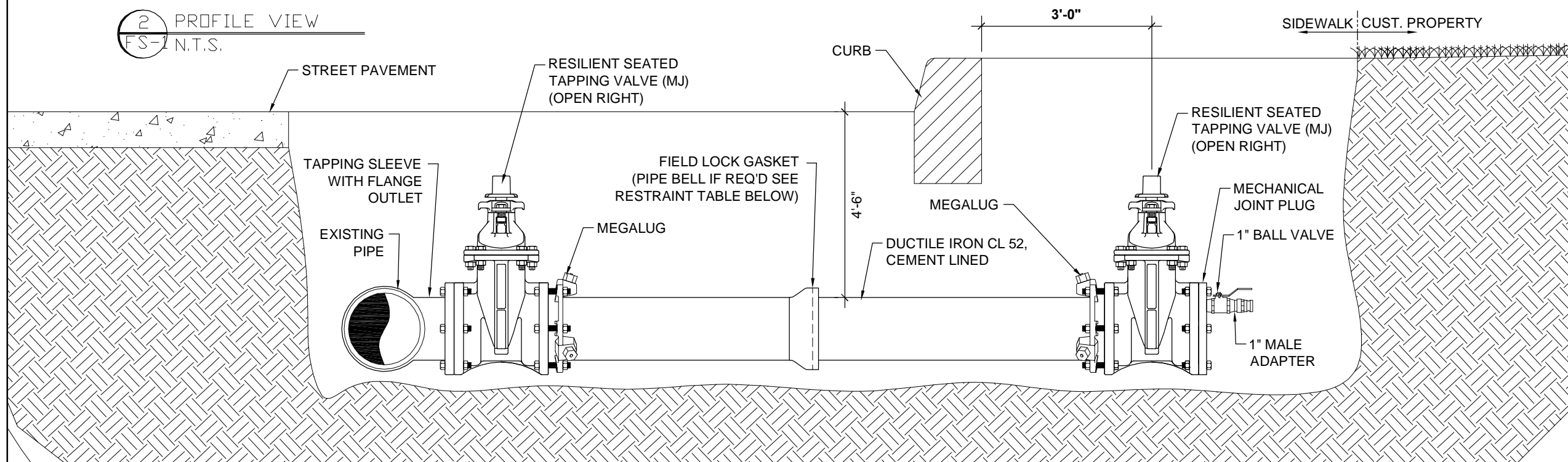
- U.S. PIPE & FOUNDRY CO. FIELD LOK 350 GASKET

**PWSB TYPICAL DETAIL
DUCTILE IRON DOMESTIC
& FIRE SERVICES 4"±**



1 PLAN VIEW
FS-1 N.T.S.

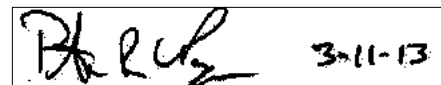
2 PROFILE VIEW
FS-1 N.T.S.



GENERAL NOTES:

1. OTHER EXISTING UTILITIES ARE NOT SHOWN. CONTRACTOR SHALL NOTIFY "DIG-SAFE" PRIOR TO COMMENCING WORK.
2. NEW WATER MAINS SHALL BE TESTED AND CHLORINATED IN ACCORDANCE WITH PROVIDENCE WATER STANDARDS AND AS DIRECTED BY PROVIDENCE WATER.
3. NEW WATER MAINS SHALL BE CEMENT-LINED DUCTILE IRON PIPE, CLASS 52, CONFORMING TO THE LATEST AWWA STANDARDS.
4. PIPE FITTINGS SHALL BE CEMENT-LINED DUCTILE IRON, CLASS 350, WITH MECHANICAL JOINT ENDS.
5. UNLESS OTHERWISE NOTED, EARTH COVER OVER PIPE SHALL NOT BE LESS THAN 4.5- FEET.
6. GATE VALVES SHALL BE RESILIENT SEAT TYPE WITH MECHANICAL JOINT ENDS AND SHALL OPEN "RIGHT" (CLOCKWISE).
7. METALLIZED, DETECTABLE, IDENTIFICATION TAPE SHALL BE 2-INCHES WIDE, BLUE IN COLOR, AND IMPRINTED WITH THE WORDS "CAUTION - WATER LINE BURIED BELOW", AND SHALL BE INSTALLED OVER ALL MAINS AND HYDRANT RUN-OUTS AT A DEPTH OF 12-INCHES BELOW FINISHED GRADE.
8. CURB STOPS SHALL BE INSTALLED 1 FT. TO 1-1/2 FT. BEHIND FACE OF CURB OR EDGE OF PAVEMENT. CURB STOPS ARE NOT TO BE INSTALLED IN EXISTING OR FUTURE DRIVEWAYS.
9. UNLESS OTHERWISE NOTED, BREAKAWAY TYPE HYDRANTS, WHERE REQUIRED, SHALL BE INSTALLED AT EXISTING LOCATIONS WITH OPERATING NUT POSITIONED 24-INCHES BEHIND FACE OF CURB OR EDGE OF PAVEMENT. THE BREAKAWAY FLANGE SHALL BE SET 2-INCHES TO 4-INCHES ABOVE FINISHED GRADE. HYDRANTS SHALL OPEN "RIGHT" (CLOCKWISE).
10. PORTLAND CEMENT CONCRETE THRUST BLOCKS AND/OR GRAVITY BLOCKS SHALL BE CONSTRUCTED IN PLACE AT CHANGES OF PIPE DIRECTION (TEES, BENDS, ETC) AND/OR DEAD ENDS IN ACCORDANCE WITH PROVIDENCE WATER STANDARDS. FURTHERMORE, MECHANICAL JOINT THRUST RESTRAINTS SHALL BE PLACED ON EACH SIDE OF IN-LINE FITTINGS OR PIPE JOINTS PRIOR TO END CAPS/PLUGS SO AS TO SUFFICIENTLY RESTRAIN AN ADEQUATE LENGTH OF PIPE AT 1-1/2 TIMES THE STATIC PRESSURE, BUT IN ANY EVENT, NOT LESS THAN 150 PSF.

RESTRAINTS		RESTRAINTS		RESTRAINTS				
TAPPING SLEEVE	LENGTH	TAPPING SLEEVE	LENGTH	BENDS				
4"X4"	33'	12"X4"	33'	90°	45°	22.5°	11.25°	-
6"X4"	33'	12"X6"	47'	SIZE	RESTRAINT LENGTH			
6"X6"	47'	12" X 8"	61'	4"	13'	5'	3'	1'
8"X4"	33'	12"X10"	74'	6"	19'	8'	4'	2'
8"X6"	47'	12"X12"	87'	8"	24'	10'	5'	2'
8"X8"	61'	-	-	10"	29'	12'	6'	3'
10"X4"	33'	-	-	12"	34'	14'	7'	3'
10"X6"	47'	-	-					
10"X8"	61'	-	-					
10"X10"	74'	-	-					

MDM _____ AMP _____
 DRAWN BY _____ CHECKED BY _____
 N.T.S. _____ 11-28-2011
 SCALE _____ DATE _____

 SENIOR MANAGER OF ENGINEERING

FS-1

APPROVED PWSB MANUFACTURERS

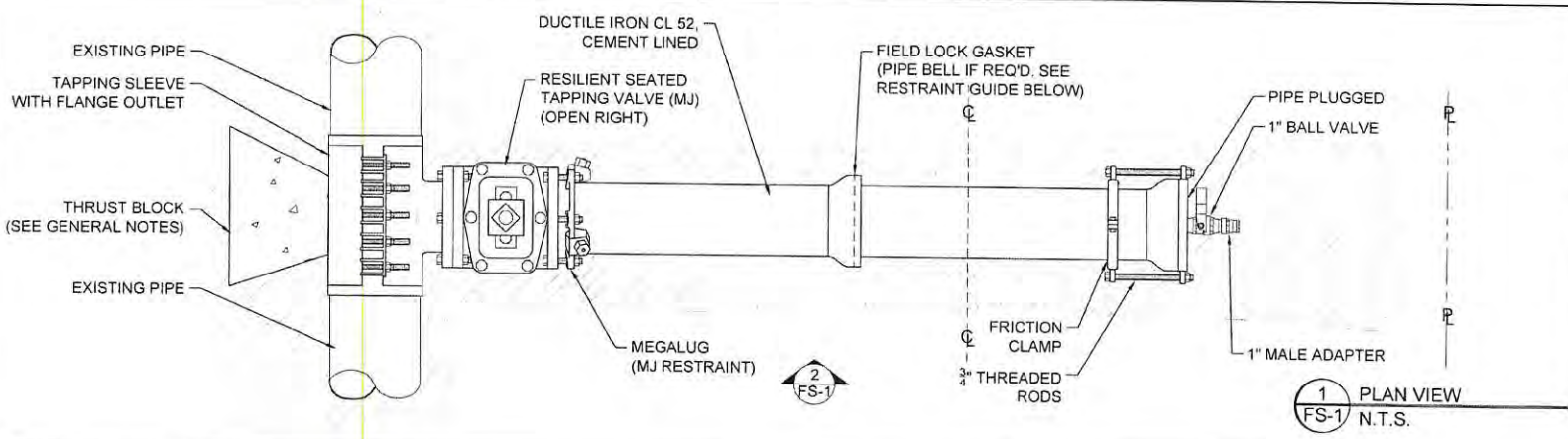
- DUCTILE IRON PIPE**
- ATLANTIC STATES CAST IRON PIPE CO.
 - GRIFFIN PIPE PRODUCTS CO.
 - U.S. PIPE & FOUNDRY CO.

- TAPPING SLEEVES & VALVES**
- AMERICAN FLOW CONTROL
 - CLOW VALVE CO.
 - KENNEDY VALVE
 - M&H VALVE CO.
 - MUELLER CO.
 - U.S. PIPE & FOUNDRY CO.
 - AVK

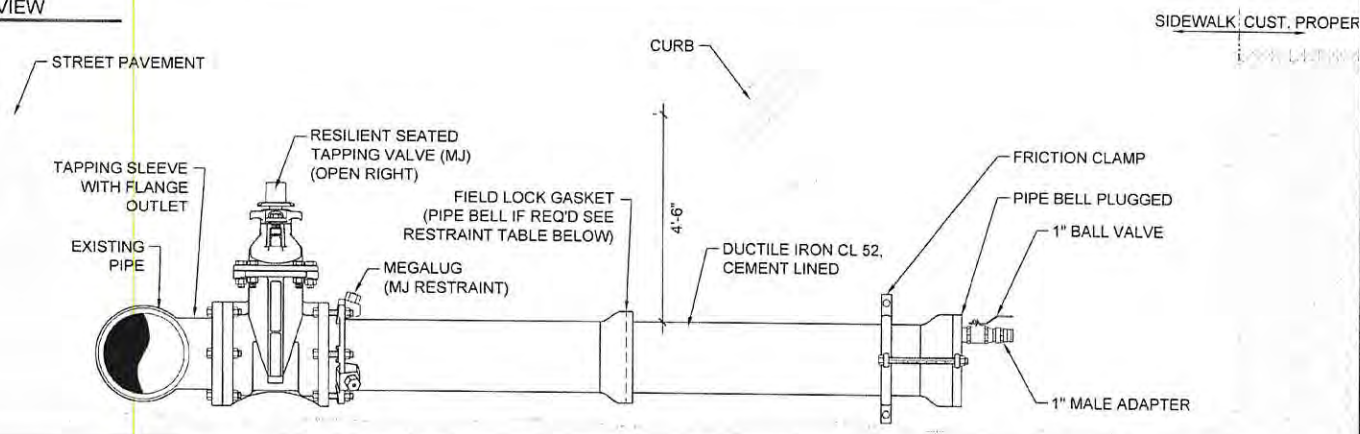
- JOINT RESTRAINTS (MECHANICAL)**
- EBBA IRON SALES, INC - MEGALUG

- JOINT RESTRAINTS (GASKETED)**
- U.S. PIPE & FOUNDRY CO.
 - FIELD LOK 350 GASKET

PWSB TYPICAL DUCTILE IRON DOMESTIC & FIRE SERVICES 4"±



2 PROFILE VIEW N.T.S.



- GENERAL NOTES:**
- OTHER EXISTING UTILITIES ARE NOT SHOWN. CONTRACTOR SHALL NOTIFY "DIG-SAFE" PRIOR TO COMMENCING WORK.
 - NEW WATER MAINS SHALL BE TESTED AND CHLORINATED IN ACCORDANCE WITH PROVIDENCE WATER STANDARDS AND AS DIRECTED BY PROVIDENCE WATER.
 - NEW WATER MAINS SHALL BE CEMENT-LINED DUCTILE IRON PIPE, CLASS 52, CONFORMING TO THE LATEST AWWA STANDARDS.
 - PIPE FITTINGS SHALL BE CEMENT-LINED DUCTILE IRON, CLASS 350, WITH MECHANICAL JOINT ENDS.
 - UNLESS OTHERWISE NOTED, EARTH COVER OVER PIPE SHALL NOT BE LESS THAN 4.5-FEET.
 - DATE VALVES SHALL BE RESILIENT SEAT TYPE WITH MECHANICAL JOINT ENDS AND SHALL OPEN "RIGHT" (CLOCKWISE).
 - METALLIZED, DETECTABLE, IDENTIFICATION TAPE SHALL BE 2-INCHES WIDE, BLUE IN COLOR, AND IMPRINTED WITH THE WORDS "CAUTION WATER LINE BURIED BELOW", AND SHALL BE INSTALLED OVER ALL MAINS AND HYDRANT RUN-OUTS AT A DEPTH OF 12-INCHES BELOW FINISHED GRADE.
 - CURB STOPS SHALL BE INSTALLED 1 FT. TO 1-1/2 FT. BEHIND FACE OF CURB OR EDGE OF PAVEMENT. CURB STOPS ARE NOT TO BE INSTALLED IN EXISTING OR FUTURE DRIVEWAYS.
 - UNLESS OTHERWISE NOTED, BREAKAWAY PIPE HYDRANTS, WHERE REQUIRED, SHALL BE INSTALLED AT EXISTING LOCATIONS WITH OPERATING NUT POSITIONED 24-INCHES BEHIND FACE OF CURB OR EDGE OF PAVEMENT. THE BREAKAWAY FLANGE SHALL BE SET 2-INCHES TO 4-INCHES ABOVE FINISHED GRADE. HYDRANTS SHALL OPEN "RIGHT" (CLOCKWISE).
 - PORTLAND CEMENT CONCRETE THRUST BLOCKS AND/OR GRAVITY BLOCKS SHALL BE CONSTRUCTED IN PLACE AT CHANGES OF PIPE DIRECTION (TEES, BENDS, ENDS) AND/OR BEHIND ENDS IN ACCORDANCE WITH PROVIDENCE WATER STANDARDS. FURTHERMORE, MECHANICAL JOINT THRUST RESTRAINTS SHALL BE PLACED ON EACH SIDE OF IN-LINE FITTINGS OR PIPE JOINTS PRIOR TO END CAPS/PLUGS SO AS TO SUFFICIENTLY RESTRAIN AN ADEQUATE LENGTH OF PIPE AT 1-1/2 TIMES THE STATIC PRESSURE, BUT IN ANY EVENT, NOT LESS THAN 150 PSI.

RESTRAINTS		RESTRAINTS		RESTRAINTS					
TAPPING SLEEVE	LENGTH	TAPPING SLEEVE	LENGTH	BENDS					
4"X4"	33'	12"X4"	33'	RESTRAINT LENGTH					
6"X4"	33'	12"X6"	47'	SIZE	90°	45°	22.5°	11.25°	-
6"X6"	47'	12" X 8"	61'	4"	13'	5'	3'	1'	-
8"X4"	33'	12"X10"	74'	6"	19'	8'	4'	2'	-
8"X6"	47'	12"X12"	87'	8"	24'	10'	5'	2'	-
8"X8"	61'	-	-	10"	29'	12'	6'	3'	-
10"X4"	33'	-	-	12"	34'	14'	7'	3'	-
10"X6"	47'	-	-						-
10"X8"	61'	-	-						-
10"X10"	74'	-	-						-

MDM _____ AMP _____
 DRAWN BY _____ CHECKED BY _____

N.T.S. _____ 11-9-2011
 SCALE _____ DATE

DIRECTOR OF ENGINEERING

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