

**CITY OF PORTSMOUTH, NEW HAMPSHIRE**

**ADDENDUM NO. 2**

To

**PEIRCE ISLAND FORCE MAIN AND WATER MAIN REPLACEMENT PROJECT**

**BID NO. 35-21**



The following changes and additional information are hereby made part of the Contract Documents.

**ANNOUNCEMENTS:**

1. A non-mandatory pre-bid meeting was held on Thursday September 16, 2021 at 1:00 pm at the Portsmouth Department of Public Works followed by a site tour of Peirce Island. Meeting minutes, a copy of the presentation, and a list of attendees are provided as an attachment to this Addendum.

**SPECIFICATIONS**

**SECTION 00200 – INSTRUCTION TO BIDDERS**

1. Page 00200-6, under ARTICLE 7 - INTERPRETATIONS AND ADDENDA, after paragraph 7.05, insert the following:  
“7.06 Alternates:  
  
Alternate Bids are required for certain portions of the work. Bidders shall submit prices for all alternates. The Owner reserves the right to select any and all alternates deemed to be in the best interest of the Owner.”
2. Page 00200-9, under ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS, after paragraph 14.01-Unit Price, insert the following:  
“14.02 Bidders shall submit a price for each item in the Bid Form and include a separate price for each alternate described in the Bidding Documents as provided in the Bid Form. The price for each alternate will be the amount added if Owner selects the alternate.”
3. Page 00200-10, under ARTICLE 19 - EVALUATION OF BIDS AND AWARD OF CONTRACT, after paragraph 19.06, insert the following:  
“19.07 Bids will be compared based on the Base Bid (the sum of Bid Items 1 through 18, or Base Bid plus Bid Alternate 1 whichever is in the best interest of the City.”

4. Page 00200-11, after ARTICLE 22 – PUBLIC HEALTH, insert the following:

“ARTICLE 23 - SALES AND USE TAX

- 23.01 Materials and equipment for permanent installation in this project are tax exempt. The Owner’s Tax ID Number is 02-6000714. Each bidder shall take this exemption into account in calculating his bid for the Work.”

SECTION 00301 - BID

1. Delete “Section 00301 – BID” and replace with the attached document titled “SECTION 00301 - BID”.

SECTION 01046 – CONTROL OF WORK

1. Page 01046-2, under paragraph 1.08, item A, delete "employed at his own expense" and replace with the following:

"when directed by the Owner or Engineer. The cost of flagmen will be paid for under the appropriate item in the Bid. The Contractor shall be responsible for arranging and coordinating the scheduling of flagmen. Should costs be incurred for flagmen due to mis-scheduling by the Contractor, the Contractor is responsible for these costs."

SECTION 01150 – MEASUREMENT AND PAYMENT

1. Delete “01150 – MEASUREMENT AND PAYMENT” and replace with the attached document titled “SECTION 01150 – MEASUREMENT AND PAYMENT”.

SECTION 01568 – EROSION CONTROL, SEDIMENTATION AND CONTAINMENT OF CONSTRUCTION MATERIALS

1. Page 01568-1. Insert the following under Article 1.03 – SUBMITTALS, at the end of paragraph C:

“In the SWPPP, Contractor shall assume responsibility for the maintenance, replacement if necessary, and regular inspection of the existing erosion and sediment control measures in unstabilized areas surrounding the 30” temporary force main on Peirce Island between the Peirce Island Boat Launch and the Wastewater Treatment Facility. Inspections shall occur weekly and within 24 hours of rainfall greater than 0.25”. Inspections shall be completed by a Certified Professional in Erosion and Sediment Control (CPESC) or a Professional Engineer licensed in the State of New Hampshire. Inspection reports shall be submitted to the Engineer within 24 hours.”

2. Page 01568-1. Insert the following after Article 1.04 - Quality Assurance:

“1.05 EXISTING EROSION CONTROL MAINTENANCE AND INSPECTIONS

- A. Upon Notice to Proceed, Contractor shall assume responsibility for the maintenance, replacement if necessary, and regular inspection of the existing erosion and sediment control measures in unstabilized areas surrounding the 30” temporary force main on Peirce Island between the Peirce Island Boat Launch and the Wastewater Treatment Facility. Inspections shall occur weekly and within 24 hours of rainfall greater than

0.25". Inspections shall be completed by a Certified Professional in Erosion and Sediment Control (CPESC) or a Professional Engineer licensed in the State of New Hampshire. Inspection reports shall be submitted to the Engineer within 24 hours."

#### SECTION 02530 - SANITARY SEWERAGE UTILITIES

1. Page 02530-10, at the end of paragraph 3.03, insert the following:

"M. A conductive indicator/tracer tape stating "CAUTION SEWER LINE BURIED BELOW" shall be placed at a depth of 2' directly over the main. A sample of this tape shall be submitted to the Engineer for approval prior to its use."

#### SECTION 02615 – DUCTILE IRON PIPE AND FITTINGS

1. Page 02615-6, under 2.07 – JOINTS, paragraph A, delete item 2.

#### APPENDIX D - CITY OF PORTSMOUTH FLAGGING PERMIT APPLICATION

1. Insert the attached document titled "APPENDIX D - Flagging Rules Procedures" into the beginning of Appendix D.

#### APPENDIX E – RECORD DRAWINGS

1. Insert the attached drawings titled "Appendix E - PI Bridge pier modification SK1" and "Appendix E - Portsmouth FM Leak Sketches" into the beginning of Appendix E.

#### **DRAWING:**

##### SHEET 00 G-002 – OVERALL SITE AND KEY PLAN

1. Delete Sheet 00 G-002 - Overall Site And Key Plan and replace it with the attached drawing of the same name.

##### SHEET 00 C-001 – LEGEND, ABBREVIATIONS AND GENERAL NOTES

1. Under GENERAL NOTES, item 12, insert "SHOWN ON THE CONTRACT DOCUMENTS" between "EXISTING UTILITIES" and "INTERFERING..."

##### SHEET 00 C-101 – EXISTING CONDITIONS, EROSION CONTROL AND DEMOLITION PLAN

1. Delete Sheet 00 C-101 - Existing Conditions, Erosion Control And Demolition Plan and replace it with the attached drawing of the same name.

##### SHEET 00 C-104 – CONTRACTOR ACCESS AND STAGING AREA AND SITE RESTORATION PLAN

1. Delete Sheet 00 C-104 – Contractor Access And Staging Area And Site Restoration Plan and replace it with the attached drawing of the same name.

SHEET 00 C-106 – PIPING PLAN AND PROFILE II

1. Between station 13+00 and 14+00, delete screened note “BENCH” and replace it with the following in bold:

“REMOVE, STOCKPILE AND RESTORE EXISTING BENCH”

SHEET 00 C-110 – PIPE PLAN AND PROFILE PEIRCE ISLAND BRIDGE SLIPLINING

1. Delete Sheet 00 C-110 – Pipe Plan And Profile Peirce Island Bridge Sliplining and replace it with the attached drawing of the same name.

SHEET 99 C-505 – DETAILS V

1. Delete Sheet 99 C-505 – Details V and replace it with the attached drawing of the same name.

**QUESTIONS:**

1. Aside from the 315 LF of 20” Fusible PVC® that is already specified in the project, is Fusible PVC allowed as a pipe material for all of the remaining lengths of pipe that are specified on this job?

Answer: No. Fusible PVC is not allowed for the remaining length of the pipe specified on this job.

2. Under spec section 02615-6 2.07 Joints 2. Provide mechanical joint gaskets with copper tips to provide electrical continuity. Could you provide an example of such gasket?

Answer: This requirement has been deleted from specifications.

3. In place of fusible PVC would it be accepted to quote 20” DIPS HDPE as an alternate?

Answer: No. 20” DIPS HDPE would not be acceptable as an alternate to fusible PVC.

4. Sheet C-001/Note 12: Please confirm. This seems a bit unfair to relocate existing utilities at no cost. Requesting reconsideration.

Answer: The note has been revised.

5. Sheet C-105: Please confirm the need for an 8” temporary water main. Generally we don’t see same size temporary water mains.

Answer: Confirmed. An 8” diameter temporary water main is required.

6. Sheet C-505/Pipe Support Detail: This is the only reference to pipe supports. Are we replacing pipe supports? What locations? I did not see a specification in the contract documents?

Answer: Refer to sheet 00 C-110 for locations of pipe supports.

7. Please indicate what the proposed start date would be and/or when the City believes the contract would be awarded.

Answer: The Contract is expected to be awarded within the 90 day bid holding period.



8. Substantial Completion at 160 days and final completion at 220 days. Please identify what requirements are needed for substantial completion.

Answer: Refer to the Substantial Completion requirements in Section 00700 and 01150.

9. Specification Section 00800-3 and 01046-6: Please confirm the requirement of a LLS for reference points and layout. Is a PE acceptable? Will the engineer be providing control for the project?

Answer: A Licensed Land Surveyor is required. A PE is not acceptable. Refer to Note 3 under GENERAL NOTES on sheet 00 C-001 for information related to nearby benchmarks.

10. Specification Section 01046-2: Lists flaggers to be by the contractor, but there is not item. There is also no traffic control item other than the allowance. Is this incidental? Is the allowance meant to cover any traffic control items outside the police detail allowance? Who determines when a police detail can be used and when flaggers should be used?

Answer: Refer to the changes made in Section 01150 and Section 01046.

11. Specification Section 01380-2: Please confirm the need of a "Professional Photographer of Construction Projects" for construction photos and video.

Answer: Confirmed. A professional photographer is required as specified.

Meeting minutes, a copy of the presentation, and a list of attendees

**AECOM**

250 Apollo Dr., Chelmsford, Massachusetts 01824  
T 978.905.2100 F 978.905.2101 [www.aecom.com](http://www.aecom.com)

## Memorandum

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Job No. 60649477  
Date: September 16, 2021  
To: File  
From: Erik Meserve  
Subject: City of Portsmouth, NH Bid No. 35-21 Peirce Island Force Main and Water Main Replacement Project Pre-Bid Conference

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In accordance with the bidding procedure stated in the Invitation to Bid, on September 16, 2021, a non-mandatory Pre-Bid Conference for the Peirce Island Force Main and Water Main Replacement Project was held at 1:00 p.m. at the Portsmouth Department of Public Works followed by a site tour of Peirce Island. A copy of the attendees list is attached.

### General Discussion

Following an introduction of the representatives of the City and AECOM, AECOM presented an overview of the project. An overview of the Scope of the Work was presented, and the following major points were noted:

1. Peirce Island is located in the Piscataqua River near downtown Portsmouth. It is relatively close to I-95 and Route 1. At one end is the Peirce Island Wastewater Treatment Facility (WWTF).
2. Current raw wastewater flows from the Mechanic St. Pump Station on the mainland under the bridge through a 16 inch and a 24 inch ductile iron force main. Flow is then conveyed to the Peirce Island WWTF via a buried 18" ductile iron force main and a temporary 30" above grade HDPE force main. There is a buried 24" ductile iron force main that has been taken out of service and has been replaced by the temporary 30" force main.
3. The three main components of the scope of work were reviewed including replacement of the 8" water main with a 12" water main, installation of two new 24" HDPE force mains, and installation of a 20" fusible slipliner in the 24 inch force main underneath the Peirce Island Rd. Bridge.
4. The mandatory construction vehicle haul route is defined in the documents. Monetary penalties will be assessed should construction traffic differ from this route.
5. Addendum 1 has been issued and has been posted on the City's website. Addendum 2 will be issued in the near future and will include revising the bid form to address the 20" fusible PVC slipliner as a bid alternate.
6. The suggested sequence of construction to continue to maximize wastewater flow to the WWTF during construction of the project was reviewed. Alternate approaches will be considered.
7. The environmental permit requirements to protect threatened species were reviewed. Primarily, these include orange construction fencing. Additionally, the Contractor will assume responsibility for stormwater controls in areas that were unable to be stabilized due to the installation of the temporary force main.

8. The temporary facilities and staging areas were reviewed. The staging area near the boat launch is surrounded by a wooden railing that will need to be restored if disturbed and a subsurface panel drain system that will also need to be restored if damaged.
9. The bid opening date is currently September 30, 2021. Bids need to include the bid form, which will be modified in Addendum No. 2, and bid security. The bid form must be complete with values for the bid alternate.
10. Bids should be delivered to the Front Desk at City Hall and will be opened in the Seybolt Conference Room.
11. Questions must be received at least seven days before the bid date, which currently would be September 21, 2021. If required, the final addenda will be issued five days before the bid date.
12. Any addenda will be posted to the City's Purchasing website. They will not be distributed to Bidders. It is the responsibility of the Bidder to check the website.

A copy of the presentation is attached.

### **Questions**

Following the project overview, a question and answer period was held. The following questions were asked:

Q: Can this work be performed in the winter?

A: Yes. The City is currently renting the temporary force main, so the goal is to have it removed from service as soon as possible. If temporary water main is installed in the winter, it must be protected from freezing. The City has an overlapping project to construct a new pool house that will primarily take place in the Peirce Island Pool Parking Lot that will start over the winter. Activity on Peirce Island is quietest in the winter. During spring it can be busy with dog walkers in particular. In the summer, it is very busy with events on Four Tree Island and the Peirce Island Pool which opens in June.

Q: What is the engineer's estimate for this project?

A: It is approximately \$3.5M, including the fusible PVC slipliner which will be a bid alternate.

Q: Has the project team confirmed with pipe suppliers that the pipe readily available?

A: Vendor quotes were obtained in July confirming that the HDPE pipe was available.

Q: Are there requirements for temporary fencing around the work?

A: No, there are not.

Q: Which underground pipe is active?

A: The buried 18" ductile iron force main on Peirce Island is active. The buried 24" ductile iron force main has been taken out of service. The new 24" force mains will be installed in the same but widened trench as the existing buried 24" ductile iron force main for the most part while the existing buried 18" ductile iron force main will, for the most part, be abandoned.

Q: Who is responsible for disconnecting the 30" temporary force main?

A: The Contractor is responsible for disconnecting and carefully move aside the 30" temporary

force main. The dismantling and removal of the 30" temporary force main will be done by others.

Q: What is the location of the 2 existing buried force mains?

A: The force main low point drain manhole that is called out to be demolished near the staging area that is closest to the boat launch is in between the two existing buried force mains. The force main locations vary across the island.

Q: Is blasting permitted?

A: Yes. The City has a blasting ordinance that must be complied with, a blasting permit that must be obtained prior to blasting, and the specifications contain requirements related to pre-construction surveys and vibration monitoring.

Q: What are the materials of the current buried piping?

A: The buried force mains are ductile iron. The material of the existing water main is not known.



Peirce Island Force Main and Water Main Replacement  
Bid No. 35-21  
Pre-Bid Meeting  
September 16, 2021

# Topics of Discussion

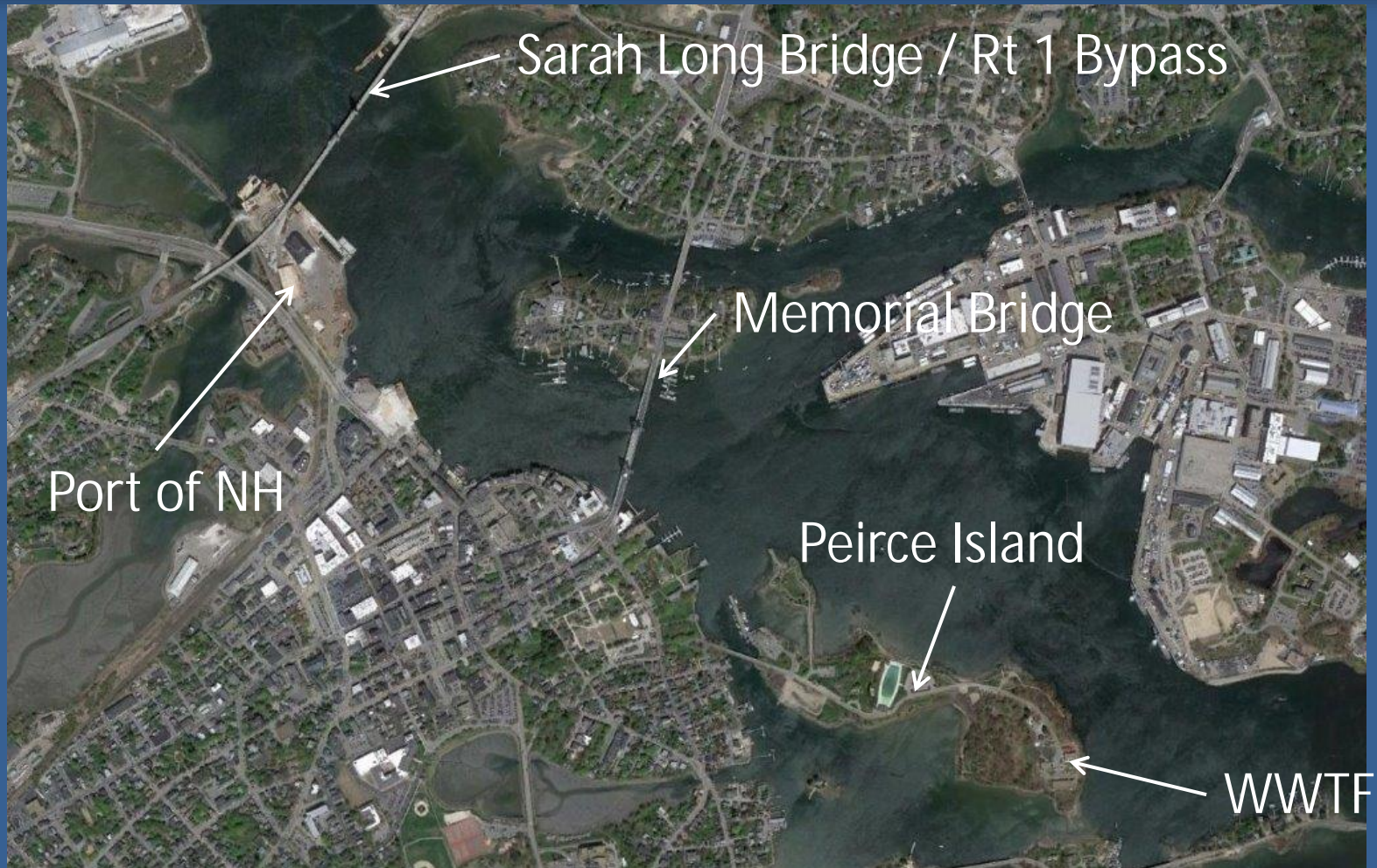
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- Introductions
- Project Overview
- Traffic Management
- Bid Alternate
- Suggested Work Sequencing and Restrictions
- Permit Requirements and Protection of Threatened Plant Species
- Temporary Facilities
- Bid Submittal Requirements
- Questions & Answers
- Site Tour





# Project Overview





# Project Overview



# Traffic Management Plan



# Bid Alternate

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- Alternate 1 – Additional Cost Above Base Bid to construct the sliplining of 20" PVC pipe below the bridge
  - To be issued as part of Addendum No. 2





# Work Sequencing & Restrictions

**Step 3** – The contractor shall drain the exist. 24" DI FM under bridge and transport its contents to the WWTF in coordination with the City. Install and Test the new 20" fusible PVC sliplining.

*\* Wastewater now flows through the exist. 16" FM under the bridge into the exist. 18" DI FM, and the new NORTHERN 24" HDPE FM.*

## Water Main Construction

Install, test and disinfect the temporary water main before putting into service. Construct, test and disinfect 12" Water Main to replace exist. 8" Water Main.

**Step 1** - Construct and test two new 24" HDPE FMs without disturbing the temp 30" HDPE FM connections to existing FMs.

*\* Wastewater now flows through the exist. 16" FM under the bridge into the exist. 18" DI FM, and the temp. 30" FM.*

**Step 4** - Take exist. 18" DI FM out of service. Place the 20" PVC slipliner and the NORTHERN 24" HDPE FM in service. *\* All wastewater now flows through this route.*

Drain & transport 18" DI FM contents to WWTF. Demolish & abandon 18" DI FM segments called for. Complete segments/connections left for the new SOUTHERN 24" HDPE FM. Test it and put it into Operation.

*\* Now wastewater flows through the 20" PVC slipliner, and two new 24" HDPE FMs.*

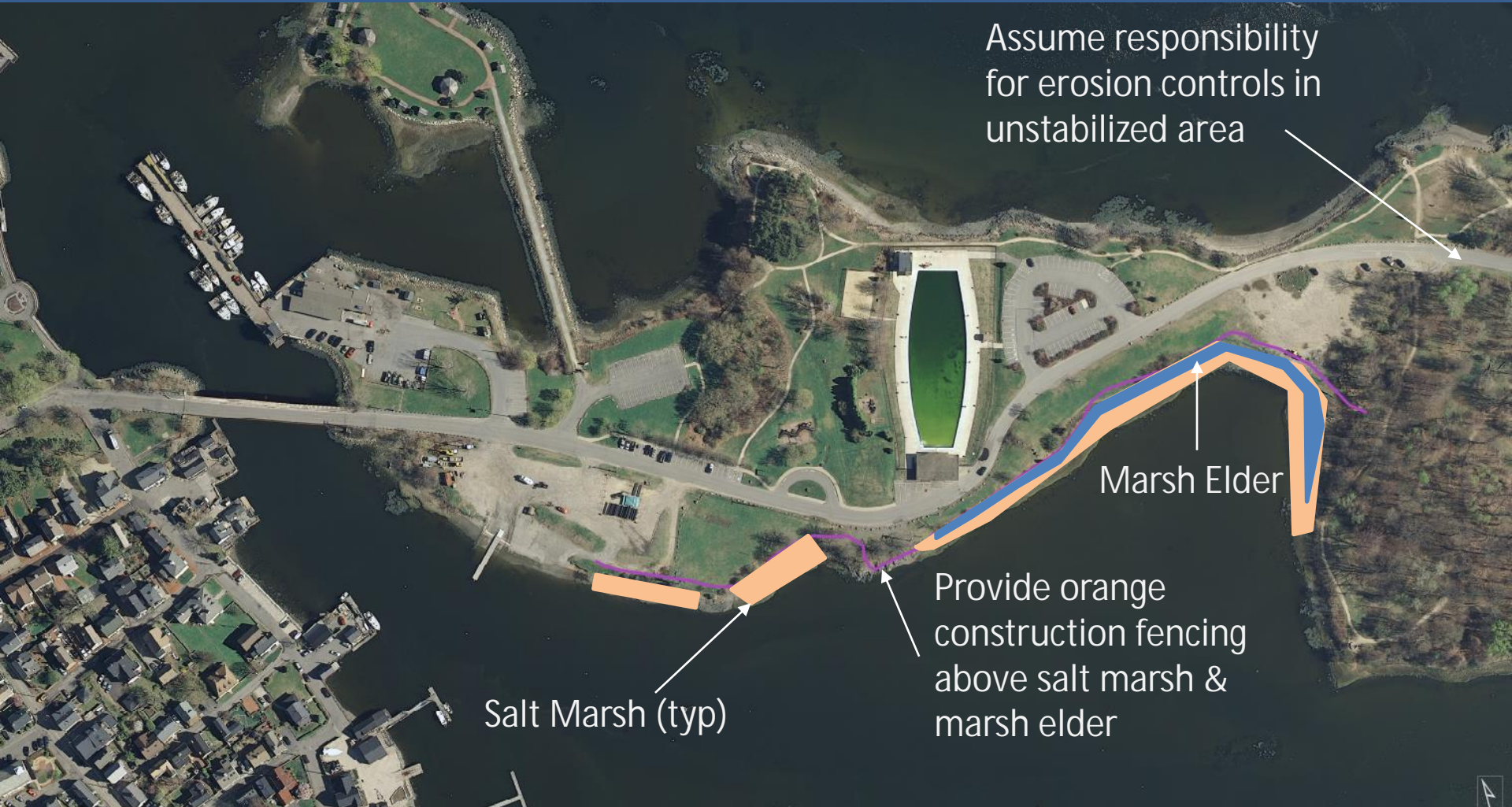
**Step 2** – Take temp. 30" HDPE FM out of service, disconnect and move it aside. The contractor shall drain temp. 30" HDPE FM and transport its contents to the WWTF in coordination with the City.

Complete and test the new NORTHERN 24" HDPE FM and its connections/valves. Once done, put this FM in service.

*\* Wastewater now flows through the exist. 16" FM under the bridge into the exist. 18" DI FM, and the new NORTHERN 24" HDPE FM.*



# Permit Requirements and Protection of Threatened Plant Species



Assume responsibility for erosion controls in unstabilized area

Marsh Elder

Provide orange construction fencing above salt marsh & marsh elder

Salt Marsh (typ)



# Temporary Facilities

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- Specification Section 01500
- Temporary Field Office
- Temporary Storage Yards
- Temporary Fence





# Temporary Facilities



Contractor Staging Area

Temp. Fence

Contractor Staging Area



# Bid Submittal Requirements

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- Bid Form (Section 00301 – to be revised in Addendum 2)
- Bid Alternate 1 (To be issued in Addendum 2)
- Bid Security





# Questions?

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- Submit Questions No Later Than 7 Days Before Bid Date (Currently September 21<sup>st</sup>)
- Email: [erik.meserve@aecom.com](mailto:erik.meserve@aecom.com)
- Phone: [978-905-3145](tel:978-905-3145)
- Sooner is Better!





PEIRCE ISLAND FORCE MAIN AND WATER MAIN REPLACEMENT  
 BID OPENING DATE: SEPTEMBER 30, 2021

SIGN IN SHEET  
 PRE-BID MEETING AND SITE VISIT  
 1 pm, September 16, 2021

Name	Representing	Phone Number	Email
Brett Duran	J P Cardillo	781-315-1715	brett@jpcardillo.com
Erik Meserve	AECOM	978 905 3145	erik.meserve@aecom.com
Joe White	NE Earth Mechanics	603-496-2049	Joew@neearth.com
Jon Pearson	AECOM	978-905-3158	jon.pearson@aecom.com
Franie Lee	SEVERINO	603-234-8516	blee@severinobuilding.com
Jason deWitt	SUIC	603.332.4554	jde Witt@severinobuilding.com
Jonathan Hixon	MACmetals	603-548-5803	J.Hixon@macmetalsnh.com
Zach Cronin	City of Portsmouth	603-616-7304	ZmCronin@City of Portsmouth.com
Terry Degraais	City of Portsmouth	603-766-1421	tdegraais@cityofportsmouth.com
Will Aylward	United Rentals	978-273-4463	waylward@ur.com
Stew McCamach	DEFELICE CORP	978-377-5044	stewcamach@defelicecorp.com

SECTION 00301 – BID

SECTION 00301

BID

PEIRCE ISLAND FORCE MAIN AND WATER MAIN REPLACEMENT

CITY OF PORTSMOUTH, NEW HAMPSHIRE

BID NUMBER #35-21

**ARTICLE 1 – BID RECIPIENT**

1.01 This Bid is submitted to:

**City of Portsmouth, NH  
Finance/Purchasing Department  
1 Junkins Avenue  
Portsmouth, NH 03801**

(Hereinafter called Owner)

Deliver sealed Bids to the Front Desk at City Hall, addressed to the Purchasing Coordinator.

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

**ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS**

2.01 Bidder accepts all of the terms and conditions of the 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 the Bid withdrawal time period specified in the Invitation to Bid or Instructions to Bidders after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

**ARTICLE 3 – BIDDER’S REPRESENTATIONS**

3.01 In submitting this Bid, Bidder represents that:

- A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.

Addendum Date

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

- B. Bidder has carefully examined the sites of the proposed work and fully informed and satisfied himself as to the conditions there existing, the character and requirements of the proposed work, the difficulties attendant upon its execution and the accuracy of all estimated quantities stated in this Bid, and the Bidder has carefully read and examined the Bidding Documents therein referred to and knows and understands the terms and provisions thereof.
- C. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- D. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- E. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) that have been identified in SC-4.02 as containing reliable "technical data," and (2) reports and drawings of Hazardous Environmental Conditions, if any, at the Site that have been identified in SC-4.06 as containing reliable "technical data."
- F. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.
- G. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- H. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

- I. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

#### **ARTICLE 4 – BIDDER’S CERTIFICATION**

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
  - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
  - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
  - 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
  - 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

#### **ARTICLE 5 – BASIS OF BID**

- 5.01 Bidder will complete the Work in accordance with the Contract Documents for the following unit prices:
- A. Unit Price shall be computed in accordance with Paragraph 11.03 of the General Conditions.

Item No.	Estimated Quantity	Brief description; Unit or lump sum price bid in both words and figures	Total Figure
1		WATER MAIN REPLACEMENT	
1a	920 lin. ft.	12-in. ductile iron water pipe with Polyethylene Encasement, per lin. ft.,  _____ dollars and _____ cents (\$_____)	\$_____
1b	1 valve	12-in. gate valve assembly, per valve,  _____ dollars and _____ cents (\$_____)	\$_____
1c	Lump Sum	Temp water system (potable), the lump sum of,  _____ dollars and _____ cents (\$_____)	\$_____
1d	1 connection	State Commercial Fish Pier Water Main Connection, per connection,  _____ dollars and _____ cents (\$_____)	\$_____
1e	1 connection	Four Tree Island Water Main Connection, per connection,  _____ dollars and _____ cents (\$_____)	\$_____
1f	1 connection	Installation of drinking water fountain and drinking water fountain connection, per connection,  _____ dollars and _____ cents (\$_____)	\$_____
2		FORCE MAIN REPLACEMENT	
2a	250 lin. ft.	Replacement of existing 18" ductile iron force main with 24" HDPE, per lin. ft  _____ dollars and _____ cents (\$_____)	\$_____

Item No.	Estimated Quantity	Brief description; Unit or lump sum price bid in both words and figures	Total Figure
2b	8 plugs	Cutting, plugging and abandonment of 18" FM on the island, per plug  _____ dollars and _____ cents (\$_____)	\$_____
2c	4 EA	Connections to existing ductile iron force main, per each  _____ dollars and _____ cents (\$_____)	\$_____
2d	2 disconnec- tions	Disconnecting 30-in. temporary force main, per disconnection.  _____ dollars and _____ cents (\$_____)	\$_____
2e	4,140 lin. ft.	24-in. High Density Polyethylene force main, per lin. ft.,  _____ dollars and _____ cents (\$_____)	\$_____
2f	1 valve	24-in gate valve assembly, per valve,  _____ dollars and _____ cents (\$_____)	\$_____
2g	1 set	Force main connections to the State Commercial Fishing Pier, per set of connections,  _____ dollars and _____ cents (\$_____)	\$_____
2h	1 set	Force main connections to Four Tree Island, per set of connections,  _____ dollars and _____ cents (\$_____)	\$_____



Item No.	Estimated Quantity	Brief description; Unit or lump sum price bid in both words and figures	Total Figure
2i	2 sets	Force main connections to the swimming pool and pool pump station, per set of connections,  _____ dollars and _____ cents (\$_____)	\$_____
3	2 connection	Force main blowoff connections, per connection,  _____ dollars and _____ cents (\$_____)	\$_____
4		<b>FORCE MAIN BLOWOFF MANHOLES:</b>	
4a	1 Bases	Blowoff manhole bases, per base,  _____ dollars and _____ cents (\$_____)	\$_____
4b	15 vert. ft.	Blowoff manhole walls and cones, per vert. ft.,  _____ dollars and _____ cents (\$_____)	\$_____
4c	1 Sets	Installation of manhole frames and covers, per set,  _____ dollars and _____ cents (\$_____)	\$_____
5		<b>MISCELLANEOUS EARTH EXCAVATION:</b>	
5a	60* cu. yd.	Excavation and backfill for test pits, per cu. yd.,  _____ dollars and _____ cents (\$_____)	\$_____
5b	150* cu. yd.	Excavation below normal depth, per cu. yd.,  _____ dollars and _____ cents (\$_____)	\$_____
6	150 * cu. yd.	Change in the quantity of earth excavation and backfill due to water main or force main depth change, per cu. yd.,  _____ dollars and _____ cents (\$_____)	\$_____

Item No.	Estimated Quantity	Brief description; Unit or lump sum price bid in both words and figures	Total Figure
7	2,900* cu. yd.	Rock excavation and disposal, per cu. yd., (minimum bid 75.00 per cu. yd.)** _____ dollars and _____ cents (\$_____)	\$_____
8	100* cu. yd.	Bank run gravel, per cu. yd., _____ dollars and _____ cents (\$_____)	\$_____
9	100* cu. yd.	Additional screened gravel, per cu. yd., _____ dollars and _____ cents (\$_____)	\$_____
10		PAVEMENT:	
10a	270* cu. yd.	8" NHDOT Crushed Stone, per cu. yd., _____ dollars and _____ cents (\$_____)	\$_____
10b	1,200* sq. yd.	2 1/2-inch bituminous concrete binder course permanent pavement, per sq. yd., _____ dollars and _____ cents (\$_____)	\$_____
10c	300* lin. ft.	Remove and reset granite curbing, per lin. ft., _____ dollars and _____ cents (\$_____)	\$_____
11	35* sq. yd.	Concrete sidewalk, per sq. yd., _____ dollars and _____ cents (\$_____)	\$_____
12	4,000* lbs.	Calcium chloride for dust control, per lb., _____ dollars and _____ cents (\$_____)	\$_____
13		STORMWATER MANAGEMENT	

Item No.	Estimated Quantity	Brief description; Unit or lump sum price bid in both words and figures	Total Figure
13a	Lump Sum	Stormwater Pollution Prevention Plan, the lump sum of  _____ dollars and _____ cents (\$_____)	\$_____
13b	Lump Sum	Monitoring SWPPP and Erosion and Sediment Controls, the lump sum of  _____ dollars and _____ cents (\$_____)	\$_____
14	Lump Sum	Removing previously installed traffic signs, the lump sum of  _____ dollars and _____ cents (\$_____)	\$_____
15	Allowance	Services of police details, an allowance of:  <u>Fifteen Thousand</u> _____ dollars and <u>No</u> _____ cents	<u>\$15,000.00</u>
16	Allowance	Additional Traffic Control, an allowance of:  <u>Forty Five Thousand</u> _____ dollars and <u>No</u> _____ cents	<u>\$45,000.00</u>
17	2 Message boards	Variable message boards, per message board,  _____ dollars and _____ cents (\$_____)	\$_____
18	Lump Sum	Mobilization, (maximum 5% of items 1 thru 18), the lump sum of,  _____ dollars and _____ cents (\$_____)	\$_____

Item No.	Estimated Quantity	Brief description; Unit or lump sum price bid in both words and figures	Total Figure
Bid Alt 1	Lump sum	20-in. fusible polyvinylchloride force main slipliner, the lump sum of, _____ dollars and _____ cents (\$_____)	\$_____

\*Indeterminate; quantity assumed for comparison of bids.

\*\*Bidder must insert minimum price or greater and insert extended item prices.

**For informal comparison only and not to be considered as part of this BID, the total price for Items 1 to 18 inclusive, excluding Bid Alternate 1, derived as described in the INFORMATION FOR BIDDERS under the heading “Comparison of Bids,” is**

\_\_\_\_\_ dollars

and \_\_\_\_\_ cents

\$ \_\_\_\_\_

Bids will be compared based on the Base Bid (the sum of Bid Items 1 through 18), or Base Bid Plus Bid Alternate 1 whichever is in the best interest of the City.

The undersigned agrees that for extra work, if any, performed in accordance with the terms and provisions of the annexed form of AGREEMENT, he will accept compensation as stipulated therein in full payment for such extra work.

If this BID is accepted by the Owner, the undersigned agrees to complete the entire work provided to be done under the Contract within the time stipulated in the AGREEMENT.

#### **ARTICLE 6 – TIME OF COMPLETION**

6.01 Regardless of whether Bid Alternate 1 is executed, Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Regardless of whether Bid Alternate 1 is executed, Bidder accepts the provisions of the Agreement as to liquidated damages.

#### **ARTICLE 7 – ATTACHMENT TO THIS BID**

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid security in the form of a certified treasurer’s or cashier’s check or bid bond.

**ARTICLE 8 – DEFINED TERMS**

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

**ARTICLE 9 – BID SUBMITTAL**

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): \_\_\_\_\_

By: \_\_\_\_\_  
(Individual’s signature)

Doing business as: \_\_\_\_\_

A Partnership

Partnership Name: \_\_\_\_\_

By: \_\_\_\_\_  
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

A Corporation

Corporation Name: \_\_\_\_\_ (SEAL)

State of Incorporation: \_\_\_\_\_

Type (General Business, Professional, Service, Limited Liability): \_\_\_\_\_

By: \_\_\_\_\_  
(Signature -- attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_  
(CORPORATE SEAL)

Attest \_\_\_\_\_

Date of Qualification to do business in New Hampshire is \_\_\_\_/\_\_\_\_/\_\_\_\_.

A Joint Venture

Name of Joint Venture: \_\_\_\_\_

First Joint Venturer Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_  
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

Second Joint Venturer Name: \_\_\_\_\_ (SEAL)

By: \_\_\_\_\_  
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): \_\_\_\_\_

Title: \_\_\_\_\_

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address \_\_\_\_\_

\_\_\_\_\_

Phone No. \_\_\_\_\_ Fax No. \_\_\_\_\_

E-mail \_\_\_\_\_

SUBMITTED on \_\_\_\_\_, 2021.

State Contractor License No. \_\_\_\_\_.

Sworn and subscribed to before me this

\_\_\_\_\_ day of \_\_\_\_\_, 2021.

\_\_\_\_\_  
Notary or other officer authorized to administer oaths

My commission expires: \_\_\_\_\_, 20 \_\_\_\_ .

(Bidders shall not add any conditions or qualifying statements to this Bid as otherwise the Bid may be declared irregular as being not responsive to the advertisement. **BIDDERS SHALL USE THIS BID FORM IN SUBMITTING THEIR BIDS.**)

END OF SECTION

SECTION 01150 – MEASUREMENT AND PAYMENT



## SECTION 01150

### MEASUREMENT AND PAYMENT

#### PART 1 - GENERAL

##### 1.01 MEASUREMENT AND PAYMENT – GENERAL:

- A. The following subsections describe the measurement of and payment for the work to be done under the items listed in the BID.
  - 1. Estimates of lump sum items shall be based on a schedule of values dividing each such item into its appropriate component parts together with a quantity and a unit price for each part so that the sum of the products of prices and quantities will equal the Contract price for the item. This schedule shall be submitted by the Contractor for and must have the approval of the Engineer before the first estimate becomes due. Submit the schedule of values in accordance with Articles 2.05.A and 2.07 of the General Conditions.
- B. Each unit or lump sum price stated in the BID shall constitute full compensation as herein specified for each item of work completed in accordance with the drawings and specifications, including cleanup
- C. Unless otherwise indicated, the prices for those items which involve excavation shall include compensation for disposal of surplus excavated material, handling water, and installation of all necessary sheeting and bracing.
- D. In all items involving excavation, the price shall be based on doing the entire excavation in earth. Where rock is excavated, the price therefor, shall be in addition to the cost of excavating earth, and no deduction will be made in the amount for earth excavation.
- E. The prices for all pipe items (water main and force main) shall constitute full compensation for furnishing, laying, jointing, and testing pipe; earth excavation and backfill; polyethylene wrap (where required); furnishing and installing non-woven geotextile; clearing; cleaning up; screened gravel; site restoration including loaming and seeding, repairing of existing sidewalks, curbing, fences, signs, walls or other structures that are damaged by the Contractor's operations, all necessary grading and reseeded of grassed areas disturbed by the Contractor's operations, other property damaged by the Contractor's activities and not otherwise included under separate pay items.
- F. In all items involving pipelines, 80 percent of the pipe item price will be included in progress estimates when all of the work referred to in the preceding paragraph except testing and cleaning up has been completed. An additional 10 percent will be included in progress estimates when a section of pipeline has satisfactorily met the test requirements and an additional 10 percent will be included when cleaning up of a section of the pipeline has been satisfactorily completed.

1.02 LIMITS OF NORMAL EXCAVATION:

- A. In determining the quantities of excavation to which unit prices shall apply, the limits of normal width and depth of excavation shall be as described below, unless other limits are indicated on the Drawings or specified.
- B. For pipes in trench, the normal width of the trench shall be measured between vertical planes which are a distance apart equal to the sum of 18 inches plus 1-1/3 times the nominal inside diameter of the pipe. If the width so computed is less than 3 feet, a width of 3 feet shall be taken as the normal width for payment. The normal depth shall be measured to a distance of 0.2 feet below the bottom of the pipe in earth and 0.7 feet in rock, unless there is a cradle underneath the pipe, in which case the normal depth shall be measured to the underside of the cradle. The width of trench for the cradle shall be assumed to be that specified above for pipes in trench.
- C. For concrete placed directly against undisturbed earth, the normal width and depth of the excavation for such concrete shall be measured to the neat lines of the concrete as indicated on the Drawings or as ordered.
- D. For concrete placed against rock surfaces resulting from rock excavation, the normal width and depth of the excavation shall be measured to 4 inches outside the neat lines of the concrete as indicated on the Drawings or as ordered.
- E. For other structures, except manholes as noted below, the normal width shall be measured between vertical planes 1 foot outside the neat lines of the several parts of the structure, except that the width at any elevation shall be measured as not less than the width at a lower elevation. The normal depth shall be measured to the underside of that part of the structure for which the excavation is made.
- F. No additional width or depth of trenches excavated in earth or rock shall be allowed at standard circular manholes.
- G. Wherever bell holes are required for jointing pipe, they shall be provided without additional compensation over and above that resulting from measurements as above described.

1.03 WATER MAIN REPLACEMENT

- A. The length of water main to be paid for under the appropriate subdivision of this item shall be measured by the linear foot along a horizontal projection of the centerline of the completed water main. No deduction will be made for the length of valves or fittings in the completed water main.
- B. The unit price for the appropriate subdivision of this item shall constitute full compensation for demolition of the existing 8" ductile iron water main, the construction of the 12" ductile iron water main, complete, as indicated on the drawings and as specified

including all work incidental thereto and not specifically included for payment under other items.

- C. The number of 12-in gate valve assemblies to be paid for under the appropriate subdivision of this item shall be the actual number of valve assemblies installed.
- D. The unit price for the appropriate subdivision of this item shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary, and for installing, setting, joining; for restrained joints and/or thrust blocks, and for all other incidental work and expenses of the 12-inch gate valves assembly.
- E. The lump sum price for the appropriate subdivision of this item shall constitute full compensation for furnishing, installing, testing, maintenance and removal of temporary potable water system including, but not limited to: furnishing a detailed temporary water system design (including required submittals or resubmittals); providing notice to property owners; excavating and backfilling to install temporary pavement; furnishing, installing, and removing hard-pack for driveway crossings; furnishing, installing, disinfecting and maintaining the system including temporary hydrants and service connections; connecting temporary services to properties including any necessary plumbing modifications; providing 24-hour maintenance of the system, removal of the system, restoring all surfaces to their original condition; and all other work required for or incidental to the satisfactory completion of this item.
- F. The unit price for the appropriate subdivision of this item shall constitute full compensation for connecting the new water main to the existing State Fish Pier connections, as indicated on the drawings, including but not limited to one (1) 12-in. X 6-in. tee, and one (1) 6-in. gate valve assembly as specified and not specifically paid for under other items.
- G. The unit price for the appropriate subdivision of this item shall constitute full compensation for connecting the new water main to the existing Four Tree Island connections, as indicated on the drawings, including but not limited to one (1) 12-in. X 4-in. tee, one (1) 4-in. gate valve assembly and one (1) 4-in. X 3-in. reducer as specified and not specifically paid for under other items.
- H. The lump sum price for the appropriate subdivision of this item shall constitute full compensation for furnishing, installing, and testing the drinking water fountain connection according to the contract documents, including, but not limited to: two (2) curb stops, one (1) drywell, one (1) backflow preventer, one (1) non-freeze hose bib, one (1) plastic meter box, interconnecting piping and fittings, installation of a drinking water fountain to be provided by the Owner, and installation of a water meter to be provided by the Owner; restoring all surfaces to their original condition; and all other work required for or incidental to the satisfactory completion of this item.

1.04 FORCE MAIN REPLACEMENT:

- A. The length of force main to be paid for under the appropriate subdivision of this item shall be measured by the linear foot along a horizontal projection of the centerline of the completed force main.
- B. The unit price for the appropriate subdivision of this item shall constitute full compensation for replacing the existing 18-in. ductile iron sewer force main with 24-in. High Density Polyethylene force main, complete, including, but not limited to, excavating (except ledge and rock); providing excavation support; dewatering; furnishing and installing bedding material, jointing, backfilling; compacting all lifts and all other work required for or incidental to the satisfactory completion of this item, disconnecting the existing 18-in. force main as indicated on the drawings and as specified and not specifically paid for under other items.
- C. The number of plugs to be paid for under the appropriate subdivision of this item shall be the actual number of plugs installed to abandon the existing 18" force main.
- D. The unit price for the appropriate subdivision of this item shall constitute full compensation for cutting, plugging, and abandoning the existing 18-in. ductile iron force main complete, including, but not limited to, excavating (except ledge and rock); providing excavation support; dewatering; flushing the force main with clean water, transport to and disposing of flush water at the Peirce Island WWTF, furnishing and installing bedding material, furnishing and installing concrete plugs, backfilling; compacting all lifts and all other work required for or incidental to that indicated on the drawings and as specified and not specifically paid for under other items.
- E. The number of connections to the existing ductile iron force main to be paid for under the appropriate subdivision of this item shall be the actual number of connections made.
- F. The unit price for the appropriate subdivision of this item shall constitute full compensation for connecting new force mains to existing force mains during force main replacement construction, including, one connection to the existing 18-in. force main near the bridge, one connection near the Peirce Island Boat Launch where the temporary 30-in. above grade force main connects to the existing 24-in. force main, and two connections at the WWTF end as indicated on the drawings and as specified and not specifically paid for under other items. Connections to the sliplined portion of the force main on either end of the bridge crossing will not be included for payment under this item.
- G. The number of disconnections of the above grade temporary 30-in. force main to be paid for under the appropriate subdivision of this number shall be the actual number of disconnections made.
- H. The unit price for the appropriate subdivision of this item shall constitute full compensation for each disconnection to the above grade temporary 30-in. ductile iron force main as indicated on the drawings and as specified and not specifically paid for under other items.

- I. The length of force main to be paid for under the appropriate subdivision of this item shall be measured by the linear foot along a horizontal projection of the centerline of the completed force main.
- J. The unit price for the appropriate subdivision of this item shall constitute full compensation for the demolition of the existing 18-in. and 24-in. ductile iron force mains, constructing the new 24-in. High Density Polyethylene force mains along the Peirce Island Road, complete, as indicated on the drawings and as specified including all work incidental thereto and not specifically included for payment under other items.
- K. The number of 24-in. gate valve assemblies to be paid for under the appropriate subdivision of this item shall be the actual number of valve assemblies installed.
- L. The unit price for the appropriate subdivision of this item shall constitute full compensation for furnishing all valves, valve boxes, labor, materials, tools and equipment necessary, and for installing, setting, joining; for restrained joints and/or thrust blocks, and for all other incidental work and expenses of the 24-inch gate valves assembly.
- M. The number of force main connections to the State Fish Pier to be paid for under the appropriate subdivision of this item shall be the actual number of connections to the State Fish Pier installed.
- N. The unit price for the appropriate subdivision of this item shall constitute full compensation for connecting the new force mains to the existing State Fish Pier connections, as indicated on the drawings, including but not limited to two (2) 2-in. gate valve assemblies, one (1) 2-in. wye, one (1) 24-in. X 8-in. HDPE tee with reduction to 2-in., one (1) 24-in. X 8-in. ductile iron wye with reduction to 2-in., and connecting the 2-in. sanitary sewer force main and as specified and not specifically paid for under other items.
- O. The number of force main connections to Four Tree Island to be paid for under the appropriate subdivision of this item shall be the actual number of connections to Four Tree Island installed.
- P. The unit price for the appropriate subdivision of this item shall constitute full compensation for connecting the new force mains to the existing Four Tree Island connections, including but not limited to two (2) 2-in. gate valve assemblies, one (1) 2-in. wye, two (2) 24-in. X 8-in. HDPE tees with reduction to 2-in., and connecting the 2-in. sanitary sewer force main as indicated on the drawings and as specified and not specifically paid for under other items.
- Q. The number of force main connections to the Peirce Island Pool and Pool Pump Station to be paid for under the appropriate subdivision of this item shall be the actual number of connections to the Peirce Island Pool and Pool Pump Station installed.
- R. The unit price for the appropriate subdivision of this item shall constitute full compensation for connecting the new force mains to the existing connections to the Peirce Island Pool and Pool Pump Station, including but not limited to two (2) 2-in. gate valve assemblies, one (1) 2-in. wye, two (2) 24-in. X 8-in. HDPE tees with reduction to 2-in., and connecting the 2-in.

sanitary sewer force main as indicated on the drawings and as specified and not specifically paid for under other items.

#### 1.05 FORCE MAIN BLOWOFF CONNECTIONS

- A. The number of force main blowoff connections to be paid for under the appropriate subdivision of this item shall be equal to the actual number of force main blowoff connections furnished and installed, complete, as indicated and specified.
- B. The unit price for the appropriate subdivision of this item shall constitute full compensation for furnishing and installing blowoff connections, complete, including tee fitting, 6-in. HDPE blowoff piping, fittings, 6-in. gate valve with stem and valve box, and connections to new manholes, and screened gravel, as indicated on the drawings and as specified.

#### 1.06 FORCE MAIN BLOWOFF MANHOLES:

- A. The number of force main blowoff manhole bases to be paid for under the appropriate subdivision of this item shall be equal to the actual number of blowoff manhole bases furnished and installed, complete, as indicated and specified.
- B. The unit price for force main blowoff manhole bases shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary, and for constructing the manhole bases, complete, as indicated on the drawings and as specified.
- C. The vertical footage of manhole walls and cones to be paid for under the appropriate subdivision of this item shall be measured by the vertical foot from the invert of the manhole base at its center to the bottom of the manhole frame.
- D. The unit price for manhole walls and cones shall constitute full compensation for constructing manhole walls and cones, complete, as indicated on the drawings and as specified.
- E. The number of standard manhole frame and cover sets to be paid for under the appropriate subdivision of this item shall be equal to the actual number furnished and installed.
- F. The unit price for standard sewer manhole frames and covers shall constitute full compensation for furnishing and installing standard sewer manhole frames and covers, as indicated on the drawings and as specified.

#### 1.07 MISCELLANEOUS EARTH EXCAVATION:

- A. The quantity of earth excavation and backfill above normal depth to be paid for under the appropriate subdivision of this item shall be the number of cubic yards excavated and backfilled, measured to the extent of the work done as ordered by the Engineer for test pits.



- B. The unit price for the appropriate subdivision of this item shall constitute full compensation for excavation and backfill for test pits.
  - C. The quantity of earth excavation below normal depth (limit of normal excavation) to be included for payment under this item shall be the number of cubic yards of unsuitable material excavated, measured to the depths and lengths ordered, and to the width between payment limits for normal excavation as ordered by the Engineer.
  - D. The unit price for the appropriate subdivision of this item shall constitute full compensation for excavation below normal depth and disposal of unsuitable material.
- 1.08 CHANGE IN QUANTITY OF EARTH EXCAVATION AND BACKFILL DUE TO WATER MAIN OR FORCE MAIN DEPTH CHANGES:
- A. Should a change in the depth of water mains or force mains be ordered or should the depths of water mains or force mains be changed by changes in alignment or by differences between the ground surface indicated on the drawings and that encountered during the work, and should such changes increase or decrease the quantity of excavation and backfill upon which the unit prices for water main and force main pipe are based, adjustment shall be made therefore under the appropriate subdivision of this item.
  - B. The quantity of earth excavation and backfill to be considered under the appropriate subdivision of this item shall be the additional number of cubic yards excavated and backfilled, or that quantity of excavation and backfill omitted in accordance with the requirements of the Engineer, and as specified above.
  - C. The quantity to be considered under the appropriate subdivision of this item shall be cumulative; that is, an increase on any part of the work shall offset a decrease on any other part of the work, and the final adjustment shall be based on the net increase or decrease for the appropriate subdivision of this item.
  - D. If the quantity of earth excavation and backfill work performed is greater than that indicated on the drawings, the Contractor shall be paid therefore under the appropriate subdivision of this item.
  - E. If the quantity of earth excavation and backfill performed is less than that indicated on the drawings, the Owner will receive credit for such decrease at the unit price for the appropriate subdivision of this item.
  - F. The unit price for the appropriate subdivision of this item shall constitute full compensation for making additional excavations and backfilling such excavations, as specified.
- 1.09 ROCK EXCAVATION AND DISPOSAL:
- A. Where rock is encountered, it shall be uncovered but not excavated until measurements have been made by the Engineer, unless in the opinion of the Engineer, satisfactory measurements can be made in some other manner.



- B. The quantity of rock to be paid for under this item shall be the number of cubic yards of rock, measured in place before excavation, within the payment limits indicated on the drawings and as defined in this Section for water main and force main installation, unless rock excavation beyond such limits has been authorized in writing by the Engineer, in which case measurements shall be made to the authorized limits.
- C. Excavated rock which has not been disposed of shall not be included for payment.
- D. The bidder shall include in his bid for items involving excavation, the cost of doing the entire excavation as earth, the price for this item being intended to cover the difference between the cost of rock excavation and the cost of earth excavation. The price for this item shall be paid in addition to any payment made for earth excavation.
- E. The unit price for this item shall constitute full compensation for rock excavation and disposal, for all necessary backfilling, and for furnishing all additional material needed for backfilling.

1.10 BANK-RUN GRAVEL:

- A. Bank-run gravel backfill below normal depth ordered by the Engineer to be used shall be paid for under this item. The quantity of bank-run gravel backfill below normal depth to be paid for shall be the same as that number of cubic yards of earth excavation below normal depth measured for payment under the appropriate subdivision of "Miscellaneous Earth Excavation", which said gravel replaces.
- B. Bank-run gravel ordered for backfill of trenches above normal depth ordered by the Engineer shall be paid for under this item. The quantity of bank-run gravel used as backfill for trenches above normal depth shall be measured by the cubic yard to the depth and length ordered and to the width between payment limits for normal excavation as indicated on the drawings. Bank-run gravel outside the limits of normal excavation shall be furnished, placed, and compacted at the Contractor's expense, and no measurement will be made for such gravel.
- C. Bank-run gravel ordered to be used at other locations shall be measured after compaction and paid for under this item as the number of cubic yards of gravel actually placed and compacted as specified.
- D. Bank-run gravel used to backfill rock excavations will not be measured for payment under this item.
- E. The unit price for this item shall constitute full compensation for furnishing, placing, and compacting bank-run gravel, as specified.

1.11 ADDITIONAL SCREENED GRAVEL:

- A. Screened gravel backfill below normal depth shall be paid for under this item. The quantity of screened gravel backfill below normal depth to be paid for shall be the same as that

number of cubic yards of earth excavation below normal depth measured for payment under the appropriate subdivision of "Miscellaneous Earth Excavation", which said gravel replaces.

- B. Additional screened gravel used for support of existing utilities or ordered to be used at other locations shall be paid for under this item. The quantity to be paid for shall be the number of cubic yards, measured in place after compaction, of additional screened gravel within the limits directed by the Engineer.
- C. Screened gravel used for bedding pipe, to backfill unauthorized excavations, for any drainage purpose, or as indicated on the drawings for work for which appropriate payment items have been provided, shall not be measured for payment under this item.
- D. The unit price for this item shall constitute full compensation for furnishing, placing, and compacting screened gravel, as specified.

#### 1.12 PAVEMENT:

- A. The quantity of NHDOT 304.4 crushed stone base course to be measured for payment under the appropriate subdivisions of this item shall be the cubic yards of NHDOT 304.4 crushed stone base course furnished.
- B. The unit price for NHDOT 304.4 crushed stone base course shall constitute full compensation for furnishing and placing material for 8-in. NHDOT 304.4 crushed stone base course as specified and as indicated.
- C. The quantity of 2 1/2-in. bituminous concrete binder course permanent pavement to be measured for payment under the appropriate subdivision of this item shall be measured by the square yard of binder course permanent pavement placed. The maximum trench width for which bituminous concrete binder course shall be measured for payment shall be 15 ft.
- D. The unit price for 2 1/2-in. bituminous concrete binder course permanent pavement shall constitute full compensation for cutting back existing pavement, restoring and regrading the NHDOT crushed stone base course and constructing the permanent pavement, as specified and indicated.
- E. The quantity of granite curbing removal and resetting to be paid for under the appropriate subdivision of this item shall be measured by the linear foot of existing granite curb that is removed and reset.
- F. The unit price for removal and resetting granite curbing shall constitute full compensation for removal and resetting existing granite curbing as specified and indicated.

1.13 CONCRETE SIDEWALK:

- A. The square yards of concrete sidewalk to be paid for under this item shall be the actual square yards of concrete sidewalk removed and reconstructed.
- B. The unit price for concrete sidewalk shall constitute full compensation for furnishing the gravel-base course, placing the welded wire fabric, and constructing the concrete sidewalk, as specified and as indicated.

1.14 CALCIUM CHLORIDE:

- A. The quantity of calcium chloride to be paid for under this item shall be equal to the number of pounds furnished and spread to the extent ordered by the Engineer.
- B. The unit price for this item shall constitute full compensation for furnishing and spreading calcium chloride as specified and as directed by the Engineer.

1.15 STORMWATER MANAGEMENT

- A. The lump sum price for the Stormwater Pollution Prevention Plan (SWPPP) item shall constitute full compensation for the preparation of a detailed plan that shows the location of all erosion and stormwater control devices such as silt fence etc., necessary to complete the work that is acceptable to the Engineer, including the effort and costs associated with submitting a Notice of Intent under the EPA's Construction General Permit.
- B. The lump sum price for Monitoring the SWPPP and Erosion and Sediment Controls shall constitute full compensation for all materials, labor and equipment necessary for the installation of erosion and sediment controls and stormwater management devices, the required inspection and reporting as defined in the SWPPP, the maintenance of the erosion and sediment controls and stormwater management devices in good working order, replacement of any devices damaged, deteriorated, or filled with sediment and the relocation of devices made necessary by a new phase of work in accordance with the Erosion and Stormwater Pollution Prevention Plan.
- C. Failure to maintain erosion and sediment controls and storm water management devices, or failure to fully implement the plan shall result in reduction in the compensation of that period.

1.16 REMOVING TRAFFIC SIGNS

- A. The quantity of signs to be paid for under this item will be the actual quantity of signs removed.
- B. The unit price for this item shall include removal of all signs, posts, and restoration of the ground surface including all labor, tools, accessories, repairs and all else required to maintain the signs for the duration of the project as well as the cost for sign removal once authorized by the Engineer.

1.17 ALLOWANCE FOR UNIFORMED SPECIAL OFFICERS

- A. Under this item, the Contractor will be reimbursed for charges for the services of police details rendered in connection with traffic control as specified in Sections 01046 and 01500. The Contractor shall arrange for and coordinate the scheduling of such officers. Should costs for police details be incurred due to mis-scheduling by the Contractor, the Contractor will be responsible for these costs.
- B. The allowance for this item as established in the BID is an estimated figure to facilitate comparison of bids.
- C. The actual amount to be paid for under this item shall be the amount actually invoiced for the work performed (with no markup). If the total amount for such charges is greater or less than the allowance amount stated in the BID, a debit or credit of the difference in the amount shall be made to the Owner.

1.18 ALLOWANCE FOR ADDITIONAL TRAFFIC CONTROL

- A. Under this item, the Contractor shall be reimbursed for additional traffic control, including flaggers, as directed by the Engineer or Owner.
- B. The allowance for this item as established in the BID is an estimated figure to facilitate comparison of bids. The actual amount to be paid for under this item shall be the amount actually invoiced for the work performed related to additional traffic control. If the total amount for such charges is greater or less than the amount stated in the BID, a debit or credit of the difference in the amount shall be made to the Owner. Work under this item will be paid for as Extra Work described in the General Conditions.
- C. The Engineer will identify the scope of additional traffic control during construction and request proposals from the Contractor to do this work. No work shall begin until authorized by the Engineer.

1.19 VARIABLE MESSAGE BOARDS:

- A. The number of variable message boards to be paid for under the appropriate subdivision of this item shall be the actual number of variable message boards provided.
- B. The unit price for the appropriate subdivision of this item shall constitute full compensation for furnishing all labor, materials, tools and equipment necessary and for all other incidental work and expenses to provide variable message boards to the Owner for registration.

1.20 MOBILIZATION:

- A. The lump-sum price for this item shall constitute full compensation for initiating the contract, exclusive of the cost of materials, and for mobilizing all machinery, tools, and other equipment necessary to carry on and complete the work.
- B. The lump-sum price for this item shall not exceed five percent (5%) of the total amount of the bid. Payment for this item shall be payable when the Contractor is operational on the site. For purposes of this policy, "Operational" shall mean the substantial commencement of work on site.

#### 1.21 BID ALTERNATE 1 – SLIPLINING

- A. The lump sum price for the appropriate subdivision of this item shall constitute full compensation for sliplining the existing 24-in. ductile iron force main under the Peirce Island Road bridge with a new 20-in. fusible polyvinylchloride liner and all connections needed for reconnecting to existing force mains, complete, including but not limited to modifications to the existing ductile iron pipe to install the slipliner, temporary facilities for access to the existing pipe under the bridge, excavation access pits for installation of the slipliner, replacement of existing ductile iron piping demolished within the access pits with new piping, temporary disconnection and reconnection of the existing force mains at both ends of the bridge, cleaning and internal television inspection of the existing force main, furnishing and installing the slipliner, furnishing and installation of a 2-in. tap and a 2-in. ball valve, grouting the slipliner in place, post installation internal television inspection of the liner, and restoration of all disturbed areas including all work incidental thereto and not specifically included for payment under other items.

#### 1.21 SCHEDULE OF VALUES:

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
  - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with continuation sheets.
    - b. Submittal schedule.
    - c. Items required to be indicated as separate activities in Contractor's construction schedule.
  - 2. Submit the schedule of values to Engineer at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

- B. Format and Content: Use Contract Documents table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the schedule of values:
    - a. Project name and location.
    - b. Name of Engineer.
    - c. Engineer's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  2. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
    - a. Related Specification Section or Division.
    - b. Description of the Work.
    - c. Name of subcontractor.
    - d. Name of manufacturer or fabricator.
    - e. Name of supplier.
    - f. Change Orders (numbers) that affect value.
    - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent, for previous billing, the invoicing period, the cumulative totals to date, and the total remaining.
      - (1) Labor.
      - (2) Materials.
      - (3) Equipment.
  3. Provide a separate row in the schedule of values for each Change Order (numbers) that affect value and provide separate columns to indicate each item listed above.
  4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with

Contract Documents table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.

5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
  - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Allowances and Unit Price Items: Provide a separate line item in the schedule of values for each allowance. Show line-item value of unit-cost items, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
9. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
  - a. Temporary facilities shall be shown as separate line items in the schedule of values.
  - b. Other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
10. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

#### 1.22 APPLICATIONS FOR PAYMENT:

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion, Monthly Application for Progress Report, and final Application for Payment involve additional requirements.



- B. Payment Application Times: Payments shall be made in accordance with the requirements of the General Conditions. The period of construction work covered by each Application for Payment is the period indicated in the General Conditions.
- C. Application for Payment Forms: Engineer will furnish form for Applications for Payment. Submit completed forms for acceptance with initial submittal of schedule of values.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.
  - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
  - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
  - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
  - 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
  - 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
  - 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
  - 3. Provide summary documentation for stored materials indicating the following:
    - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

- F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Engineer by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
  2. Schedule of values.
  3. Pre-construction surveys and photographs.
  4. Health and safety and environmental protection plans.
  5. Contractor's construction schedule (preliminary if not final).
  6. Products list (preliminary if not final).
  7. Schedule of unit prices.
  8. Submittal schedule (preliminary if not final).
  9. List of Contractor's staff assignments.
  10. List of Contractor's principal consultants.
  11. Copies of building permits.
  12. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  13. Initial progress report.
  14. Certificates of insurance and insurance policies.
  15. Performance and payment bonds.
- H. Application for Monthly Progress Payment: Administrative actions and submittals that must precede or coincide with submittal of monthly Application for Progress Payment include the following:
1. Schedule of values.
  2. Schedule of unit prices.

3. Construction photographs.
  4. Contractor's updated construction progress schedule and specified reports.
  5. Documented proof that it has recorded information on the Contract Drawings to reflect "As Built" information.
- I. Application for Payment at Substantial Completion: After Engineer issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum. Documentation include, evidence of all the following:
    - a. Each item of mechanical, electrical, instrumentation, piping and HVAC equipment installed or modified under this Contract have been tested to demonstrate compliance with the performance requirements of this Contract, including successful functional testing, water testing, performance testing and facility commissioning.
    - b. All operating, maintenance manuals and as-built drawings have been provided to the Owner.
    - c. All spare parts and materials have been provided to the Owner.
    - d. All warranty certificates and test results have been provided to the Owner.
    - e. The Contractor has provided instructions and training to the Owner's staff to enable the Owner to operate the Works.
  2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.
  4. Evidence that claims have been settled.

5. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION

## APPENDIX D - FLAGGING RULES PROCEDURES



CITY OF PORTSMOUTH  
DEPARTMENT OF PUBLIC WORKS (DPW)  
**FLAGGING RULES AND PROCEDURES**

No entity shall perform any construction or excavation, or otherwise take any action, which would hinder the free passage of vehicles or pedestrians on any street, or right-of-way in the City of Portsmouth, except pursuant to a permit to be issued in advance by the Director of Public Works or a designee.

1.0 **Flagging Permit Application Process:**

- 1.1 The applicant shall apply for a permit online through the City's permitting center at: <https://portsmouthnh.viewpointcloud.com>
- 1.2 An application must be made no less than five (5) business days prior to the commencement of work (weekends and holidays excluded). The permit fee is \$25.00.
- 1.3 An expedited application can be requested. The review time is three (3) business days. The permit fee is \$50.00. The applicant must specify online that the application is to be expedited.
- 1.4 Applicant must upload the MUTCD Typical Application(s), or other similar Temporary Traffic Control Plan to be followed at site.
- 1.5 The permit will be approved and printed through the City's permitting center at: <https://portsmouthnh.viewpointcloud.com>
- 1.6 Permit and MUTCD Typical Application(s), or other similar Temporary Traffic Control plan, must be on the job site at all times and available for inspection.

2.0 **Use of Certified Flaggers:**

- 2.1 A list of certified flaggers, approved by the Director, will be on file at the Department of Public Works. Any person or company desiring to provide certified flagging services on projects within the City shall present certification to the Parking & Transportation Engineer, and provide periodic updates as required to maintain eligibility.
- 2.2 All contractors are invited to take advantage of the City's low bid for flagging services. City pricing will be honored for anyone performing work within the City.

3.0 **Use of Uniformed Officers:**

3.1 A uniformed officer may be required whenever the Director of Public Works and/or the Police Chief deem circumstances exist that create a public safety concern. In addition, work on the following streets require the use of a Portsmouth Police Officer:

- Borthwick Ave.
- Grafton Dr.
- Greenland Rd.
- Interstate 95 (if not covered by NH State Police)
- International Dr.
- Islington St.
- Lafayette Rd.
- Maplewood Ave.
- Market Street from Woodbury Ave. to Deer St.
- Middle St.
- New Hampshire Ave.
- Ocean Rd.
- Pease Blvd.
- Woodbury Ave.
- **Downtown compact streets:**  
between Court St., Deer St., Maplewood Ave. and the  
Piscataqua River boundary.

4.0 **Emergency Work:**

4.1 Nothing in these procedures shall be construed to prevent emergency work for the preservation of life or property, for the location of trouble in conduit or pipe, or for making repairs to said conduit or pipe. However, the contractor making such repairs shall apply to the Director of Public Works for a flagging permit on the first business day after such emergency work commences. A permit after the fact will be issued.

4.2 The contractor engaged in emergency work is solely responsible for the safety of vehicles and pedestrians in the work zone. The contractor is encouraged to use certified flaggers or a uniformed officer as the Director would recommend during a non-emergency situation. The contractor is required to proceed with caution in determining flagging requirements for emergency work. If their judgment is not sound, the contractor may lose privileges to perform future work within the City.



5.0 **MUTCD Typical Application(s):**

- 5.1 Link to Typical Applications is located on the City's web page here:  
<https://www.cityofportsmouth.com/publicworks/permits-applications>

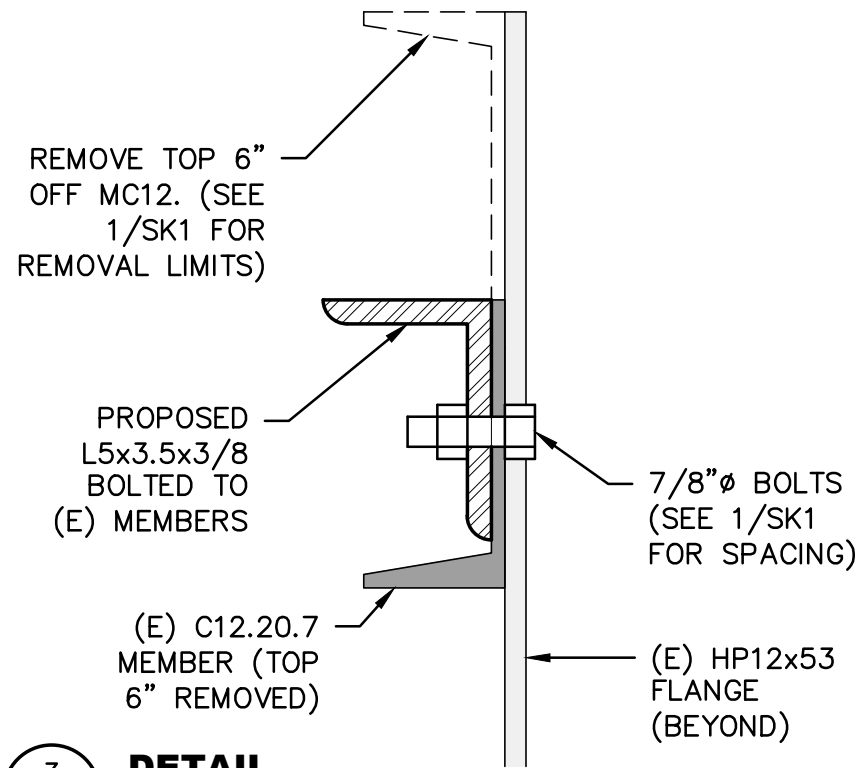
**IT IS THE SOLE RESPONSIBILITY OF THE APPLICANT TO SCHEDULE ALL POLICE DETAILS AND/OR FLAGGING SERVICES.**

- Police Details: **(603) 610-7412** or **(603) 610-7413**
- Flagging Services:  
American Flagging and Traffic Control Inc.  
Rebel Rd. Hudson, NH  
**(603) 890-1154**

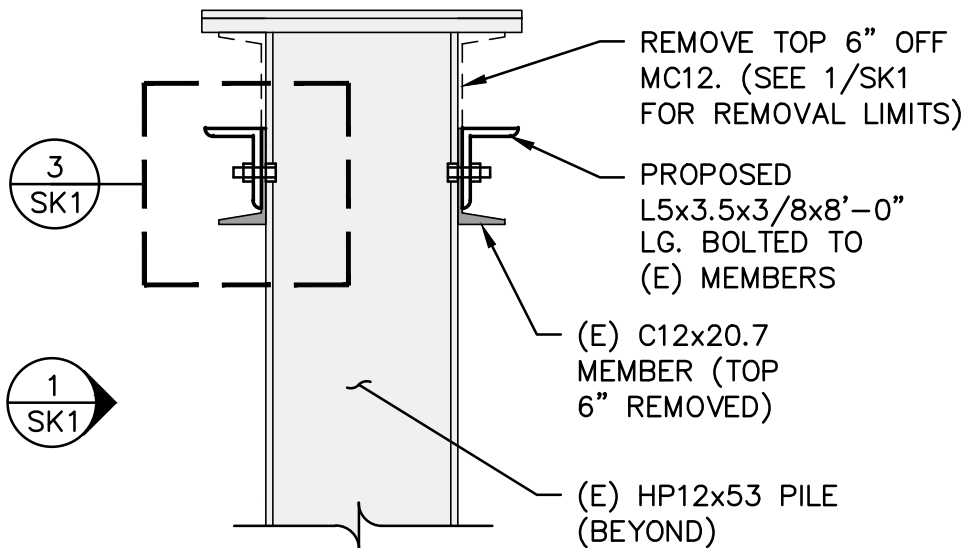
DPW staff contact for questions:

- Michael Finn, Dispatcher  
Department of Public Works  
[mpfinn@cityofportsmouth.com](mailto:mpfinn@cityofportsmouth.com)  
(603) 427-1530

Appendix E - PI Bridge pier modification SK1



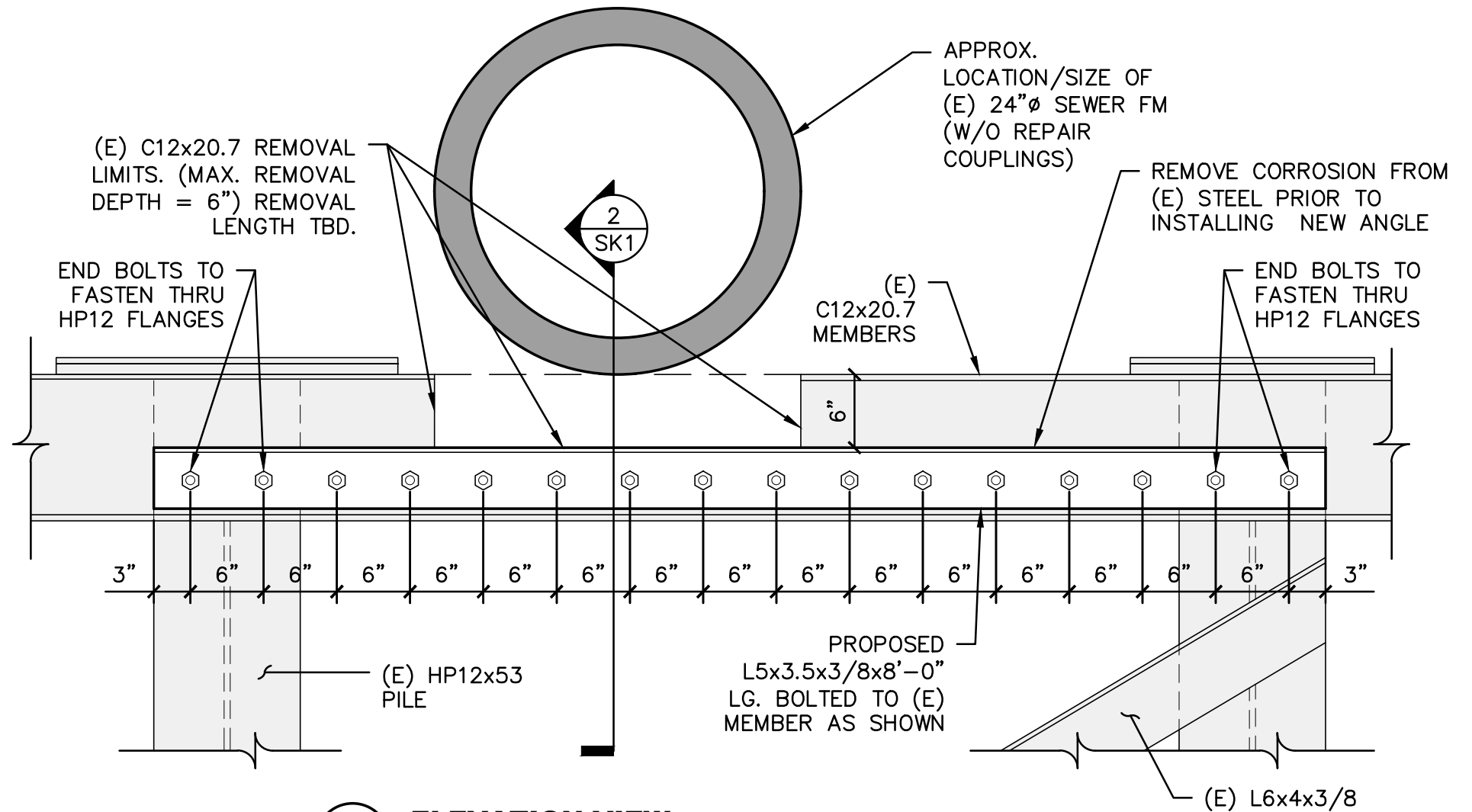
**3**  
SK1  
**DETAIL**  
SCALE: 3"=1'-0"



**2**  
SK1  
**SECTION VIEW**  
SCALE: 1"=1'-0"

**NOTES:**

1. CONTRACTOR SHALL CONFIRM DIMENSIONS OF PROPOSED ANGLE MEMBER AND BOLTING PATTERN PRIOR TO FABRICATION.
2. PROPOSED ANGLE MEMBER SHALL CONFORM TO AASHTO M 270 (ASTM 709). GRADE 36 AND SHALL BE GALVANIZED MEETING THE REQUIREMENTS OF AASHTO M 111 (ASTM A 123)
3. BOLTED CONNECTION SHALL BE MADE WITH 7/8" DIAMETER HIGH-STRENGTH BOLTS IN 15/16" DIAMETER HOLES. HIGH STRENGTH BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A 325.
4. ANGLE SECTION SHALL BE FULLY FASTENED PRIOR TO CUTTING/REMOVAL OF CHANNEL SECTION.



**1**  
SK1  
**ELEVATION VIEW**  
SCALE: 1"=1'-0"

PEIRCE ISLAND WWTF - PORTSMOUTH, NH

PEIRCE ISLAND BRIDGE  
PIER MODIFICATION FOR FM REPAIR

**Hoyle, Tanner**  
& Associates, Inc.

100 International Dr, #360, Portsmouth, NH 03801  
Tel (603) 431-2520 Fax (603) 431-8067 Web: www.hoyletanner.com  
© Copyright 2020 Hoyle, Tanner & Associates, Inc.

Pease  
International  
Tradeport

SCALE: AS SHOWN

DATE: 07/21/20

SHEETS AFFECTED:

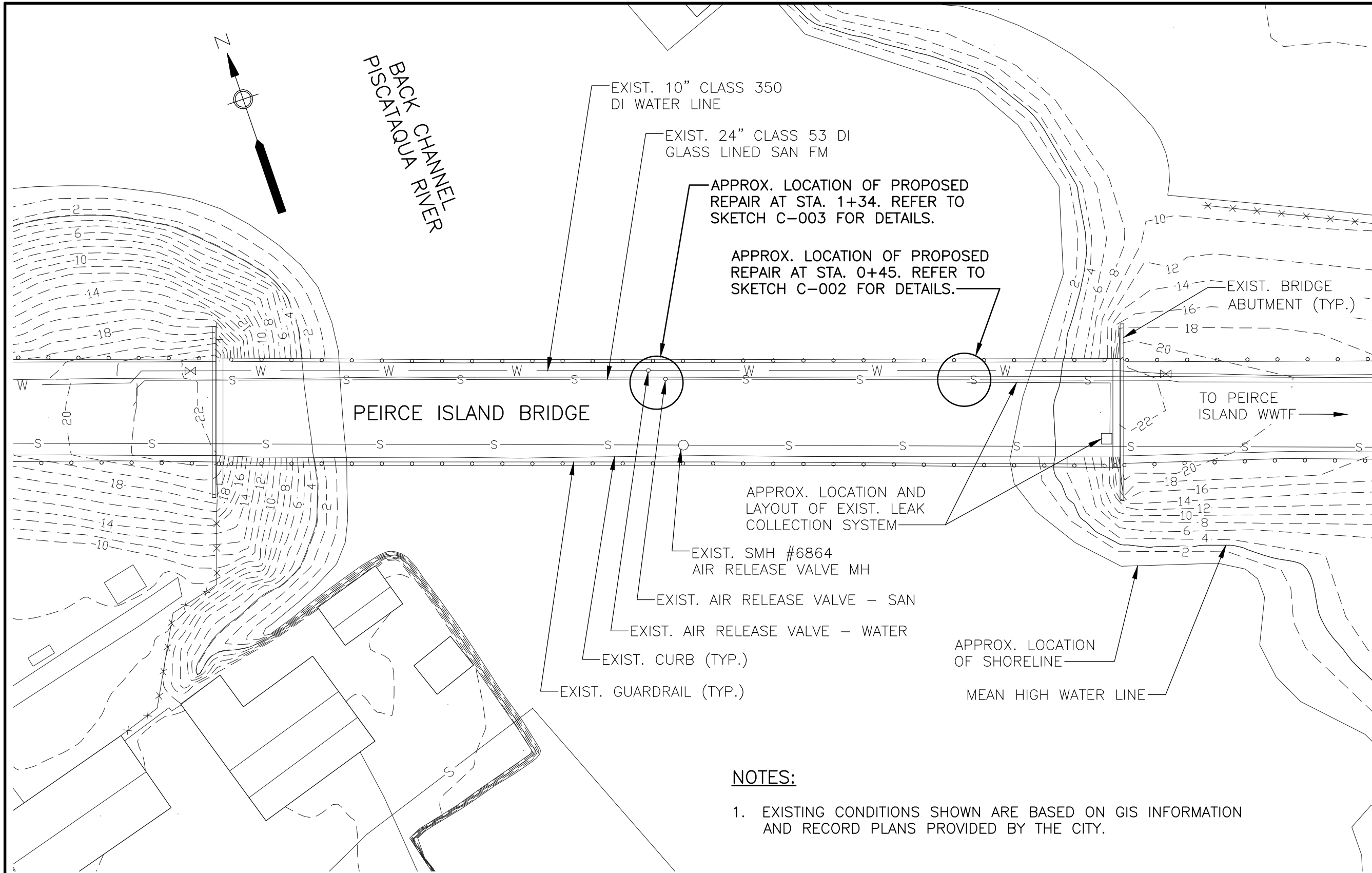
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SHEET:

SK1

Appendix E - Portsmouth FM Leak Sketches

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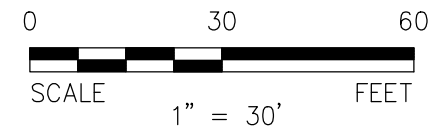
**LOCATION OF WORK PLAN -  
PEIRCE ISLAND BRIDGE**

SCALE: 1"=30'

**NOTES:**

- EXISTING CONDITIONS SHOWN ARE BASED ON GIS INFORMATION AND RECORD PLANS PROVIDED BY THE CITY.

STATION 0+00 IS AT PEIRCE ISLAND BRIDGE ABUTMENT - EAST SIDE



AECOM TECHNICAL SERVICES  
250 APOLLO DRIVE  
CHELMSFORD, MA 01824  
PHONE (978) 905-2100



**PRELIMINARY COPY**

NOTE: This document is preliminary only and is not intended for any purpose except review and comment by the owner and its agents.

PEIRCE ISLAND WWTF - PORTSMOUTH, NH

**PIPE REPAIR BENEATH  
PEIRCE ISLAND BRIDGE**

CIVIL

PROJECT NO: **60636325**

CAD DWG FILE: **C-DT-002**

DESIGNED BY: **J. BOCCADORO**

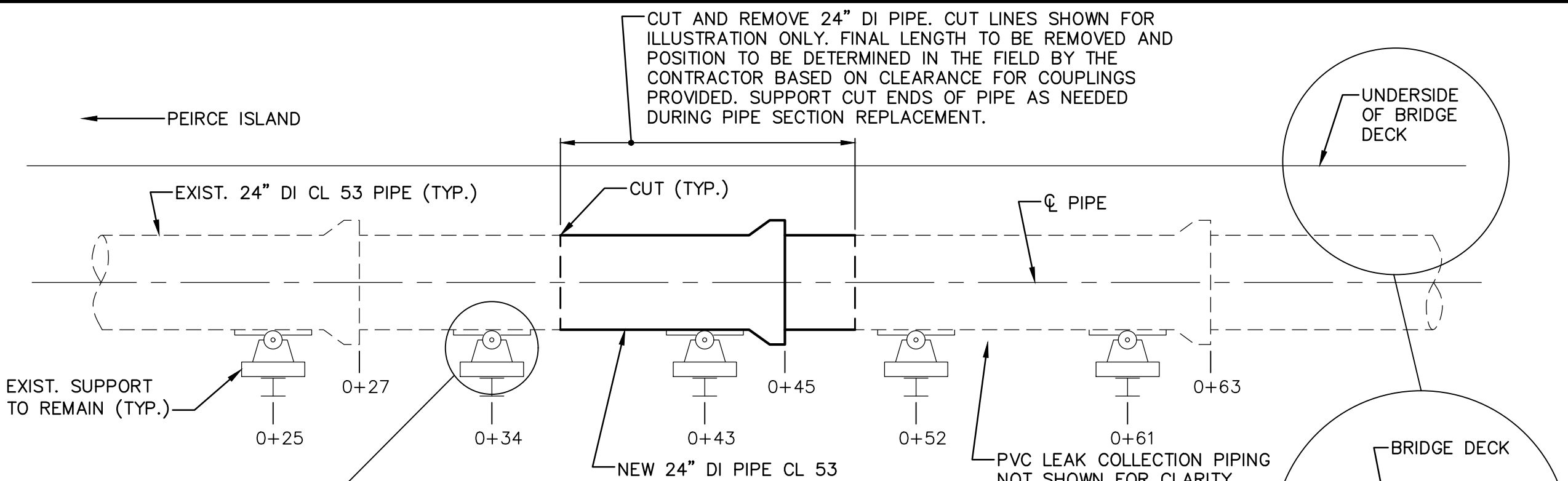
DRAWN BY: **C. BENZIGER**

DATE: **JULY 15, 2020**

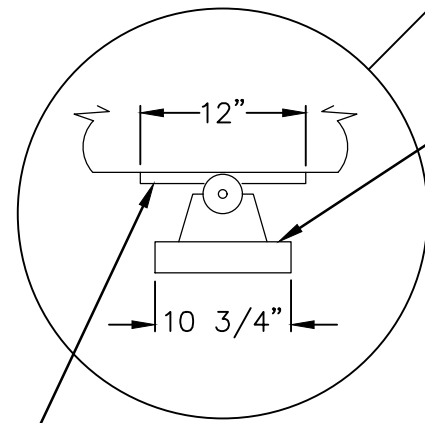
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**SK C-001**

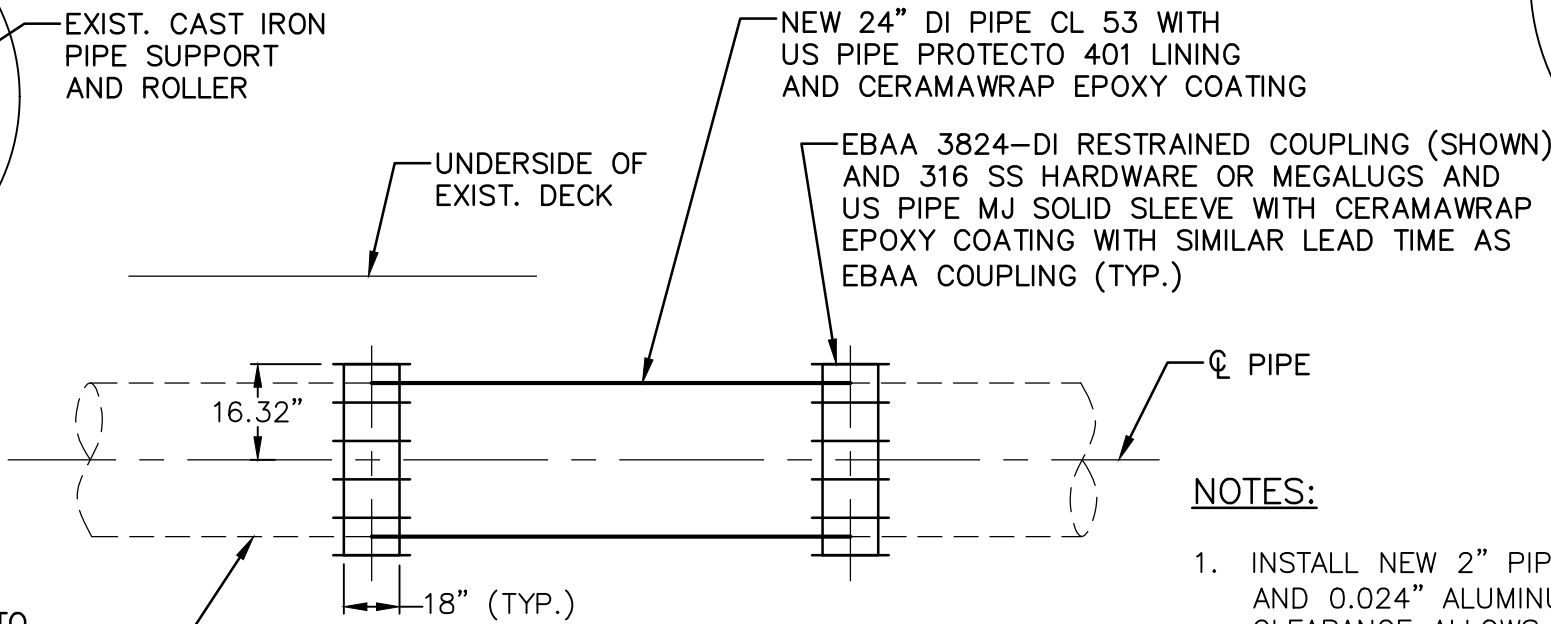
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SECTION SHOWING EXISTING FORCE MAIN



EXIST. CAST IRON PIPE SUPPORT AND ROLLER



SECTION SHOWING FORCE MAIN REPLACEMENT

**DETAIL AT STA. 0+45 (LEAK)**

NTS

STATION 0+00 IS AT PEIRCE ISLAND BRIDGE ABUTMENT - EAST SIDE

**NOTES:**

1. INSTALL NEW 2" PIPE INSULATION (TRYMER 2000 BY JM) AND 0.024" ALUMINUM JACKETING (BY JM) WHERE CLEARANCE ALLOWS.
2. EXISTING PVC LEAK CONTAINMENT PIPING AND APPURTENANCES TO BE REMOVED AS NEEDED TO FACILITATE PIPE REPLACEMENT.
3. SUPPORT EXIST. FORCE MAIN AND WATER MAIN AS NEEDED DURING PIPE SECTION REPLACEMENT.

AECOM TECHNICAL SERVICES  
250 APOLLO DRIVE  
CHELMSFORD, MA 01824  
PHONE (978) 905-2100



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PEIRCE ISLAND WWTF - PORTSMOUTH, NH

**PIPE REPAIR BENEATH  
PEIRCE ISLAND BRIDGE**

CIVIL

PROJECT NO: **60636325**

CAD DWG FILE: **C-DT-001**

DESIGNED BY: **J. BOCCADORO**

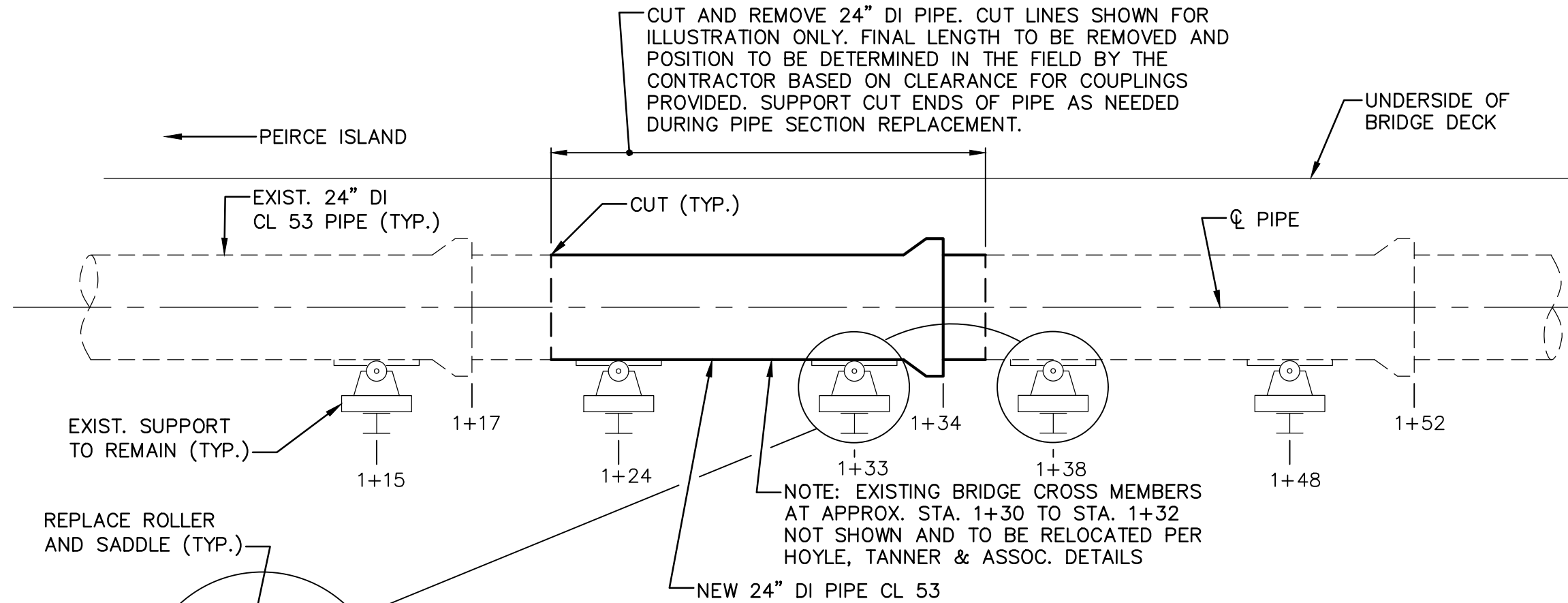
DRAWN BY: **C. BENZIGER**

DATE: **JULY 15, 2020**

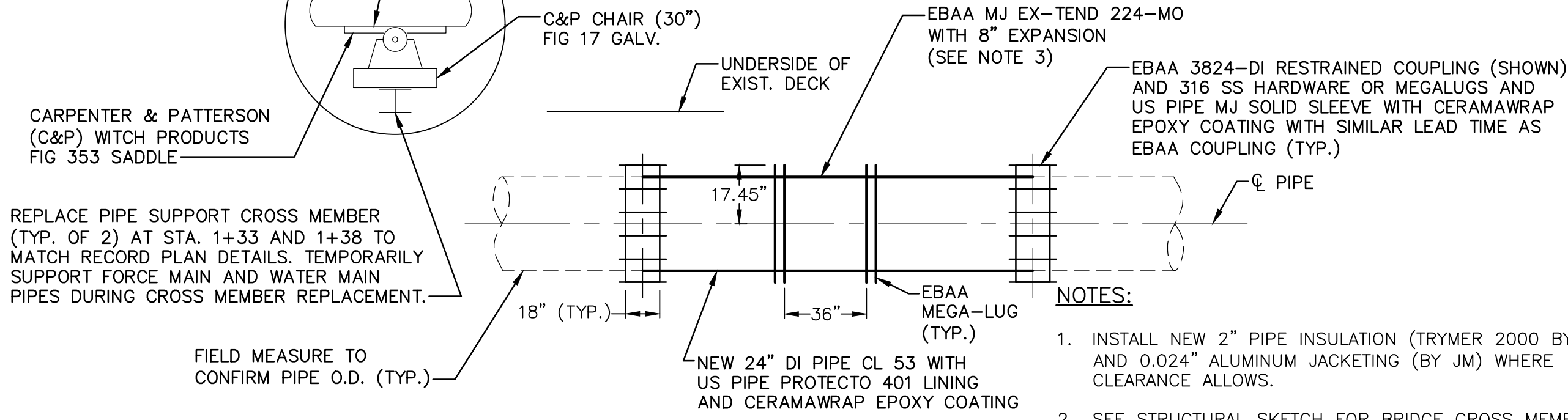
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**SK C-002**

ANSI B - 15-Jul-20 PATH/FILENAME: C:\PORTSMOUTH NH 12-2012\LEAKY FM SKETCHES COPIED 7-14-20\C-DT-001.DWG



**SECTION SHOWING EXISTING FORCE MAIN**



**SECTION SHOWING FORCE MAIN REPLACEMENT**

**DETAIL AT STA. 1+34 (CRACK)**

NTS

STATION 0+00 IS AT PEIRCE ISLAND BRIDGE ABUTMENT - EAST SIDE

- NOTES:**
1. INSTALL NEW 2" PIPE INSULATION (TRYMER 2000 BY JM) AND 0.024" ALUMINUM JACKETING (BY JM) WHERE CLEARANCE ALLOWS.
  2. SEE STRUCTURAL SKETCH FOR BRIDGE CROSS MEMBER REPLACEMENT DETAILS.
  3. INSTALLATION PRESET TO BE DETERMINED BY CONTRACTOR BASED ON TEMPERATURE AT TIME OF INSTALLATION.
  4. SUPPORT EXIST. FORCE MAIN AND WATER MAIN AS NEEDED DURING PIPE SECTION REPLACEMENT.

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CHELMSFORD, MA 01824  
PHONE (978) 905-2100



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PEIRCE ISLAND WWTF - PORTSMOUTH, NH

**PIPE REPAIR BENEATH  
PEIRCE ISLAND BRIDGE**

CIVIL

PROJECT NO: <b>60636325</b>
CAD DWG FILE: <b>C-DT-001</b>
DESIGNED BY: <b>J. BOCCADORO</b>
DRAWN BY: <b>C. BENZIGER</b>
DATE: <b>JULY 15, 2020</b>
SCALE: <b>AS NOTED</b>

**SK C-003**



SHEET 00 G-002 – OVERALL SITE AND KEY PLAN

**PROJECT**

**PEIRCE ISLAND  
FORCE MAIN AND  
WATER MAIN  
REPLACEMENT**

Peirce Island, Portsmouth NH

**OWNER**

**CITY OF PORTSMOUTH  
NEW HAMPSHIRE**

680 Peverly Hill Road  
Portsmouth, NH 03801

**ENGINEER**

AECOM TECHNICAL SERVICES, INC.  
250 APOLLO DRIVE  
CHELMSFORD, MA 01824  
PHONE: (978) 905-2100  
www.aecom.com

**REGISTRATION**



**ISSUE/REVISION**

U/R	DATE	DESCRIPTION
1	9-22-21	ADDENDUM NO. 2

**PROJECT NUMBER**

60649477

Designed By:	<b>S. HE</b>
Drawn By:	<b>M. THIBODEAU</b>
Dept Check:	<b>C. BENZIGER</b>
Proj Check:	<b>E. MESERVE</b>
Date:	<b>AUGUST 2021</b>
Scale:	<b>AS NOTED</b>

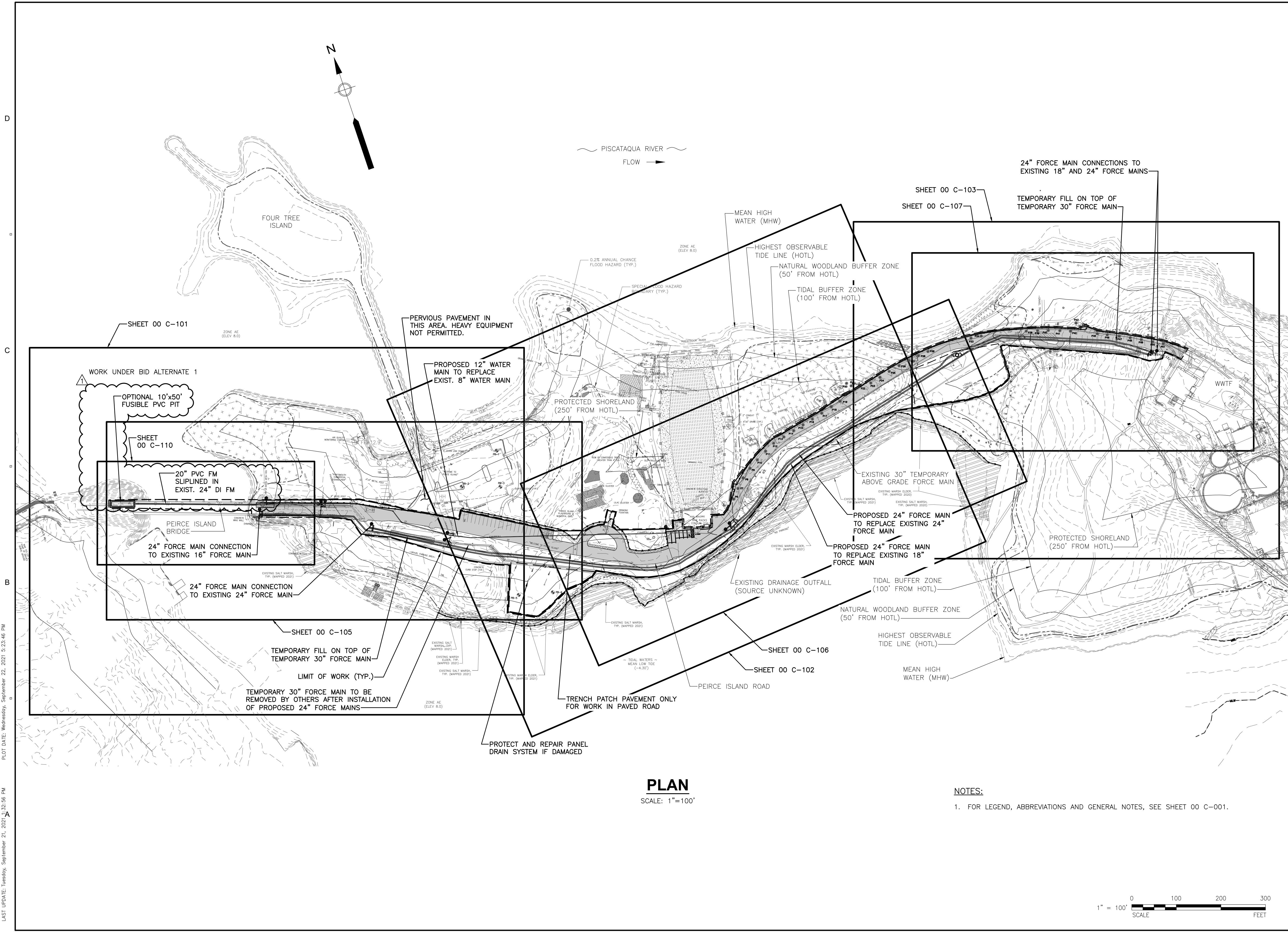
**DISCIPLINE**

**CIVIL  
SHEET TITLE**

**OVERALL SITE AND  
KEY PLAN**

**SHEET NUMBER**

**00 G-002**

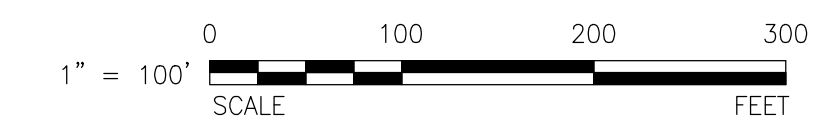


**PLAN**

SCALE: 1"=100'

**NOTES:**

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET 00 C-001.



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 LAST UPDATE: Tuesday, September 21, 2021 3:22:36 PM PLOT DATE: Wednesday, September 22, 2021 5:23:46 PM

SHEET 00 C-101 – EXISTING CONDITIONS, EROSION CONTROL AND  
DEMOLITION PLAN



**PROJECT**

**PEIRCE ISLAND  
FORCE MAIN AND  
WATER MAIN  
REPLACEMENT**

Peirce Island, Portsmouth NH

**OWNER**

**CITY OF PORTSMOUTH  
NEW HAMPSHIRE**

680 Peverly Hill Road  
Portsmouth, NH 03801

**ENGINEER**

AECOM TECHNICAL SERVICES, INC.  
250 APOLLO DRIVE  
CHELMSFORD, MA 01824  
PHONE: (978) 905-2100  
www.aecom.com

**REGISTRATION**



**ISSUE/REVISION**

NO.	DATE	DESCRIPTION
1	9-22-21	ADDENDUM NO. 2

**PROJECT NUMBER**

60649477

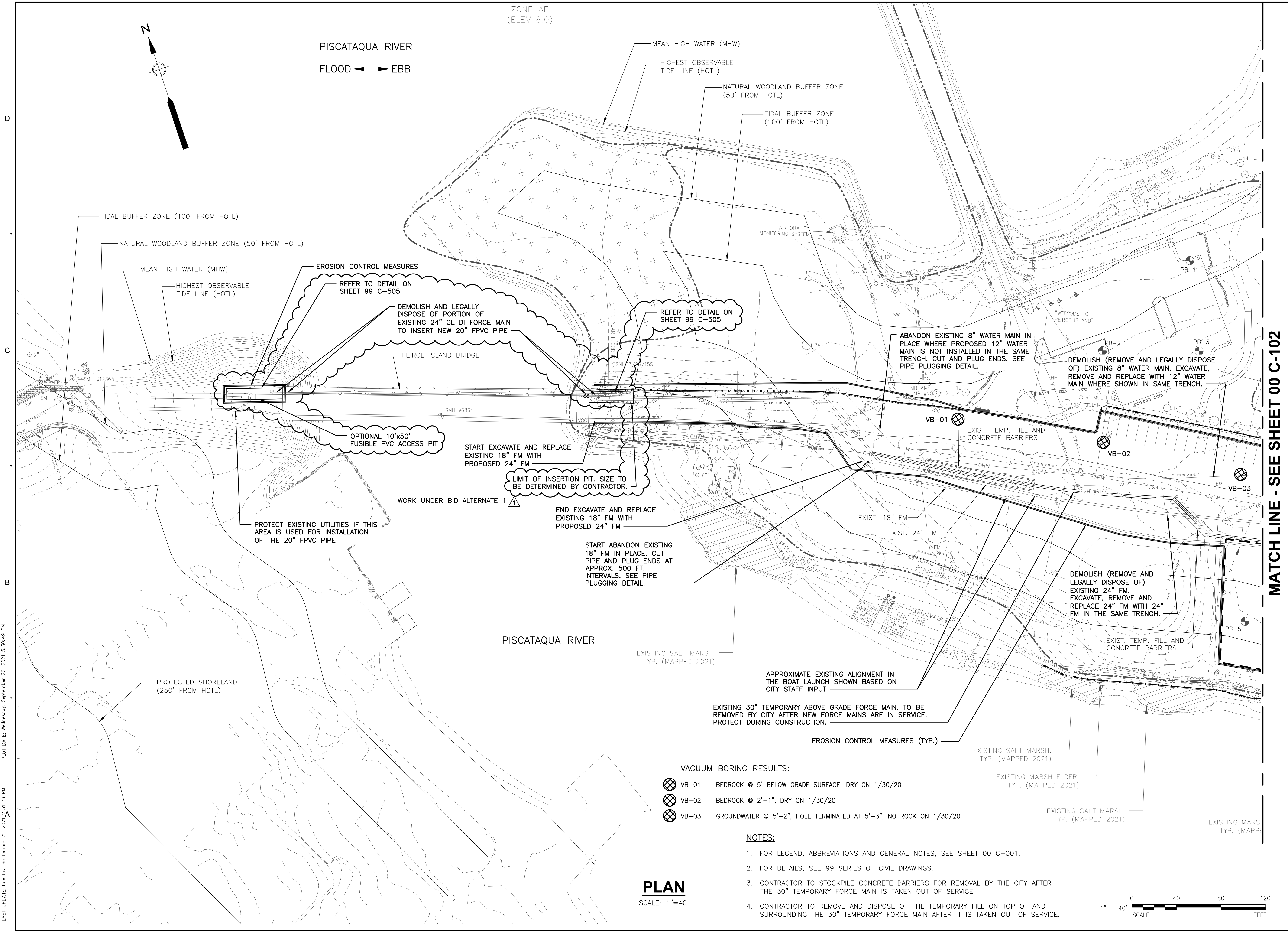
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Drawn By:	<b>M. THIBODEAU</b>
Dept Check:	<b>C. BENZIGER</b>
Proj Check:	<b>E. MESERVE</b>
Date:	<b>AUGUST 2021</b>
Scale:	<b>AS NOTED</b>

**DISCIPLINE**

**CIVIL  
SHEET TITLE**

**EXISTING CONDITIONS,  
EROSION CONTROL AND  
DEMOLITION PLAN I  
SHEET NUMBER**

**00 C-101**



**PLAN**

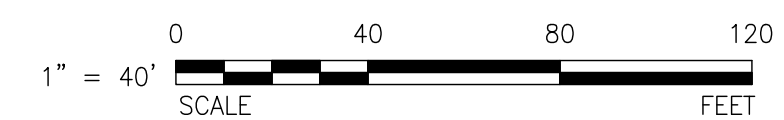
SCALE: 1"=40'

**VACUUM BORING RESULTS:**

- VB-01 BEDROCK @ 5' BELOW GRADE SURFACE, DRY ON 1/30/20
- VB-02 BEDROCK @ 2'-1", DRY ON 1/30/20
- VB-03 GROUNDWATER @ 5'-2", HOLE TERMINATED AT 5'-3", NO ROCK ON 1/30/20

**NOTES:**

1. FOR LEGEND, ABBREVIATIONS AND GENERAL NOTES, SEE SHEET 00 C-001.
2. FOR DETAILS, SEE 99 SERIES OF CIVIL DRAWINGS.
3. CONTRACTOR TO STOCKPILE CONCRETE BARRIERS FOR REMOVAL BY THE CITY AFTER THE 30" TEMPORARY FORCE MAIN IS TAKEN OUT OF SERVICE.
4. CONTRACTOR TO REMOVE AND DISPOSE OF THE TEMPORARY FILL ON TOP OF AND SURROUNDING THE 30" TEMPORARY FORCE MAIN AFTER IT IS TAKEN OUT OF SERVICE.



PATH: I:\LEGACY\USCH\PROJECTS\WAKEFIELD\DATA\PROJECTS\WAKEFIELD\DATA\PEIRCE ISLAND FM REPLACEMENT\900 CAD-GIS\900 SHEETS\C-101.DWG  
 LAST UPDATE: Tuesday, September 21, 2021 5:30:49 PM  
 PLOT DATE: Wednesday, September 22, 2021 5:30:49 PM

**MATCH LINE - SEE SHEET 00 C-102**

SHEET 00 C-104 – CONTRACTOR ACCESS AND STAGING AREA AND SITE  
RESTORATION PLAN



**PROJECT**

**PEIRCE ISLAND  
FORCE MAIN AND  
WATER MAIN  
REPLACEMENT**

Peirce Island, Portsmouth NH

**OWNER**

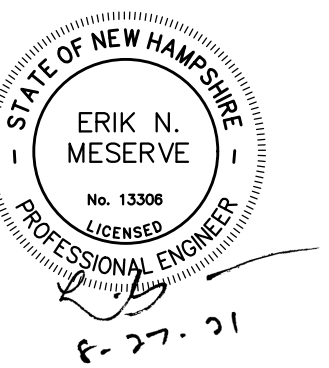
**CITY OF PORTSMOUTH  
NEW HAMPSHIRE**

680 Beverly Hill Road  
Portsmouth, NH 03801

**ENGINEER**

AECOM TECHNICAL SERVICES, INC.  
250 APOLLO DRIVE  
CHELMSFORD, MA 01824  
PHONE: (978) 905-2100  
www.aecom.com

**REGISTRATION**



**ISSUE/REVISION**

I/R	DATE	DESCRIPTION
1	9-22-21	ADDENDUM NO. 2

**PROJECT NUMBER**

60649477

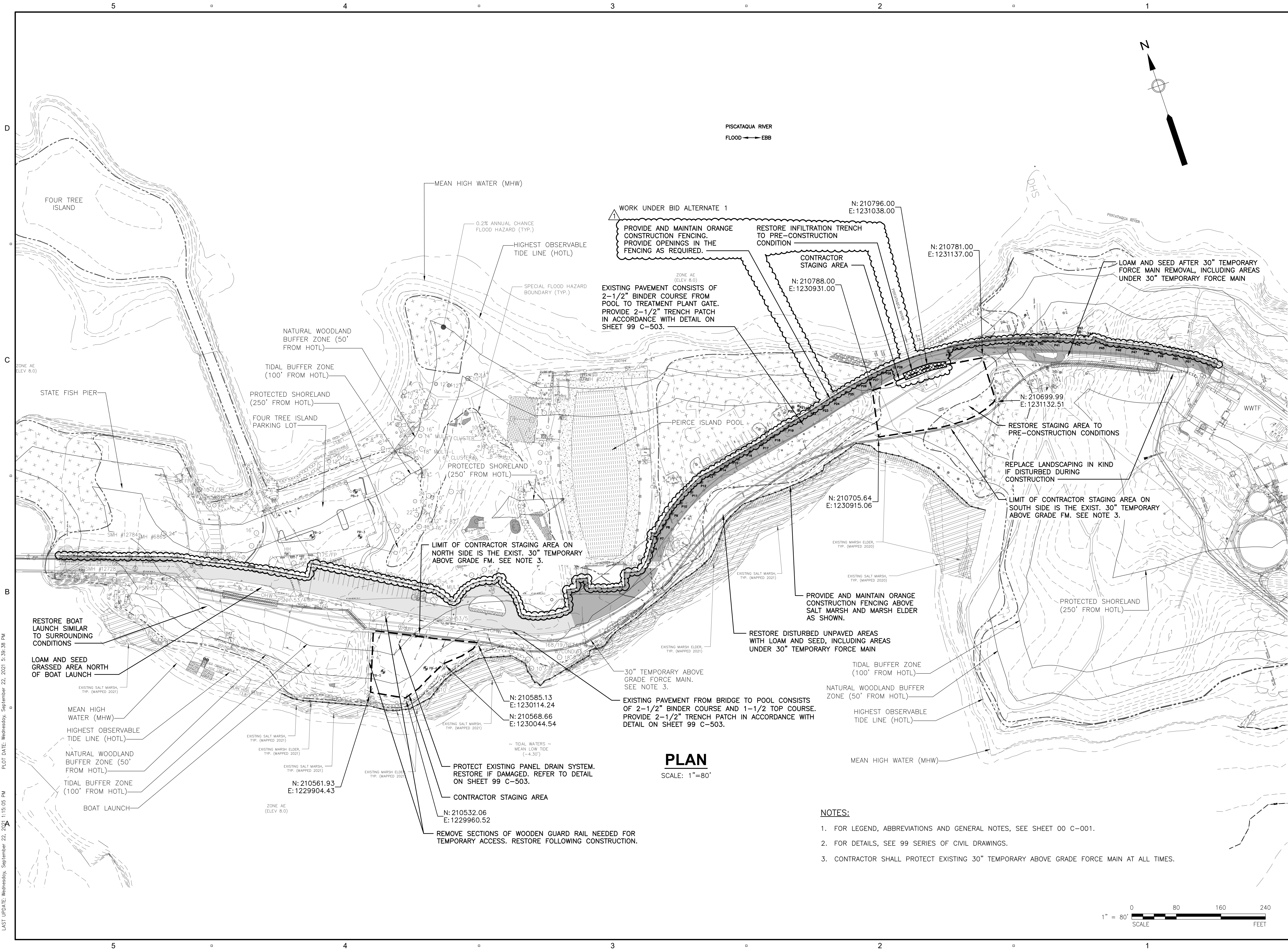
Designed By:	<b>S. HE</b>
Drawn By:	<b>M. THIBODEAU</b>
Dept Check:	<b>C. BENZIGER</b>
Proj Check:	<b>E. MESERVE</b>
Date:	<b>AUGUST 2021</b>
Scale:	<b>AS NOTED</b>

**DISCIPLINE**

**CIVIL  
SHEET TITLE**

**CONTRACTOR ACCESS AND  
STAGING AREA AND SITE  
RESTORATION PLAN  
SHEET NUMBER**

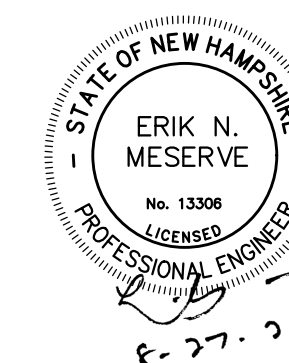
**00 C-104**



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 LAST UPDATE: Wednesday, September 22, 2021 1:15:05 PM PLOT DATE: Wednesday, September 22, 2021 5:38:38 PM

SHEET 00 C-110 – PIPE PLAN AND PROFILE PEIRCE ISLAND BRIDGE  
SLIPLINING

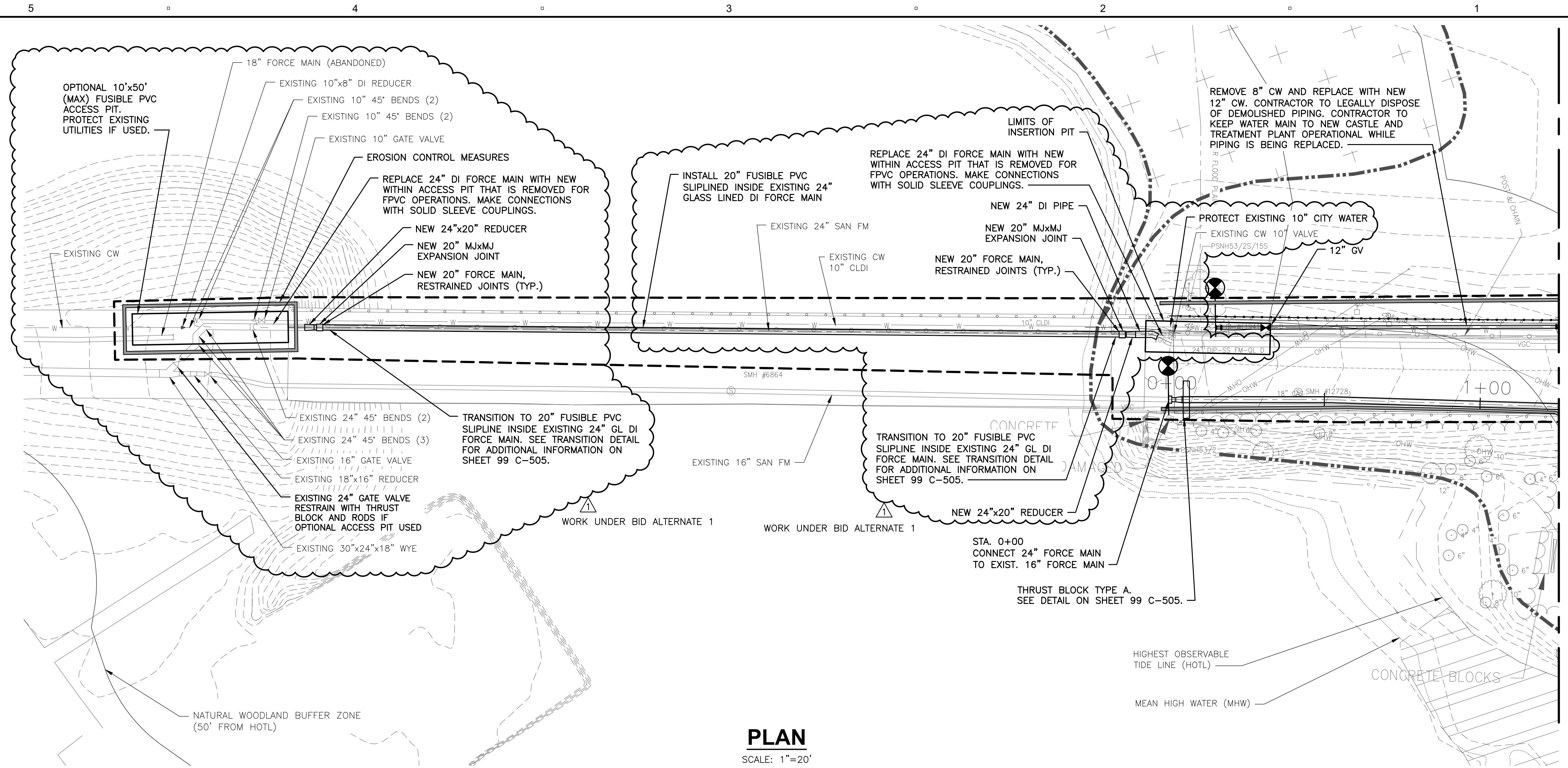




NO.	DATE	DESCRIPTION
1	9-22-21	ADDENDUM NO. 2

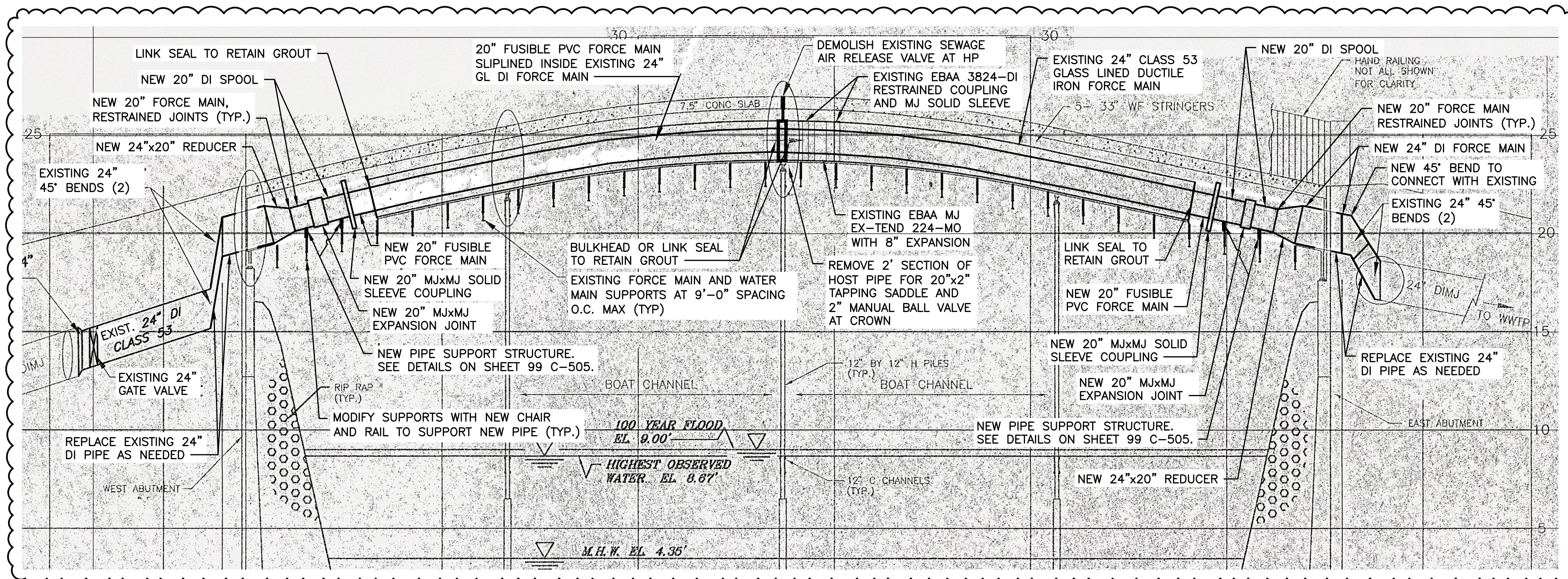
60649477

Designed By: **S. HE**  
 Drawn By: **M. THIBODEAU**  
 Dept Check: **C. BENZIGER**  
 Proj Check: **E. MESERVE**  
 Date: **AUGUST 2021**  
 Scale: **AS NOTED**



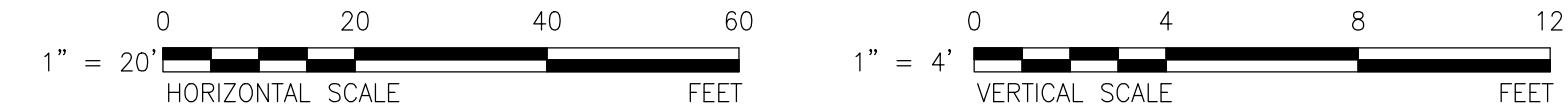
**PLAN**

SCALE: 1"=20'



**PROFILE**

SCALE: 1"=20' (HORIZ.)  
 1"=4' (VERT.)



FOR CONTINUATION, SEE SHEET 00 C-103

PATH: I:\LEGACY\USCHI\FRONT\DATA\PROJECTS\WAKEFIELD\DATA\_2\EVERYONE\PORTSMOUTH PEIRCE ISLAND FM REPLACEMENT\00 CAD-GIS\SHEETS\C-110.DWG  
 LAST UPDATE: Tuesday, September 21, 2021 4:32 PM  
 PLOT DATE: Wednesday, September 22, 2021 3:54:41 PM



SHEET 99 C-505 – DETAILS V



NO.	DATE	DESCRIPTION
1	9-22-21	ADDENDUM NO. 2

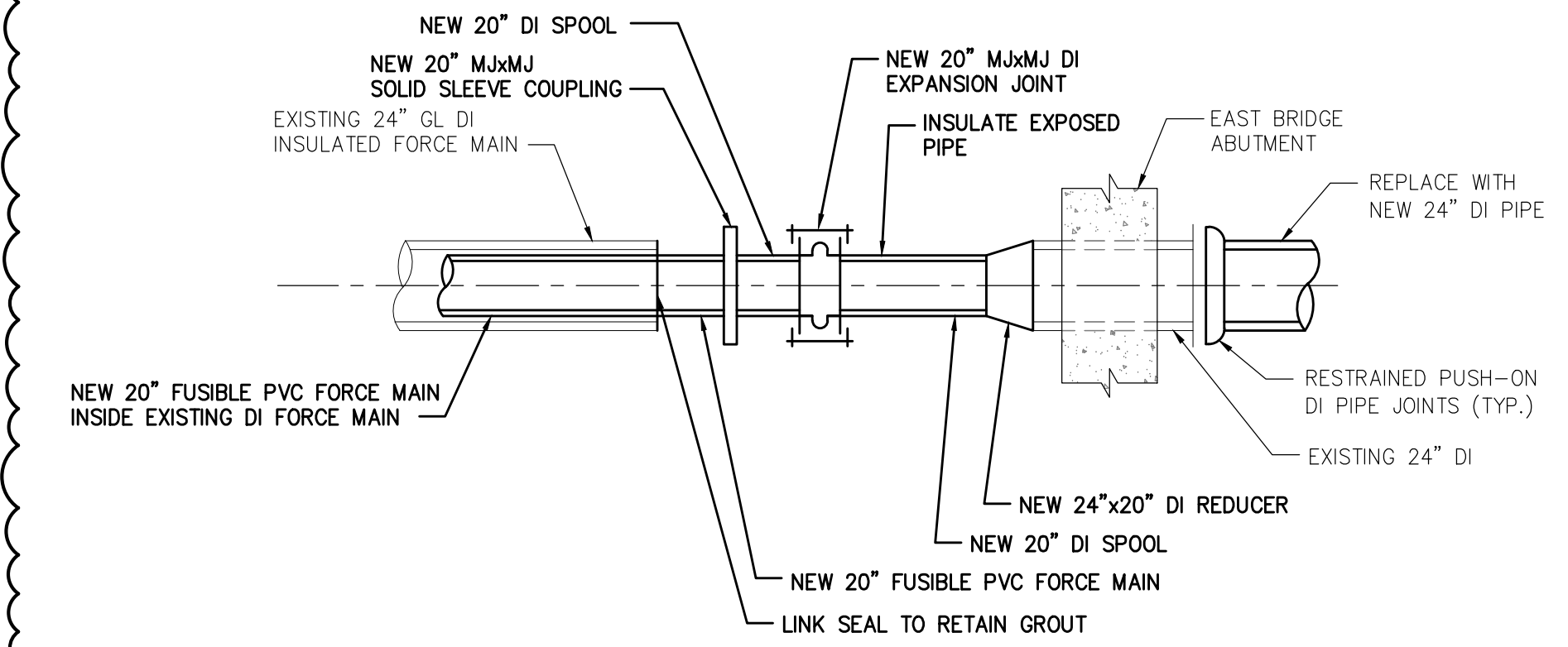
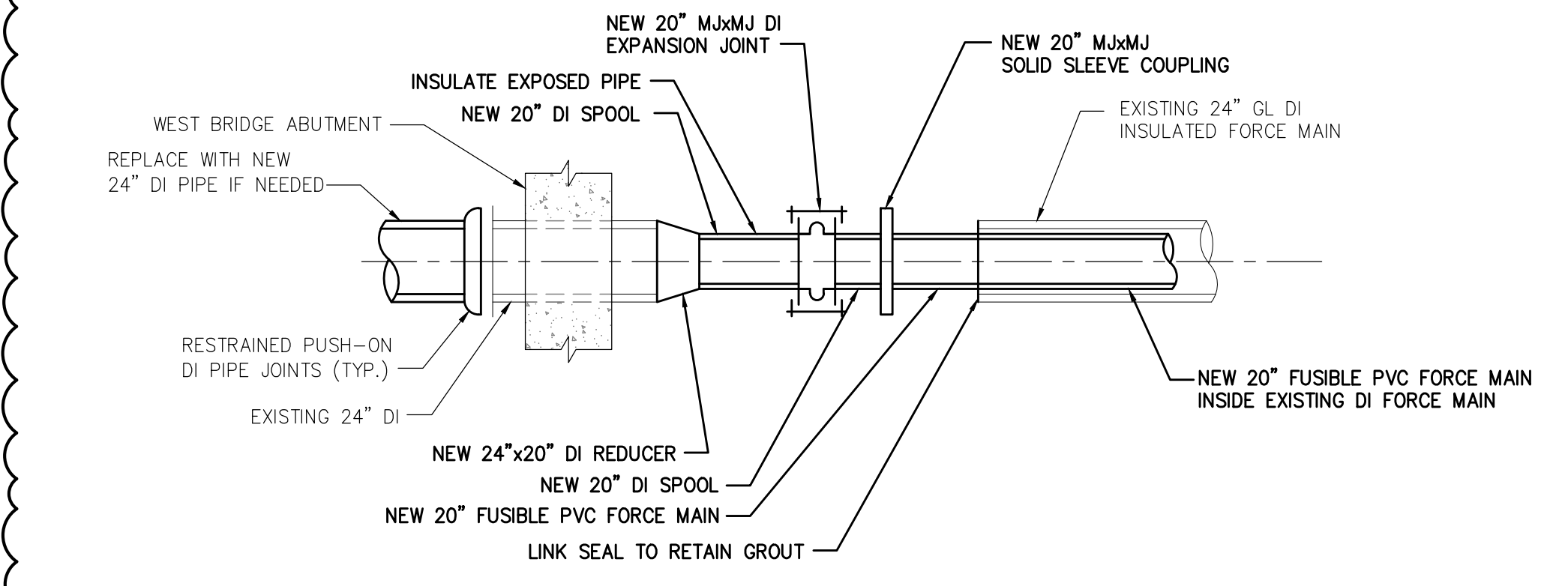
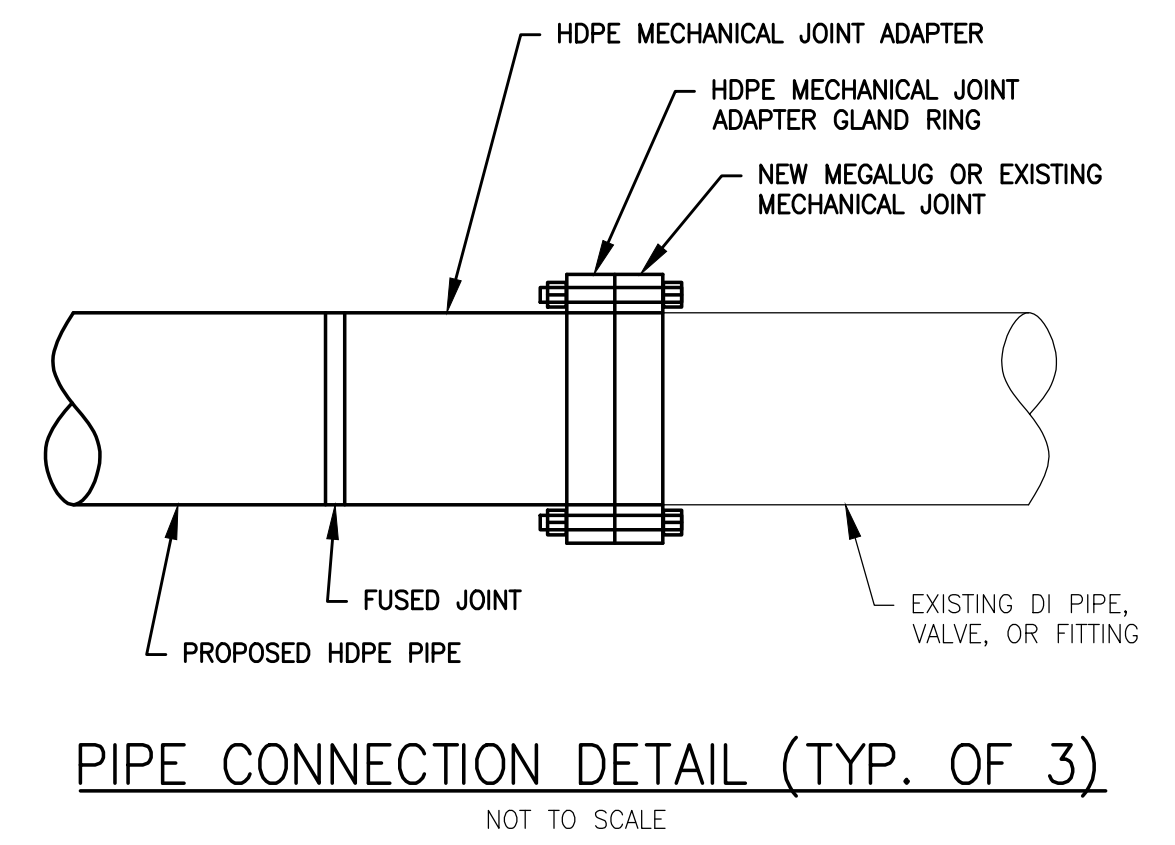
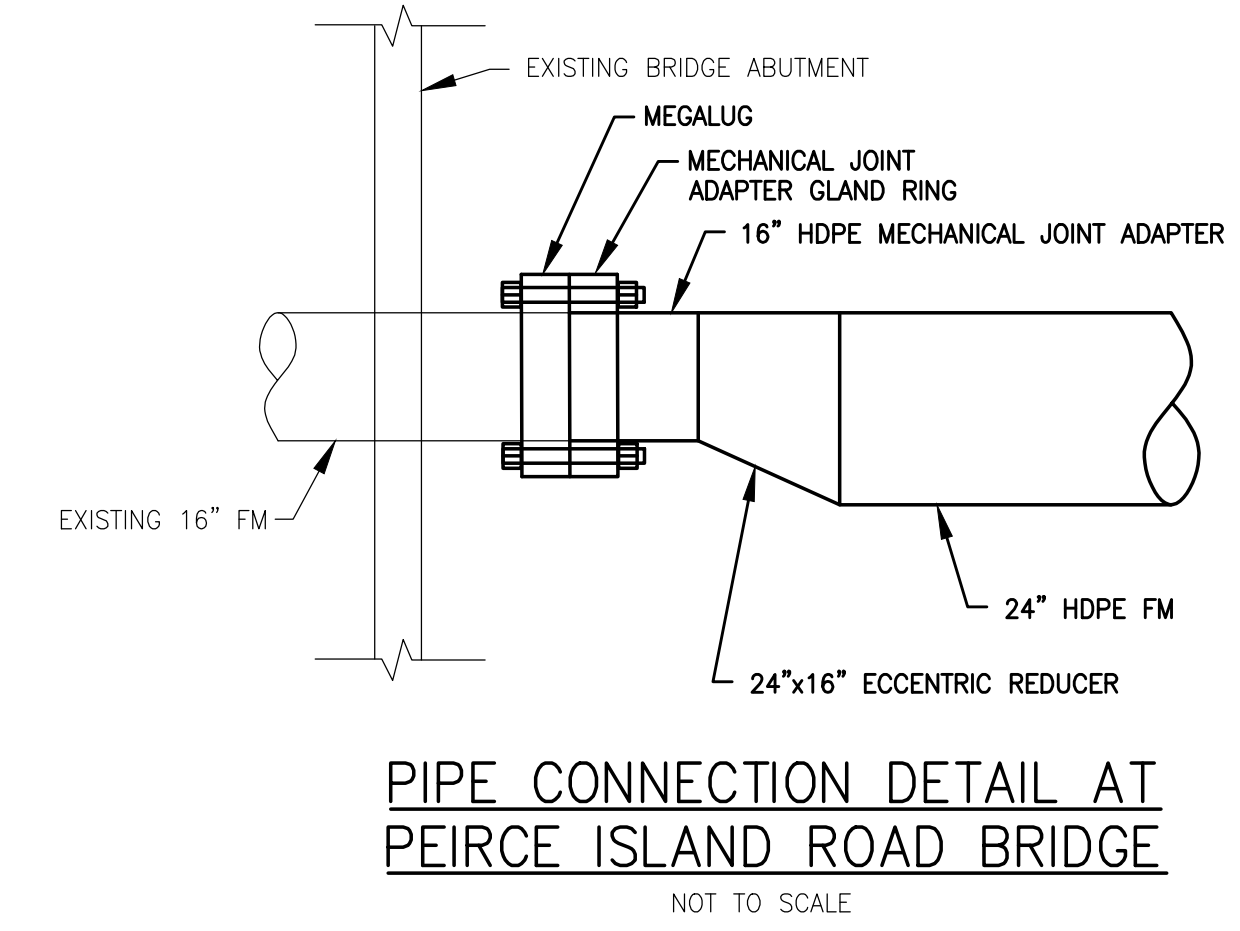
60649477

Designed By:	<b>S. HE</b>
Drawn By:	<b>M. THIBODEAU</b>
Dept Check:	<b>C. BENZIGER</b>
Proj Check:	<b>E. MESERVE</b>
Date:	<b>AUGUST 2021</b>
Scale:	<b>AS NOTED</b>

CIVIL

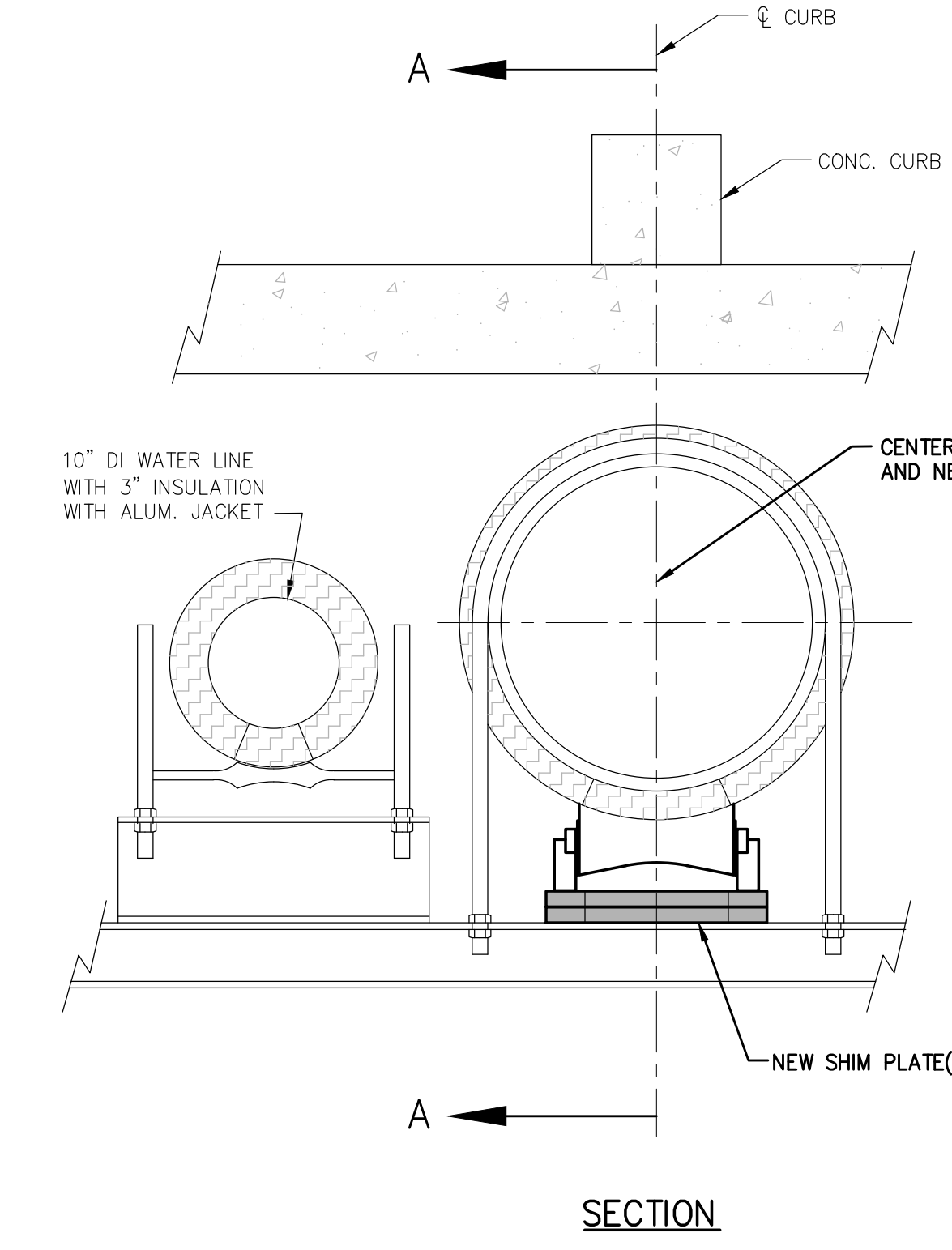
**DETAILS V**

**99 C-505**

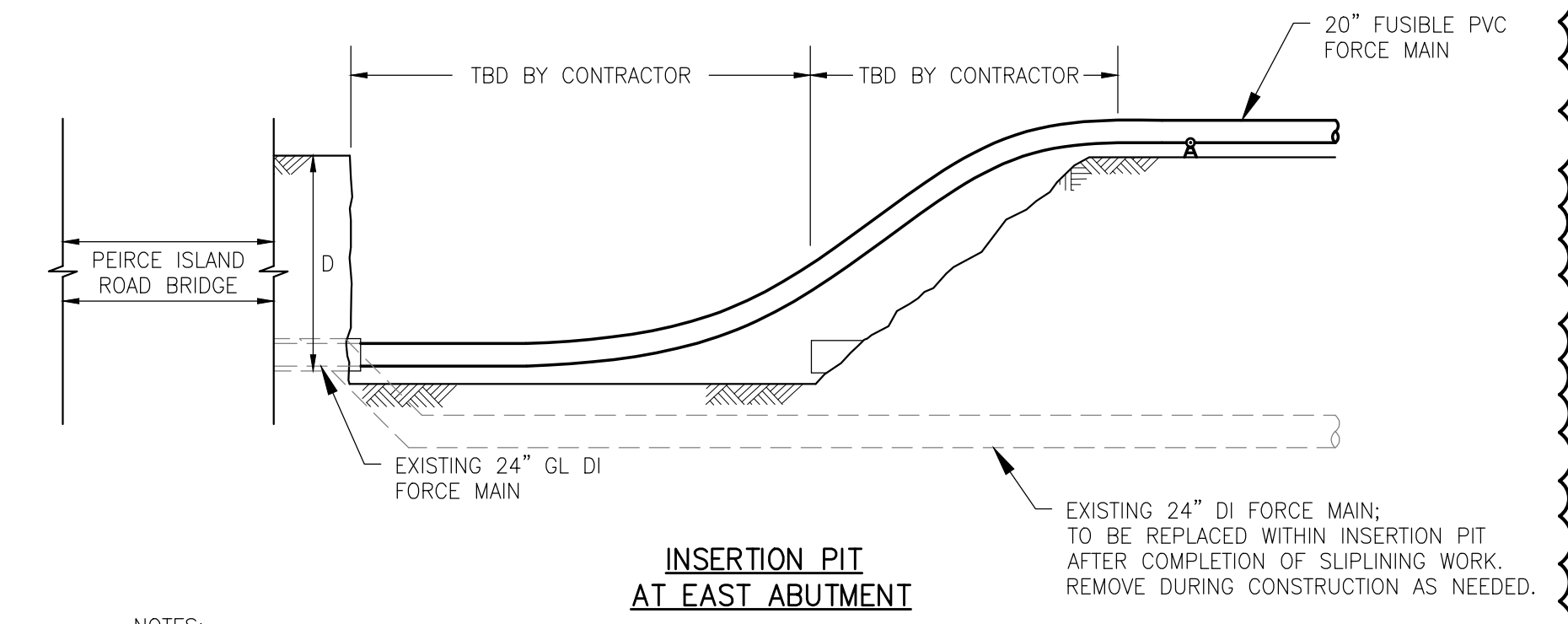
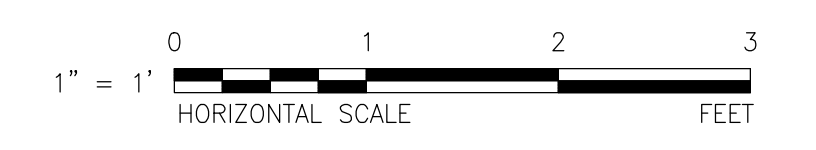


- NOTES:**
1. ALL JOINTS TO BE RESTRAINED.
  2. ALL FUSIBLE PVC JOINTS SHALL BE BUTT FUSED UNLESS INDICATED OTHERWISE.
  3. FIELD VERIFY DIMENSIONS SO AS TO PROVIDE SUPPORT WHERE SHOWN ON THE PROFILE ON SHEET 00 C-110.

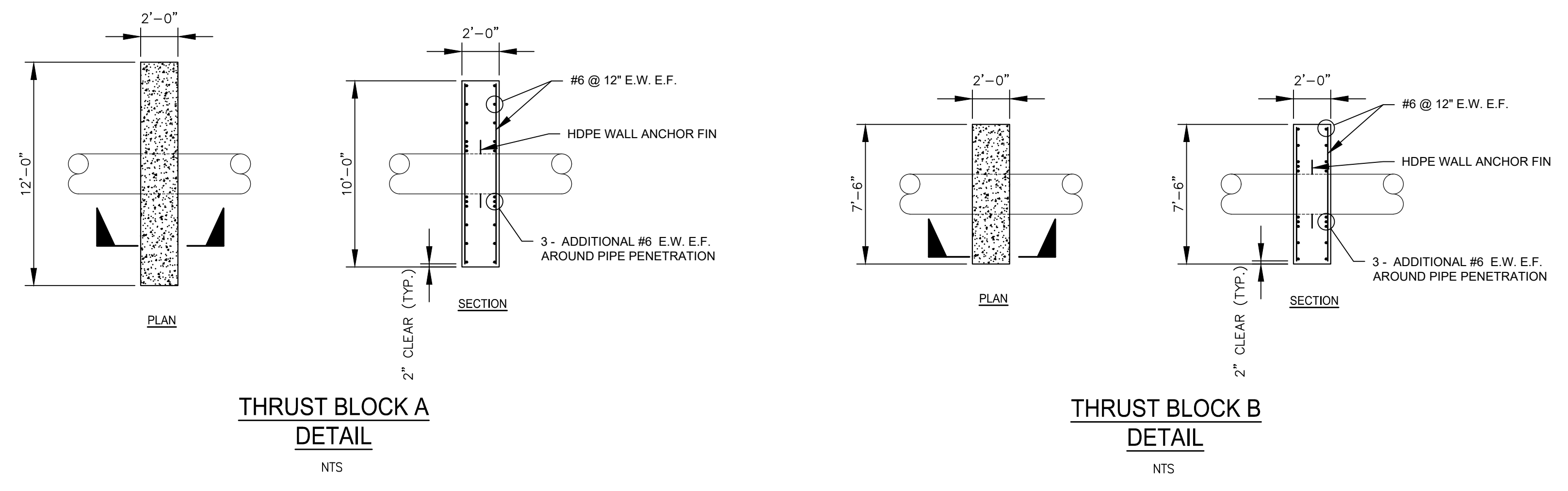
**TRANSITION FROM FUSIBLE PVC TO DUCTILE IRON**  
 NOT TO SCALE



**PIPE SUPPORT DETAIL (TYP. OF 4)**  
 SCALE: 1"=1'-0"



- NOTES:**
1. LENGTH OF INSERTION PIT AT EAST ABUTMENT IS DEPENDENT ON DEPTH (D) OF EXISTING FORCE MAIN.
  2. CONTRACTOR SHALL DETERMINE LENGTH (L) OF ACCESS PIT AT WEST ABUTMENT TO ACCOMMODATE PULLING EQUIPMENT.



WORK UNDER BID ALTERNATE 1

PATH: I:\LEGACY\USCHI\PROJECTS\WAKEFIELD\DATA\_2\EVERYONE\PORTSMOUTH PEIRCE ISLAND FM REPLACEMENT\900 CAD-GIS\SHEETS\99 C-505.DWG  
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 PLOT DATE: Wednesday, September 22, 2021 3:36:35 PM