

TOWN OF SEABROOK, NEW HAMPSHIRE
OFFICE OF THE TOWN MANAGER
99 LAFAYETTE ROAD
SEABROOK, NH 03874

**BID DOCUMENTS
FOR
SEABROOK SEAWALL REPAIR
SEABROOK, NH**



AUGUST 2022

EDA AWARD NUMBER: 01-01-14894

Table of Contents

<u>Attachment</u>	<u>Title</u>
A	Advertisement, Instructions to Bidders, Important Notices
B	Bid Form
C	Certificate of Authority to Sign
D	Qualifications Statement
E	Compliance Statement/Executive Order 11246 & Lobbying Restriction (Form CD-512)
F	Bid Bond
G	Agreement
H	Performance Bond
I	Payment Bond
J	Standard General Conditions of the Construction Contract
K	Payroll Form and Davis-Bacon Wage Rates
L	EDA Contracting Provisions for Construction Projects, EDA Sign, and EDA Notice of Requirements for Affirmative Action
M	Specifications, Permits, Sample Submittal Cover Form, and Sample Pile Driving Logs
N	Drawings

Attachment A: Advertisement, Instructions to Bidders,
Important Notices



Request for Proposal
TOWN OF SEABROOK SEAWALL REPAIRS
B2022-MGR-14

Town of Seabrook, New Hampshire
Procurement Department



REQUEST FOR PROPOSAL # B2022-MGR-14

You are cordially invited to submit a Proposal for the Seawall Repairs as needed in accordance with the attached specifications, terms and conditions. Prospective respondents are advised to read this information over carefully prior to submitting a proposal.

Proposal must be submitted in a sealed envelope, plainly marked:

***RFP # B2022-MGR-14
Town Managers Office
Town of Seabrook
c/o Shaylia Wood
99 Lafayette Rd
Seabrook, NH 03874***

***All proposals/bids must be received by Tuesday, October 18th, 2022 at 2pm EST
And will be opened publicly immediately after the deadline.***

***There will be a non-mandatory site-walk at 2:00 PM on Thursday, September 8th, 2022 at 2pm EST.
Please email Shaylia Wood, at Swood@seabrooknh.org with your intent to attend the site meeting and
intent to bid on the project.***



Request for Proposal
TOWN OF SEABROOK SEAWALL REPAIRS
B2022-MGR-14

I. INTRODUCTION

The Town of Seabrook Procurement Department seeks proposals from qualified applicants capable of performing the Seawall Repairs.

Description of Work: The Authorized Scope of Work for this project includes: (1) Replacement and rehabilitation of approximately 560 linear feet of steel sheet pile bulkhead at the North and South wall, (2) replacement of timber fendering, and (3) site re-grading and re-paving.

II. GENERAL REQUIREMENTS

Applicants are requested to submit a complete qualification package for review by the Owner that demonstrates successful performance on similar projects. Candidates making proposals must respond in writing to all requirements of this Request for Proposal (RFP). Responses should reflect detailed considerations of the issues and opportunities presented by this specific project. Any additional information or tasks that are felt to be relevant to the work on this project by the responding firm should be included together with the submittal requirements. The Bidders must include at least three (3) references that may be contacted by the Town of Seabrook with regards to past performance.

Important Notices

1. Note the Time of Year (TOY) Restriction for in-water work in the attached NHDES permit. Work can take place in the dry in the inter-tidal areas of the site outside of the TOY restriction. Upland work is not limited by this restriction.
2. This project will be partially funded with Federal funds from the United States Department of Commerce, Economic Development Administration and therefore is subject to the Federal laws and regulations associated with that program.
 - a. Workman's Compensation Insurance, Public Liability Insurance, and Builder's Risk Insurance (if applicable), is required to be maintained by the contractor and all subcontractors.
 - b. A 5% bid bond and 100% performance bond and payment bond is required. Any Surety Companies must be listed on US Treasury Circular 570.
 - c. Davis-Bacon wage rates apply.
 - d. The method of award will be based on the lowest, responsive, responsible bidder in the sole judgment and decision of the Owner.
3. Consistent with Executive Order 13858, "Strengthening Buy-American Preferences for Infrastructure Projects" the Contractor is encouraged to use, to the greatest extent practicable, iron and aluminum as well as steel, cement and other manufactured products produced in the United States in every contract, subcontract, purchase order, or sub-award that is chargeable under this Award. In your response/bid, please confirm your acknowledgment of same and list any items that are contemplated as a waiver and the reasoning in your response/bid. Also note any items that you have knowledge about that will be impactful to the Project both in cost and schedule due to possible supply chain issues.
4. Contractor shall have and maintain an Active SAMs (System for Award Management) Registration and shall not appear on an excluded parties list or be subject to Debt Offset.



Request for Proposal
TOWN OF SEABROOK SEAWALL REPAIRS
B2022-MGR-14

All proposals must be received no later than Tuesday, October 18th, 2022 at 2pm EST by the office of the Town Manager and must be plainly marked:

RFP # B2022-MGR-14
Town Managers Office
Town of Seabrook
c/o Shaylia Wood
99 Lafayette Rd
Seabrook, NH 03874

The submittal package shall include Three (3) copies of the proposal. No telephone, email or facsimile proposals will be accepted. All proposals received after the deadline will be returned unopened.

Proposals must be signed by an official authorized to bind the contractor to its provisions for at least a period of ninety (90) days. Failure of the successful bidder to accept the obligations, terms and conditions of the contract may result in the cancellation of any award.

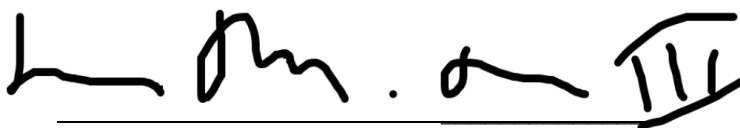
Costs incurred for the preparation of a proposal in response to this RFP shall be the sole responsibility of the firm submitting the proposal. The Town of Seabrook reserves the right to select or reject any applicant as it deems to be in the best interest to accomplish the project specified. The Town of Seabrook reserves the right to accept the proposal on one or any combination of items of a proposal. The Town also reserves the right to discontinue the selection process at any time prior to the awarding of a contract. There will be no reimbursement to any candidate firm if the selection process is terminated. The Town of Seabrook reserves the right to waive defects and informalities of the proposals and the RFP process.

Questions should be in directed in writing to Shaylia Wood, at Swood@seabrooknh.org.

III. CONTRACT TERMS

The Town of Seabrook will limit negotiated contract terms upon selection. The intent is to execute a contract withing fourteen (14) days of designating and award and not to engage in a protracted negotiation. All contracts are subject to review by Town of Seabrook legal counsel and will be awarded upon signing of a commitment or contract, which outlines terms, scope, budget and other necessary items. The Town of Seabrook reserves the right to accept or reject any or all bids, to waive technical or legal deficiencies and to accept any bid that it may deem to be in the best interest of the town.

Approved By



William M. Manzi III,
Town Manager

Date

Attachment B: Bid Form

PRICE QUOTE FORM

To be submitted in a sealed envelope.

This is for SEABROOK SEAWALL REPAIR for the Town of Seabrook, New Hampshire in accordance with the specifications hereto attached

Proposers must submit pricing in accordance with the following instructions. The pricing is to cover all work/services required for this project as outlined in this REQUEST.

NORTH WALL REPAIRS

ITEM.	QTY.	UNIT PRICE	AMOUNT
020100-1 MOB/DEMOB	1	LS	\$ _____ \$ _____ written in words numbers
024100-1 NORTH WALL DEMOLITION AND DECONSTRUCTION	1	LS	\$ _____ \$ _____ written in words numbers
061333-1 TIMBER FENDER SYSTEM	1	LS	\$ _____ \$ _____ written in words numbers
099713-1 NORTH WALL EPOXY COATING	1	LS	\$ _____ \$ _____ written in words numbers
312300-1 NORTH WALL GRAVEL BACKFILL ALLOWANCE	20	CY	\$ _____ \$ _____ written in words numbers
312300-2 NORTH WALL CRUSHED STONE	780	CY	\$ _____ \$ _____ written in words numbers
314116-1 NORTH WALL SHEET PILE REPAIRS	1	LS	\$ _____ \$ _____ written in words numbers
316116-1 MOORING BOLLARDS	1	LS	\$ _____ \$ _____ written in words numbers
316116-2 SAFETY BOLLARDS	1	LS	\$ _____ \$ _____ written in words numbers
316219-1 DOLPHIN CLUSTERS	1	LS	\$ _____ \$ _____ written in words numbers
321217-1 NORTH WALL HMA PAVEMENT	640	SY	\$ _____ \$ _____ written in words numbers

NORTH WALL BID AMOUNT: _____ \$ _____
written in words numbers

SOUTH WALL REPAIRS

ITEM.	QTY.	UNIT PRICE	AMOUNT
024100-2 SOUTH WALL DEMOLITION AND DECONSTRUCTION	1	LS	\$ _____ \$ _____ written in words numbers
099713-2 SOUTH WALL EPOXY COATING	1	LS	\$ _____ \$ _____ written in words numbers
312300-3 SOUTH WALL GRAVEL BACKFILL ALLOWANCE	10	CY	\$ _____ \$ _____ written in words numbers
312300-4 SOUTH WALL CRUSHED STONE	190	CY	\$ _____ \$ _____ written in words numbers
314116-2 SOUTH WALL SHEET PILE REPAIRS	1	LS	\$ _____ \$ _____ written in words numbers
321217-2 SOUTH WALL HMA PAVEMENT	60	SY	\$ _____ \$ _____ written in words numbers

SOUTH WALL BID AMOUNT: _____ \$ _____
written in words numbers

TOTAL BID AMOUNT: _____ \$ _____
written in words numbers

Attachment C: Certificate of Authority to Sign

SECTION 00302CERTIFICATE OF AUTHORITY TO SIGN

At a duly authorized meeting of the Board of Directors of _____
 (Company Name)

held on _____, at which all the Directors were present or waived notice, it was
 (Date)

voted that _____, _____, _____
 (Officer Names) (Officer Names) (Officer Names)

of this Company, be and he/she/they hereby is/are authorized to execute Bidding Document,
 Contracts and Bonds in the name and on behalf of said Company, and affix its corporate seal
 thereto, and such execution of any contract or obligation in this Company's name on its behalf by
 such _____ under seal of the Company shall be valid and binding upon this Company.
 (Officer/Title)

I hereby certify that the above vote has not been amended or rescinded and remains in full effect
 as of this date _____.

A true copy,

ATTEST _____
 Clerk

(Corporate Seal)

Attachment D: Qualifications Statement

SECTION 00405QUALIFICATIONS STATEMENT

**THE INFORMATION SUPPLIED IN THIS DOCUMENT IS CONFIDENTIAL TO THE EXTENT
PERMITTED BY LAWS AND REGULATIONS**

1. SUBMITTED BY:

Official Name of Firm: _____

Address: _____
_____**2. SUBMITTED TO:** _____**3. SUBMITTED FOR:** _____TYPE OF WORK: _____
_____**4. CONTRACTOR'S CONTACT INFORMATION**

Contact Person: _____

Title: _____

Phone: _____

Email: _____

5. AFFILIATED COMPANIES:

Name: _____

Address: _____
_____**6. TYPE OF ORGANIZATION:**☐ SOLE PROPRIETORSHIP

Name of Owner: _____

Doing Business As: _____

Date of Organization: _____

☐ CORPORATION

State of Organization: _____

Date of Organization: _____

Executive Officers: _____

- President: _____

- Vice President(s): _____

- Treasurer: _____

- Secretary: _____

☐ LIMITED LIABILITY COMPANY

State of Organization: _____

Date of Organization: _____

Members: _____

☐ JOINT VENTURE

State of Organization: _____

Date of Organization: _____

Form of Organization: _____

Joint Venture Managing Partner

- Name: _____

- Address: _____

Joint Venture Managing Partner

- Name: _____
- Address: _____

Joint Venture Managing Partner

- Name: _____
- Address: _____

7. LICENSING

Jurisdiction: _____
Type of License: _____
License Number: _____

8. CERTIFICATIONS

CERTIFIED BY:

Disadvantage Business Enterprise: _____
Minority Business Enterprise: _____
Woman Owned Enterprise: _____
Small Business Enterprise: _____
Other (_____): _____

9. BONDING INFORMATION

Bonding Company: _____
Address: _____

Bonding Agent: _____
Address: _____

Contact Name: _____

Phone: _____

Aggregate Bonding Capacity: _____

Available Bonding Capacity as of date of this submittal: _____

10. FINANCIAL INFORMATION

Financial Institution: _____

Address: _____

Account Manager: _____

Phone: _____

Do you grant Engineer permission to contact this (these) institutions?

☐ YES ☐ NO

11. CONSTRUCTION EXPERIENCE:

Current Experience:

List on **Schedule A** all uncompleted projects currently under contract (If Joint Venture list each participant's projects separately).

Previous Experience:

List on **Schedule B** all projects completed within the last 5 Years (If Joint Venture list each participant's projects separately).

Has firm listed in Section 1 ever failed to complete a construction contract awarded to it?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Has any Corporate Officer, Partner, Joint Venture participant or Proprietor ever failed to complete a construction contract awarded to them in their name or when acting as a principal of another entity?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

Are there any judgments, claims, disputes or litigation pending or outstanding involving the firm listed in Section 1 or any of its officers (or any of its partners if a partnership or any of the individual entities if a joint venture)?

☐ YES ☐ NO

If YES, attach as an Attachment details including Project Owner's contact information.

12. SAFETY PROGRAM:

Name of Contractor's Safety Officer: _____

Provide the following information for the last 3 full calendar years:

Workers' compensation Experience Modification Rate (EMR):

YEAR	_____	EMR	_____
YEAR	_____	EMR	_____
YEAR	_____	EMR	_____

Total Recordable Frequency Rate (TRFR):

YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____
YEAR	_____	TRFR	_____

Total number of man-hours worked:

YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____
YEAR	_____	TOTAL NUMBER OF MAN-HOURS	_____

13. EQUIPMENT:

MAJOR EQUIPMENT:

List on **Schedule C** all pieces of major equipment available for use on Owner's Project.

14. MAJOR SUBCONTRACTORS:

Identify any subcontractors that will represent a subcontract value estimated at greater than \$750,000.

Earthwork/ Site Work Subcontractor: _____

Blasting Subcontractor: _____

Support of Excavation Subcontractor: _____

Concrete Subcontractor: _____

Mechanical/ HVAC Subcontractor: _____

Mechanical/ Plumbing Subcontractor: _____

Instrumentation Subcontractor: _____

Electrical Subcontractor: _____

I HEREBY CERTIFY THAT THE INFORMATION SUBMITTED HERewith, INCLUDING ANY ATTACHMENTS,
IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

NAME OF ORGANIZATION: _____

BY: _____

TITLE: _____

DATED: _____

NOTARY ATTEST:

SUBSCRIBED AND SWORN TO BEFORE ME

THIS _____ DAY OF _____, 20____

NOTARY PUBLIC - STATE OF _____

MY COMMISSION EXPIRES: _____

REQUIRED ATTACHMENTS

1. Schedule A (Current Experience).
2. Schedule B (Previous Experience).
3. Schedule C (Major Equipment).
4. Evidence of authority to do business in the State.
5. Evidence of authority for individuals listed in Section 6 to bind organization to an agreement.
6. Resumes of officers and key individuals, including Safety Officer, of firm named in Section 1.
7. Additional items as pertinent.

SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

[illegible]

SCHEDULE B

PREVIOUS EXPERIENCE (Include ALL Projects Completed within last 5 years)

[illegible]

Attachment E: Compliance Statement/Executive Order
11246

SECTION 00406COMPLIANCE STATEMENT

EXECUTIVE ORDER 11246

Date: _____

This statement relates to a proposed contract with the _____, who expects to finance the contract with assistance from an agency of agencies of the United States Government. I am the undersigned bidder or prospective contractor. I represent that -----

1. I ☐ have, ☐ have not, participated in a previous contract or subcontract subject to Executive Order 11246 (regarding equal employment opportunity) or a preceding similar Executive Order.
2. If I have participated in such a contract or subcontract, I ☐ have, ☐ have not, filed all compliance reports that I have been required to file in connection with the contract or subcontract.

I understand that if I have failed to file any compliance reports that have been required of me, I am not eligible and will not be eligible to have my bid considered or to enter into the proposed contract unless and until I make an arrangement regarding such reports that is satisfactory to the office where the reports are required to be filed.

Signature of Bidder or Prospective Contractor

Address: _____
Street, P.O. Box, etc.

City, State and Zip Code

(This page to be completed by the Bidder and submitted with his Bid Form)

END OF SECTION

CERTIFICATION REGARDING LOBBYING LOWER TIER COVERED TRANSACTIONS

Applicants should review the instructions for certification included in the regulations before completing this form. Signature on this form provides for compliance with certification requirements under 15 CFR Part 28, "New Restrictions on Lobbying."

LOBBYING

As required by Section 1352, Title 31 of the U.S. Code, and implemented at 15 CFR Part 28, for persons entering into a grant, cooperative agreement or contract over \$100,000 or a loan or loan guarantee over \$150,000 as defined at 15 CFR Part 28, Sections 28.105 and 28.110, the applicant certifies that to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

In any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure occurring on or before October 23, 1996, and of not less than \$11,000 and not more than \$110,000 for each such failure occurring after October 23, 1996.

As the duly authorized representative of the applicant, I hereby certify that the applicant will comply with the above applicable certification.

NAME OF APPLICANT

AWARD NUMBER AND/OR PROJECT NAME

PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

SIGNATURE

DATE

Attachment F: Bid Bond

SECTION 00410

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (Name and Address):

SURETY (Name, and Address of Principal Place of Business):

OWNER (Name and Address):

BID

Bid Due Date:

Description (Project Name— Include Location):

BOND

Bond Number:

Date:

Penal sum _____ \$ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____ By: _____
Signature Signature (Attach Power of Attorney)

Print Name Print Name

Title Title

Attest: _____ Attest: _____
Signature Signature

Title

Title

Note: Addresses are to be used for giving any required notice.

Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and a performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or an extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

Attachment G: Agreement

SECTION 00510SUGGESTED FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTORFOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and between Town of Seabrook, New Hampshire ("Owner") and
 _____ ("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:
 As shown on the plans and specifications prepared by Collins Engineers, Inc.

ARTICLE 2 – THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Seabrook Seawall Repairs

ARTICLE 3 – ENGINEER

- 3.01 The Project has been designed by Collins Engineers, Inc. (Collins) _
 3.02 The Owner has retained Collins ("Engineer") to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

- 4.01 *Time of the Essence*
 A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 4.02 *Contract Times: Days*
 A. The Work will be substantially completed within 180 days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within 240 days after the date when the Contract Times commence to run.
- 4.03 *Liquidated Damages*
 A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the

delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: Contractor shall pay Owner \$1,000 for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$1,000 for each day that expires after such time until the Work is completed and ready for final payment.
3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:

- A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURE

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the last day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract
 - a. 95 percent of Work completed (with the balance being retainage); and
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).

- B. Upon Substantial Completion of the entire construction to be provided under the Contract Documents, Owner shall pay an amount sufficient to increase total payments to Contractor to 99 percent of the Work completed, less such amounts set off by Engineer or by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.
- C. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST Note: The EDA is not responsible for any interest paid to any party.

7.01 All amounts not paid when due shall bear interest at the rate of prime plus 2 percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
- A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, 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.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
 - E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract 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 Contractor; and (3) Contractor's safety precautions and programs.
 - F. Contractor 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 Contract Documents.
 - G. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
 - H. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

- I. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
1. This Agreement (pages 1 to 7, inclusive).
 2. Performance bond (pages 1 to 3, inclusive).
 3. Payment bond (pages 1 to 3, inclusive).
 4. General Conditions (pages 1 to 65, inclusive) & EDA Contracting Provisions.
 5. Supplementary Conditions (pages 1 to 23).
 6. Specifications as listed in the table of contents of the Project Manual.
 7. Drawings (not attached but incorporated by reference) consisting of 13 sheets with each sheet bearing the following general title: Town of Seabrook, NH –Design of Repairs | Seabrook Seawall.
 8. Addenda (numbers to , inclusive).
 9. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages to , inclusive).
 10. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract 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.

10.06 *Equal Opportunity Clause*

- A. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows: 4.0 percent goals for minority participation for each trade, and 6.9 percent goals for female participation for each trade, applicable to the total dollar amount paid for the construction contract.

- B. These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

10.07 American Iron and Steel Requirements

- A. The Contractor acknowledges to and for the benefit of the Town of Seabrook, NH. ("Purchaser") and the Economic Development Administration (EDA) (the "Agency") that it understands the goods and services under this Agreement are being funded with monies made available by the EDA that have statutory requirements commonly known as "American Iron and Steel;" that requires all of the iron and steel products used in the project to be produced in the United States ("American Iron and Steel Requirement") including iron and steel products provided by the Contractor pursuant to this Agreement. The Contractor hereby represents and warrants to and for the benefit of the Purchaser and the Agency that (a) the Contractor has reviewed and understands the American Iron and Steel Requirement, (b) all of the iron and steel products used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Purchaser or the Agency. Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Purchaser or Agency to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Purchaser or Agency resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the Agency or any damages owed to the Agency by the Purchaser). While the Contractor has no direct contractual privity with the Agency, as a lender to the Purchaser for the funding of its project, the Purchaser and the Contractor agree that the Agency is a third-party beneficiary and neither this paragraph (nor any other provision of this Agreement necessary to give this paragraph force or effect) shall be amended or waived without the prior written consent of the Agency.

10.08 Direct Labor Markup on Change Orders

- A. The agreed upon DIRECT LABOR MARKUP (percentage) for Change Orders on this project shall be 15% percent.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on (which is the Effective Date of the Contract).

OWNER:

CONTRACTOR:

By: _____

By: _____

Title: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:

Address for giving notices:

License No.: _____
(where applicable)

(If Owner is a corporation, attach evidence of authority to sign. If Owner is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

NOTE TO USER: Use in those states or other jurisdictions where applicable or required.

Attachment H: Performance Bond

SECTION 00610

PERFORMANCE BOND

CONTRACTOR (name and address):

SURETY (name and address of principal place of business):

OWNER (name and address):

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description (name and location):

BOND

Bond Number:

Date (not earlier than the Effective Date of the Agreement of the Construction Contract)

Amount:

Modifications to this Bond Form: ☐ one See ☐ paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (seal)

Surety's Name and Corporate Seal (seal)

By: _____
Signature

By: _____
Signature (attach power of attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.

3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:

3.1 The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;

3.2 The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and

3.3 The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or

5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:

- 7.1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- 7.2 additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
- 7.3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
14. Definitions
- 14.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
- 14.2 Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
- 14.3 Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
- 14.4 Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 14.5 Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
16. Modifications to this Bond are as follows:

Attachment I: Payment Bond

PAYMENT BOND

CONTRACTOR (name and address):

SURETY (name and address of principal place of business):

OWNER (name and address):

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description (name and location):

BOND

Bond Number:

Date (not earlier than the Effective Date of the Agreement of the Construction Contract):

Amount:

Modifications to this Bond Form: ☐ None ☐ See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

(seal)
Contractor's Name and Corporate Seal

(seal)
Surety's Name and Corporate Seal

By: _____
Signature

By: _____
Signature (attach power of attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1 Claimants who do not have a direct contract with the Contractor,
 - 5.1.1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2 have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2 Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2 Pay or arrange for payment of any undisputed amounts.
 - 7.3 The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to

related subcontracts, purchase orders, and other obligations.

12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

16. Definitions

16.1 **Claim:** A written statement by the Claimant including at a minimum:

1. The name of the Claimant;
2. The name of the person for whom the labor was done, or materials or equipment furnished;
3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
4. A brief description of the labor, materials, or equipment furnished;
5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;

6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
7. The total amount of previous payments received by the Claimant; and
8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.

16.2 **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

16.3 **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

16.4 **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

16.5 **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.

17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

18. Modifications to this Bond are as follows:

Attachment J: Standard General Conditions of the
Construction Contract

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by



Issued and Published Jointly by



Endorsed by



These General Conditions have been prepared for use with the Agreement Between Owner and Contractor for Construction Contract (EJCDC® C-520, Stipulated Sum, or C-525, Cost-Plus, 2013 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other.

To prepare supplementary conditions that are coordinated with the General Conditions, use EJCDC's Guide to the Preparation of Supplementary Conditions (EJCDC® C-800, 2013 Edition). The full EJCDC Construction series of documents is discussed in the Commentary on the 2013 EJCDC Construction Documents (EJCDC® C-001, 2013 Edition).

Copyright © 2013:

National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314-2794
(703) 684-2882
www.nspe.org

American Council of Engineering Companies
1015 15th Street N.W., Washington, DC 20005
(202) 347-7474
www.acec.org

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400
(800) 548-2723
www.asce.org

The copyright for this document is owned jointly by the three sponsoring organizations listed above. The National Society of Professional Engineers is the Copyright Administrator for the EJCDC documents; please direct all inquiries regarding EJCDC copyrights to NSPE.

NOTE: EJCDC publications may be purchased at www.ejcdc.org, or from any of the sponsoring organizations above.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1 – Definitions and Terminology	1
1.01 Defined Terms	1
1.02 Terminology	5
Article 2 – Preliminary Matters	6
2.01 Delivery of Bonds and Evidence of Insurance	6
2.02 Copies of Documents	6
2.03 Before Starting Construction.....	6
2.04 Preconstruction Conference; Designation of Authorized Representatives	7
2.05 Initial Acceptance of Schedules.....	7
2.06 Electronic Transmittals.....	7
Article 3 – Documents: Intent, Requirements, Reuse.....	8
3.01 Intent.....	8
3.02 Reference Standards	8
3.03 Reporting and Resolving Discrepancies	8
3.04 Requirements of the Contract Documents	9
3.05 Reuse of Documents	10
Article 4 – Commencement and Progress of the Work	10
4.01 Commencement of Contract Times; Notice to Proceed	10
4.02 Starting the Work	10
4.03 Reference Points	10
4.04 Progress Schedule	10
4.05 Delays in Contractor’s Progress.....	11
Article 5 – Availability of Lands; Subsurface and Physical Conditions; Hazardous Environmental Conditions	12
5.01 Availability of Lands.....	12
5.02 Use of Site and Other Areas	12
5.03 Subsurface and Physical Conditions.....	13
5.04 Differing Subsurface or Physical Conditions.....	14
5.05 Underground Facilities	15

5.06	Hazardous Environmental Conditions at Site.....	17
Article 6 – Bonds and Insurance		19
6.01	Performance, Payment, and Other Bonds	19
6.02	Insurance—General Provisions	19
6.03	Contractor’s Insurance	20
6.04	Owner’s Liability Insurance	23
6.05	Property Insurance.....	23
6.06	Waiver of Rights	25
6.07	Receipt and Application of Property Insurance Proceeds.....	25
Article 7 – Contractor’s Responsibilities		26
7.01	Supervision and Superintendence	26
7.02	Labor; Working Hours	26
7.03	Services, Materials, and Equipment.....	26
7.04	“Or Equals”	27
7.05	Substitutes	28
7.06	Concerning Subcontractors, Suppliers, and Others	29
7.07	Patent Fees and Royalties	31
7.08	Permits	31
7.09	Taxes	32
7.10	Laws and Regulations.....	32
7.11	Record Documents.....	32
7.12	Safety and Protection.....	32
7.13	Safety Representative	33
7.14	Hazard Communication Programs	33
7.15	Emergencies	34
7.16	Shop Drawings, Samples, and Other Submittals.....	34
7.17	Contractor’s General Warranty and Guarantee.....	36
7.18	Indemnification	37
7.19	Delegation of Professional Design Services.....	37
Article 8 – Other Work at the Site		38
8.01	Other Work	38
8.02	Coordination	39
8.03	Legal Relationships.....	39

Article 9 – Owner’s Responsibilities.....	40
9.01 Communications to Contractor.....	40
9.02 Replacement of Engineer	40
9.03 Furnish Data	40
9.04 Pay When Due.....	40
9.05 Lands and Easements; Reports, Tests, and Drawings	40
9.06 Insurance	40
9.07 Change Orders.....	40
9.08 Inspections, Tests, and Approvals	41
9.09 Limitations on Owner’s Responsibilities	41
9.10 Undisclosed Hazardous Environmental Condition.....	41
9.11 Evidence of Financial Arrangements.....	41
9.12 Safety Programs	41
Article 10 – Engineer’s Status During Construction.....	41
10.01 Owner’s Representative.....	41
10.02 Visits to Site.....	41
10.03 Project Representative.....	42
10.04 Rejecting Defective Work.....	42
10.05 Shop Drawings, Change Orders and Payments.....	42
10.06 Determinations for Unit Price Work	42
10.07 Decisions on Requirements of Contract Documents and Acceptability of Work.....	42
10.08 Limitations on Engineer’s Authority and Responsibilities.....	42
10.09 Compliance with Safety Program	43
Article 11 – Amending the Contract Documents; Changes in the Work	43
11.01 Amending and Supplementing Contract Documents.....	43
11.02 Owner-Authorized Changes in the Work	44
11.03 Unauthorized Changes in the Work	44
11.04 Change of Contract Price.....	44
11.05 Change of Contract Times	45
11.06 Change Proposals	45
11.07 Execution of Change Orders.....	46
11.08 Notification to Surety.....	47
Article 12 – Claims.....	47

12.01	Claims	47
Article 13 – Cost of the Work; Allowances; Unit Price Work.....		48
13.01	Cost of the Work	48
13.02	Allowances	50
13.03	Unit Price Work	51
Article 14 – Tests and Inspections; Correction, Removal or Acceptance of Defective Work		52
14.01	Access to Work.....	52
14.02	Tests, Inspections, and Approvals	52
14.03	Defective Work.....	53
14.04	Acceptance of Defective Work.....	53
14.05	Uncovering Work	53
14.06	Owner May Stop the Work	54
14.07	Owner May Correct Defective Work.....	54
Article 15 – Payments to Contractor; Set-Offs; Completion; Correction Period		55
15.01	Progress Payments	55
15.02	Contractor’s Warranty of Title	58
15.03	Substantial Completion	58
15.04	Partial Use or Occupancy	59
15.05	Final Inspection	59
15.06	Final Payment.....	59
15.07	Waiver of Claims	61
15.08	Correction Period	61
Article 16 – Suspension of Work and Termination		62
16.01	Owner May Suspend Work	62
16.02	Owner May Terminate for Cause	62
16.03	Owner May Terminate For Convenience	63
16.04	Contractor May Stop Work or Terminate	63
Article 17 – Final Resolution of Disputes		64
17.01	Methods and Procedures	64
Article 18 – Miscellaneous		64
18.01	Giving Notice	64
18.02	Computation of Times.....	64
18.03	Cumulative Remedies	64

18.04	Limitation of Damages	65
18.05	No Waiver	65
18.06	Survival of Obligations.....	65
18.07	Controlling Law	65
18.08	Headings.....	65

Article 19 – U.S Department of Commerce Economic Development Administration – EDA	
Contracting Provisions for Construction Projects (Attached Hereto and Made a Part Hereof	
with notice by Owner of Contractor responsibility for the latest edition as of the execution	
date of the Agreement)	77

ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the terms and conditions, the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The form acceptable to Owner and the Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents or as reasonably required by the Owner or the Owner's lender.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*—(a) A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein: seeking an adjustment of Contract Price or Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract; or (b) a demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision

EJCDC® C-700 (Rev. 1), Standard General Conditions of the Construction Contract.

regarding a Change Proposal; or seeking resolution of a contractual issue that Engineer has declined to address. A demand for money or services by a third party is not a Claim.

11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. (“CERCLA”); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. (“RCRA”); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. *Contract*—The entire and integrated written contract between the Owner and Contractor concerning the Work.
13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents. .
15. *Contract Time*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work and legally authorized to perform the Work in the State of New Hampshire.
17. *Cost of the Work*—See Paragraph 13.01 for definition.
18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective or as provided in a written Notice to Proceed by the Owner.
20. *Engineer*—The individual or entity named as such in the Agreement.
21. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
22. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated in the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, does not establish a Hazardous Environmental Condition.
23. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

24. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
25. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date or by a time prior to Substantial Completion of all the Work.
26. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
27. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
28. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
29. *Progress Schedule*—A Critical Path Method ("CPM") schedule sorted by Early Start/Total Float showing said data thereon, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
30. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.
31. *Project Manual*—The written documents prepared for, or made available for, procuring and constructing the Work, including but not limited to the Bidding Documents or other construction procurement documents, geotechnical and existing conditions information, the Agreement, bond forms, General Conditions, Supplementary Conditions, and Specifications. The contents of the Project Manual may be bound in one or more volumes.
32. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative or "RPR" includes any assistants or field staff of Resident Project Representative.
33. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
34. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, accepted by the Engineer and the Owner, of required submittals and the time requirements for Engineer's review of the submittals and the performance of related construction activities.
35. *Schedule of Values*—A schedule, prepared and maintained by Contractor, and in a form and format acceptable by the Owner and the Engineer, allocating all portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
36. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.

37. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of Contractor.
38. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
39. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor and legally authorized to perform the Work in the State of New Hampshire for the performance of a part of the Work.
40. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be occupied and utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof. All requirements of and documents by any and all governmental bodies, agencies, authorities, and courts having jurisdiction necessary to occupy and utilize the Work (or a specified part thereof) is a condition precedent for claiming or stating that Substantial Completion has occurred.
41. *Successful Bidder*—The Bidder whose Bid the Owner accepts, and to which the Owner makes an award of contract, subject to stated conditions.
42. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
43. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
44. *Technical Data*—Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (a) subsurface conditions at the Site, or physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities) or (b) Hazardous Environmental Conditions at the Site. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then the data contained in boring logs, recorded measurements of subsurface water levels, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical or environmental report prepared for the Project and made available to Contractor are hereby defined as Technical Data with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06.
45. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including but not limited to those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, fiber optic transmissions, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
46. *Unit Price Work*—Work to be paid for on the basis of unit prices which shall include all costs for materials, shipping, loading, unloading, distribution, and final installation into

the Work.

47. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
48. *Work Change Directive*—A Work Change Directive is a written order prepared by the Engineer and signed by the Owner and Engineer, directing a change in the Work prior to Agreement on adjustment, if any, in the Contract Price or Contract Time, or both. The Owner may by a Work Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Price and Contract Time being adjusted accordingly. A Work Change Directive shall be used in the absence of total agreement on the terms of a Change Order and the Contractor shall proceed timely with such changes in the Work. .

1.02 Terminology

- A. The words and terms discussed in the following paragraphs are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:*
 1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:*
 1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:*
 1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at

Substantial Completion in accordance with Paragraph 15.03 or 15.04).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location acceptable in writing by the Owner or Engineer) complete, ready for use or installation and in new (or usable or operable condition as acceptable in writing by the Owner or Engineer) condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment new (or other condition as acceptable in writing by the Owner or Engineer), complete, and ready for intended use.
3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment new (or other condition as acceptable in writing by the Owner or Engineer), complete, and ready for intended use.
4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment new (or other condition as acceptable in writing by the Owner or Engineer), complete, and ready for intended use.

- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Review of Contract Document and Field Conditions by Contractor:* Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal and professional observations with requirements of the Contract Documents, including the laws, codes, and regulations that affect the Project, and that prior to the execution of the Agreement, the Contractor and each Subcontractor have evaluated and satisfied themselves as to the conditions and limitations under which the Work is to be performed including without limitation the location, condition, layout and nature of project site and surrounding areas, the prevailing climatic conditions, anticipated labor supply and costs, and availability of and costs of materials, tools and equipment. The Owner shall not be required to make any adjustment in either the Contract Price or Contract Time in connection with any failure by the Contractor to have complied with the requirements of this paragraph.

2.02 *Delivery of Bonds and Evidence of Insurance*

- A. *Bonds:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such payment, performance, or lien bonds as Contractor may be required to furnish.
- B. *Evidence of Contractor’s Insurance:* When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract), the certificates and other evidence of insurance required to be

provided by Contractor in accordance with Article 6.

- C. *Evidence of Owner's Insurance:* After receipt of the executed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each named insured and additional insured (as identified in the Supplementary Conditions or otherwise), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.03 *Copies of Documents*

- A. Contractor shall furnish to Owner four originals of the Contract, and one copy in electronic portable document format (PDF).
- B. Owner shall furnish to Contractor one (1) printed copy of the Contract (including one (1) fully executed original of the Agreement), and one (1) copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- C. Owner will maintain and safeguard at least one (1) original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.04 *Before Starting Construction*

- A. *Preliminary Schedules:* Within ten (10) days after the Effective Date of the Contract (or as otherwise specifically required by the Contract Documents), Contractor shall submit to Engineer for timely review with a copy to the Owner for information only:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail as required by the Engineer or Owner to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.05 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.06 *Initial Acceptance of Schedules*

- A. At least fifteen (15) days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.03.A. Contractor shall have an additional ten (10) days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it is a CPM schedule sorted by Early Start/Total Float showing said data thereon that provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work as determined by the Engineer or the Owner.
 - 4. Said items in 2.05.1, 2.05.2, and 2.05.3 shall be required with each Application for Payment.

2.07 Electronic Transmittals

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may transmit, and shall accept, Project-related correspondence, text, data, documents, drawings, information, and graphics, including but not limited to Shop Drawings and other submittals, in electronic media or digital format, either directly, or through access to a secure Project website.
- B. If the Contract does not establish protocols for electronic or digital transmittals, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. When transmitting items in electronic media or digital format, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the items, or from those established in applicable transmittal protocols.

ARTICLE 3 – DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 Intent

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all. The Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. In case of a conflict among the Contract or the Contract Documents, the more stringent requirement

shall apply.

- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic or digital versions of the Contract Documents (including any printed copies derived from such electronic or digital versions) and the printed record version, the printed record version shall govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.

3.02 *Reference Standards*

A. Standards Specifications, Codes, Laws and Regulations

- 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
- 2. No provision of any such standard specification, manual, reference standard, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

- 1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.
- 2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until

the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract Documents issued pursuant to Paragraph 11.01.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.
4. The terms “knowledge”, “recognize”, and “discover”, their respective derivatives, and similar terms in the Contract Documents, as used in reference to the Contractor, shall be interpreted to mean that which the Contractor knows or should know, recognizes or should recognize, and discovers or should discover in exercising the care, skill and diligence required by the Contract Documents.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work thereunder.
- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer’s written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly give written notice to Owner and Contractor that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 – COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the thirtieth (30th) day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty (30) days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the ninetieth (90th) day after the day of Bid opening or the forty-fifth (45th) day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to such date and no payment shall be due and payable by the Owner..

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish two (2) reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, periodically verify correctness of same, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall issue a written report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and the Contractor shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer and Owner for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is legally responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor may be entitled to an equitable adjustment in the Contract Times and Contract Price. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times as the impact is shown by the CPM Progress Schedule(s) comparisons to substantiate same.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor may be entitled to an equitable adjustment in Contract Times. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times as the impact is shown by the CPM Progress Schedule(s) comparisons to substantiate same. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 1. severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 2. abnormal weather conditions materially in excess of and extraordinarily deviating from those reasonably foreseeable for the municipality in which the Project is located (as evidenced by review of National Weather Bureau statistics for the Project's location for the preceding twenty (20) year period);
 3. acts or failures to act of utility owners (other than those performing other work at or adjacent to the Site by arrangement with the Owner, as contemplated in Article 8); and
 4. acts of war or terrorism.
- D. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a materially differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5.
- E. Paragraph 8.03 governs delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

- F. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor.
- G. Contractor must submit any Change Proposal seeking an adjustment in Contract Price or Contract Times under this paragraph within twenty (20) days of the commencement of the delaying, disrupting, or interfering event.

ARTICLE 5 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 Availability of Lands

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 Use of Site and Other Areas

- A. *Limitation on Use of Site and Other Areas:*
 - 1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 - 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.12, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or at law; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute

resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free and safe from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.
- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.
- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure or the Site to be loaded in any manner that will endanger the structure or the Site, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:
 - 1. those reports known to Owner of explorations and tests of subsurface conditions at or adjacent to the Site;
 - 2. those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities); and
 - 3. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 - 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site either:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate; or
 2. is of such a nature as to require a change in the Drawings or Specifications; or
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine the necessity of Owner's obtaining additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A above; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Engineer's Statement to Contractor Regarding Site Condition:* After issuance of Engineer's written findings, conclusions, and recommendations, Engineer shall issue a written statement to Contractor (with a copy to Owner) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Possible Price and Times Adjustments:*
1. Contractor may be entitled to an equitable adjustment in Contract Price or Contract Times, or both, to the extent that the existence of a materially differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,

- c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times as the impact is clearly shown by the CPM Progress Schedule(s) comparisons to substantiate same.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise; or
 - b. the existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than twenty (20) days after Owner's issuance of the Engineer's written statement to Contractor regarding the subsurface or physical condition in question.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or adjacent to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer do not warrant or guarantee the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents as being at the Site;
 - c. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 - d. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, then Contractor shall, promptly after

becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer.

- C. *Engineer's Review:* Engineer will promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the Underground Facility in question; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and advise Owner in writing of Engineer's findings, conclusions, and recommendations. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Engineer's Statement to Contractor Regarding Underground Facility:* After distribution of Engineer's written findings, conclusions, and recommendations, Engineer shall issue a written statement to Contractor (with a copy to Owner) regarding the Underground Facility in question, addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Possible Price and Times Adjustments:*
 - 1. Contractor may be entitled to an equitable adjustment in the Contract Price or Contract Times, or both, to the extent that any existing Underground Facility at the Site that was not shown or indicated in the Contract Documents, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated the existence or actual location of the Underground Facility in question;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - c. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times as the impact is clearly shown by the CPM Progress Schedule(s) comparisons to substantiate same; and
 - d. Contractor gave the notice required in Paragraph 5.05.B.
 - 2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, or both, then any such adjustment shall be set forth in a Change Order.
 - 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, or both, no later than twenty (20) days after Engineer's issuance of the Engineer's written statement to Contractor regarding the Underground Facility in question.

5.06 Hazardous Environmental Conditions at Site

- A. *Reports and Drawings:* The Supplementary Conditions identify:
1. those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
 2. Technical Data contained in such reports and drawings.
- B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data (as defined in Article 1) contained in any geotechnical or environmental report prepared for the Project and made available to Contractor. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or
 2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work or such remediation is caused by the Contractor's cause or introduction of a Hazardous Environmental Condition..
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition,

and impose a set-off against payments to account for the associated costs.

- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off.
- H. If after receipt of such written notice Contractor does not agree to resume such Work based on factual data by a licensed environmental engineer it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.
- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, Owner's consultants such as the Owner's Project Manager firm, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.01 *Performance, Payment, Lien, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of all of Contractor's obligations under the Contract. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the Supplementary Conditions, or other specific provisions of the Contract. Contractor shall also furnish such other bonds as are required by the Supplementary Conditions or other specific provisions of the Contract.
- B. All bonds shall be in the form prescribed by the Contract except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (as amended and supplemented) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.
- C. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds in the required amounts.
- D. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or its right to do business is terminated in any state or jurisdiction where any part of the Project is located, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the bond and surety requirements above.
- E. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner's termination rights under Article 16.
- F. Upon request, Owner shall provide a copy of the payment bond to any Subcontractor, Supplier, or other person or entity claiming to have furnished labor or materials used in the performance of the Work.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this Article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Contractor shall deliver to Owner, with copies to each named insured and additional insured (as identified in this Article, in the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Contractor has obtained and is

maintaining the policies, coverages, and endorsements required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.

- D. Owner shall deliver to Contractor, with copies to each named insured and additional insured (as identified in this Article, the Supplementary Conditions, or elsewhere in the Contract), certificates of insurance establishing that Owner has obtained and is maintaining the policies, coverages, and endorsements required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies and endorsements, and documentation of applicable self-insured retentions and deductibles. Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- E. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, shall not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- F. If either party does not purchase or maintain all of the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- G. If Contractor has failed to obtain and maintain required insurance, Owner may exclude the Contractor from the Site, impose an appropriate set-off against payment, and exercise Owner's termination rights under Article 16.
- H. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price shall be adjusted accordingly.
- I. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests.
- J. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner and other individuals and entities in the Contract.

6.03 Contractor's Insurance

- A. *Workers' Compensation:* Contractor shall purchase and maintain workers' compensation and employer's liability insurance for:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts.
 - 2. United States Longshoreman and Harbor Workers' Compensation Act and Jones Act coverage (if applicable).
 - 3. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees (by stop-gap endorsement in monopolist worker's compensation states).

4. Foreign voluntary worker compensation (if applicable).
- B. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against:
1. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees.
 2. claims for damages insured by reasonably available personal injury liability coverage.
 3. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- C. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy shall be written on a 1996 (or later) ISO commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage:
 - a. Such insurance shall be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Broad form property damage coverage.
 4. Severability of interest.
 5. Underground, explosion, and collapse coverage.
 6. Personal injury coverage.
 7. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together); or CG 20 10 07 04 and CG 20 37 07 04 (together); or their equivalent.
 8. For design professional additional insureds, ISO Endorsement CG 20 32 07 04, "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.
- D. *Automobile liability:* Contractor shall purchase and maintain automobile liability insurance against claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy shall be written on an occurrence basis.
- E. *Umbrella or excess liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general liability, and automobile liability insurance described in the paragraphs above. Subject to industry-standard exclusions, the coverage afforded shall follow form as to each and every one of the underlying policies.
- F. *Contractor's pollution liability insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage claims, including clean-up costs, as a result

of pollution conditions arising from Contractor's operations and completed operations. This insurance shall be maintained for no less than three years after final completion.

- G. *Additional insureds*: The Contractor's commercial general liability, automobile liability, umbrella or excess, and pollution liability policies shall include and list as additional insureds Owner, Engineer, Owner's consultants such as the Owner's Project Manager firm, and any individuals or entities identified in the Supplementary Conditions; include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds; and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby (including as applicable those arising from both ongoing and completed operations) on a non-contributory basis. Contractor shall obtain all necessary endorsements to support these requirements.
- H. *Contractor's professional liability insurance*: If Contractor will provide or furnish professional services under this Contract, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance shall provide protection against claims arising out of performance of professional design or related services, and caused by a negligent error, omission, or act for which the insured party is legally liable. It shall be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. If such professional design services are performed by a Subcontractor, and not by Contractor itself, then the requirements of this paragraph may be satisfied through the purchasing and maintenance of such insurance by such Subcontractor.
- I. *General provisions*: The policies of insurance required by this Paragraph 6.03 shall:
 - 1. include at least the specific coverages provided in this Article.
 - 2. be written for not less than the limits of liability provided in this Article and in the Supplementary Conditions, or required by Laws or Regulations, whichever is greater.
 - 3. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed, or renewal refused until at least 10 days prior written notice has been given to Contractor. Within three days of receipt of any such written notice, Contractor shall provide a copy of the notice to Owner, Engineer, and each other insured under the policy.
 - 4. remain in effect at least until final payment (and longer if expressly required in this Article) and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract Documents.
 - 5. be appropriate for the Work being performed and provide protection from claims that may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable.
- J. The coverage requirements for specific policies of insurance must be met by such policies, and not by reference to excess or umbrella insurance provided in other policies.

6.04 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 6.03, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.
- B. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.

6.05 *Property Insurance*

- A. *Builder's Risk:* Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the full insurable replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 - 1. include the Owner and Contractor as named insureds, and all Subcontractors, and any individuals or entities required by the Supplementary Conditions to be insured under such builder's risk policy, as insureds or named insureds. For purposes of the remainder of this Paragraph 6.05, Paragraphs 6.06 and 6.07, and any corresponding Supplementary Conditions, the parties required to be insured shall collectively be referred to as "insureds."
 - 2. be written on a builder's risk "all risk" policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire; lightning; windstorm; riot; civil commotion; terrorism; vehicle impact; aircraft; smoke; theft; vandalism and malicious mischief; mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; flood; collapse; explosion; debris removal; demolition occasioned by enforcement of Laws and Regulations; water damage (other than that caused by flood); and such other perils or causes of loss as may be specifically required by the Supplementary Conditions. If insurance against mechanical breakdown, boiler explosion, and artificially generated electric current; earthquake; volcanic activity, and other earth movement; or flood, are not commercially available under builder's risk policies, by endorsement or otherwise, such insurance may be provided through other insurance policies acceptable to Owner and Contractor.
 - 3. cover, as insured property, at least the following: (a) the Work and all materials, supplies, machinery, apparatus, equipment, fixtures, and other property of a similar nature that are to be incorporated into or used in the preparation, fabrication, construction, erection, or completion of the Work, including Owner-furnished or assigned property; (b) spare parts inventory required within the scope of the Contract; and (c) temporary works which are not intended to form part of the permanent constructed Work but which are intended to provide working access to the Site, or to the Work under construction, or which are intended to provide temporary support for the Work under construction, including scaffolding, form work, fences, shoring, falsework, and temporary structures.
 - 4. cover expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects).

5. extend to cover damage or loss to insured property while in temporary storage at the Site or in a storage location outside the Site (but not including property stored at the premises of a manufacturer or Supplier).
 6. extend to cover damage or loss to insured property while in transit.
 7. allow for partial occupation or use of the Work by Owner, such that those portions of the Work that are not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
 8. allow for the waiver of the insurer's subrogation rights, as set forth below.
 9. provide primary coverage for all losses and damages caused by the perils or causes of loss covered.
 10. not include a co-insurance clause.
 11. include an exception for ensuing losses from physical damage or loss with respect to any defective workmanship, design, or materials exclusions.
 12. include performance/hot testing and start-up.
 13. be maintained in effect, subject to the provisions herein regarding Substantial Completion and partial occupancy or use of the Work by Owner, until the Work is complete.
- B. *Notice of Cancellation or Change*: All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with this Paragraph 6.05 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured.
- C. *Deductibles*: The purchaser of any required builder's risk or property insurance shall pay for costs not covered because of the application of a policy deductible.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide notice of such occupancy or use to the builder's risk insurer. The builder's risk insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy; rather, those portions of the Work that are occupied or used by Owner may come off the builder's risk policy, while those portions of the Work not yet occupied or used by Owner shall remain covered by the builder's risk insurance.
- E. *Additional Insurance*: If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.05, it may do so at Contractor's expense.
- F. *Insurance of Other Property*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, such as tools, construction equipment, or other personal property owned by Contractor, a Subcontractor, or an employee of Contractor or a Subcontractor, then the entity or individual owning such property item will be responsible for deciding whether to insure it, and if so in what amount.

6.06 *Waiver of Rights*

- A. All policies purchased in accordance with Paragraph 6.05, expressly including the builder's risk policy, shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any insureds thereunder, or against Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all Subcontractors, all individuals or entities identified in the Supplementary Conditions as insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for:
 - 1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 - 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 6.06.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them.
- D. Contractor shall be responsible for assuring that the agreement under which a Subcontractor performs a portion of the Work contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by builder's risk insurance and any other property insurance applicable to the Work.

6.07 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of insurance required by Paragraph 6.05 will be adjusted and settled with the named insured that purchased the

policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.

- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.05 shall distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the money so received applied on account thereof, and the Work and the cost thereof covered by Change Order, if needed.

ARTICLE 7 – CONTRACTOR'S RESPONSIBILITIES

7.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. At all times during the progress of the Work, Contractor shall assign a competent on Site resident superintendent who shall not be replaced with another competent on Site resident superintendent without less than fifteen (15) days written pre-notice to Owner and Engineer except under extraordinary circumstances.

7.02 *Labor; Working Hours*

- A. Contractor shall provide registered, licensed, competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work shall be of good quality and new,

except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.04 "Or Equals"

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment, or items from other proposed suppliers under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer shall deem it an "or equal" item. For the purposes of this paragraph, a proposed item of material or equipment will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) it has a proven record of performance and availability of responsive service; and
 - 4) it is not objectionable to Owner.
 - b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal", which will be evidenced by an approved Shop Drawing or other written communication. Engineer will

advise Contractor in writing of any negative determination.

- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request shall result in any change in Contract Price. The Engineer's denial of an "or-equal" request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the proposed item as a substitute pursuant to Paragraph 7.05.

7.05 Substitutes

- A. Unless the specification or description of an item of material or equipment required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of material or equipment under the circumstances described below. To the extent possible such requests shall be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of material or equipment from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.05.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 3. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - a. shall certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design,
 - 2) be similar in substance to that specified, and
 - 3) be suited to the same use as that specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times,
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from that specified, and

- 2) available engineering, sales, maintenance, repair, and replacement services.
- d. shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request shall be final and binding, and may not be reversed through an appeal under any provision of the Contract Documents. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.05.D, by timely submittal of a Change Proposal.

7.06 Concerning Subcontractors, Suppliers, and Others

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers shall be licensed and/or registered in the State of New Hampshire with the Secretary of State and acceptable to Owner.
- B. Contractor shall retain specific Subcontractors, Suppliers, or other individuals or entities for the performance of designated parts of the Work if required by the Contract to do so and who shall be licensed and/or registered in the State of New Hampshire with the Secretary of State.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already

deemed such proposed Subcontractor or Supplier acceptable, during the bidding process or otherwise) along with evidence of that such entity is licensed and/or registered in the State of New Hampshire with the Secretary of State. Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within five days.

- E. Owner may require the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors, Suppliers, or other individuals or entities for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor, Supplier, or other individual or entity so identified solely on the basis of substantive, reasonable objection after due investigation including but not limited to data stating that Subcontractor, Supplier, or other individual or entity is not licensed and/or registered in the State of New Hampshire with the Secretary of State. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity.
- F. If Owner requires the replacement of any Subcontractor, Supplier, or other individual or entity retained by Contractor to perform any part of the Work subject to Paragraph E above, then Contractor may be entitled to an adjustment in Contract Price or Contract Times, or both, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within twenty (20) days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions.
- J. Contractor shall be solely responsible for scheduling and coordinating the Work and the work of Subcontractors, Suppliers, and all other individuals or entities performing or furnishing any of the Work.
- K. Contractor shall restrict all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed herein.
- L. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- M. All Work performed for Contractor by a Subcontractor or Supplier shall be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer.

- N. Owner may furnish to any Subcontractor or Supplier, to the extent practicable and requested in writing, information about amounts paid to Contractor on account of Work performed for Contractor by the particular Subcontractor or Supplier.
- O. Nothing in the Contract Documents:
 - 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer or Owner's consultants such as the Owner's Project Manager and any such Subcontractor, Supplier, or other individual or entity; nor
 - 2. shall create any obligation on the part of Owner or Engineer or Owner's consultants such as the Owner's Project Manager to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

7.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer or Owner's consultants such as the Owner's Project Manager, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.08 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for

providing permanent service to the Work

7.09 Taxes

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.10 Laws and Regulations

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It shall not be Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.
- C. Owner or Contractor may give notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.11 Record Documents

- A. Contractor shall maintain in a safe place at the Site one (1) printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show all changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer as a condition precedent of achievement of Substantial Completion.

7.12 Safety and Protection

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owner; the owners of adjacent property, Underground Facilities, and other utilities; and other contractors and utility owners performing work at or adjacent to the Site, when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
 - C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
 - D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.
 - E. All damage, injury, or loss to any property referred to in Paragraph 7.12.A.2 or 7.12.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
 - F. Contractor's duties and responsibilities for safety and protection shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 15.06.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).
 - G. Contractor's duties and responsibilities for safety and protection shall resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

H. HEALTH AND SANITARY CONDITIONS INCLUDING COVID-19 OR SIMILAR PANDEMIC RESPONSIBILITIES

The Contractor shall be responsible for all Contractor services necessary in connection with its Work on the Project, and as may be modified during the term of this Agreement, including, without limitation, preparation of Site/Project specific programs, its individual Site/Project specific programs, as developed for the Project. The Contractor shall provide its Site/Project specific safety program and submit it to the Engineer and Owner for review and acceptance. The receipt, finalization, and acceptance of this Site/Project safety program is a condition precedent to the Owner having any responsibility for payment to the Contractor. Consistent with the safety responsibilities, the Contractor shall become familiar

with and all laws, regulations, orders, ordinances, requirements, and guidelines relating to establishing and maintaining, within its control, a safe and sanitary work environment at the Project site, including all measures proposed by the Engineer or Owner, if any, to ensure sanitary working conditions.

In addition, the Contractor shall provide its Site/Project specific COVID-19 program to the Owner and Engineer prior to any performance of Work for acceptance. This program shall include the most current procedures for compliance and enforcement of any and all laws, regulations, order, ordinances, requirements and guidelines relating to COVID-19 Project/Project safety. The Contractor shall immediately notify the Owner and the Engineer if the Contractor observes any deviation from such programs and/or violations of such laws, regulations, order, ordinances, requirements, and guidelines relating to COVID-19 Project/Project safety. Any verbal notification shall be followed by a written notification to the Owner and Engineer within twenty-four (24) hours of the observation. It is understood that the [Contractor or Consultant] shall be fully responsible for its obligations of its subcontractors, vendors, consultants, subconsultants, employees and allowed visitors. Notwithstanding the language in this section, it is understood that the Contractor is not a health expert, and shall not be responsible for the means, methods, or safety procedures of others not in its direct control.

7.13 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

7.16 *Shop Drawings, Samples, and Other Submittals*

A. *Shop Drawing and Sample Submittal Requirements:*

1. Before submitting a Shop Drawing or Sample, Contractor shall have:
 - a. reviewed and coordinated the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
 - c. determined and verified the suitability of all materials and equipment offered

EJCDC® C-700 (Rev. 1), Standard General Conditions of the Construction Contract.

- with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
- d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.
2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that submittal, and that Contractor approves the submittal.
 3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be set forth in a written communication separate from the Shop Drawings or Sample submittal; and, in addition, in the case of Shop Drawings by a specific notation made on each Shop Drawing submitted to Engineer for review and approval of each such variation.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals. Each submittal will be identified as Engineer may require.
1. *Shop Drawings:*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.D.
 2. *Samples:*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 7.16.D.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Other Submittals:* Contractor shall submit other submittals to Engineer in accordance with the accepted Schedule of Submittals, and pursuant to the applicable terms of the Specifications.
- D. *Engineer's Review:*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will document any such approved variation from the requirements of the Contract Documents in a Field Order.
5. Engineer's review and approval of a Shop Drawing or Sample shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, shall not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance or approval of a Shop Drawing, Sample, or other submittal shall result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.D.4.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.
2. Contractor shall furnish required submittals with sufficient information and accuracy to obtain required approval of an item with no more than three submittals. Engineer will record Engineer's time for reviewing a fourth or subsequent submittal of a Shop Drawings, sample, or other item requiring approval, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved submittal item, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due to Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
1. observations by Engineer;
 2. recommendation by Engineer or payment by Owner of any progress or final payment;
 3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. use or occupancy of the Work or any part thereof by Owner;
 5. any review and approval of a Shop Drawing or Sample submittal;
 6. the issuance of a notice of acceptability by Engineer;
 7. any inspection, test, or approval by others; or
 8. any correction of defective Work by Owner.
- D. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract shall govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

- C. The indemnification obligations of Contractor under Paragraph 7.18.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 - 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 - 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

7.19 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable Laws and Regulations.
- B. If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this paragraph, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 7.16.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria specified by Owner or Engineer.

7.20 *Contractor's Confirmation of Owner Provided Documents*

- A. By executing the Agreement, the Contractor certifies and warrants that it has received all available copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site as required by the Contract Document, the Agreement, or requested of the Owner.

ARTICLE 8 – OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by ~~Owner's employees, or through contracts between the Owner and third parties. Owner~~

EJCDC® C-700 (Rev. 1), Standard General Conditions of the Construction Contract.

may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.

- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any utility work at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford each other contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.
- D. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 8, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

8.02 Coordination

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. the identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. an itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. the extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 Legal Relationships

- A. If, in the course of performing other work at or adjacent to the Site for Owner, the Owner's employees, any other contractor working for Owner, or any utility owner for whom the Owner is responsible causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying,

disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment shall take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract. When applicable, any such equitable adjustment in Contract Price shall be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due to Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this paragraph.
- C. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due to Contractor.
- D. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9 – OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner may issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer. The replacement engineer's status under the Contract Documents shall be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor that are properly due and payable when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor prior to the commencement of the Work, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been provided and informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10 – ENGINEER'S STATUS DURING CONSTRUCTION

10.01 Owner's Representative

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 Visits to Site

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer or Owner deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will use its best efforts to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.08. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 Project Representative

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 10.08. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent, or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

10.04 Rejecting Defective Work

- A. Engineer has the authority to reject Work in accordance with Article 14.

10.05 Shop Drawings, Change Orders and Payments

- A. Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, are set forth in Paragraph 7.16.
- B. Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, are set forth in Paragraph 7.19.
- C. Engineer's authority as to Change Orders is set forth in Article 11.
- D. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.06 Determinations for Unit Price Work

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.07 Decisions on Requirements of Contract Documents and Acceptability of Work

- A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith and under a standard of care for such professional services of other engineering firms on similar projects.

10.08 Limitations on Engineer's Authority and Responsibilities

- A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 15.06.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 10.08 shall also apply to the Resident Project Representative, if any.

10.09 Compliance with Safety Program

- A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs (if any) of which Engineer has been informed or provided.

ARTICLE 11 – AMENDING THE CONTRACT DOCUMENTS; CHANGES IN THE WORK

11.01 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
 - 1. *Change Orders:*
 - a. If an amendment or supplement to the Contract Documents includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order. A Change Order also may be used to establish amendments and supplements of the Contract Documents that do not affect the Contract Price or Contract Times.
 - b. Owner and Contractor may amend those terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, without the recommendation of the Engineer. Such an amendment shall be set forth in a Change Order.
 - 2. *Work Change Directives:* A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.04 regarding change of Contract Price. Contractor must submit any Change Proposal seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 30 days after the completion of the Work set out in the Work Change Directive. Owner must submit any Claim seeking an adjustment of the Contract Price or the Contract Times, or both, no later than 60 days after issuance of the Work Change Directive.
 - 3. *Field Orders:* Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.02 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Such changes shall be supported by Engineer's recommendation, to the extent the change involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters. Such changes may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added

or revised Work shall be performed under the applicable conditions of the Contract Documents. Nothing in this paragraph shall obligate Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.03 Unauthorized Changes in the Work

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.

11.04 Change of Contract Price

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment of Contract Price shall comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.04.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.04.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit shall be determined as follows:
 - 1. a mutually acceptable fixed fee; or
 - 2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee (includes overhead and profit) shall be no greater than ten (10%) percent;
 - b. for costs incurred under Paragraph 13.01.B.3, the Contractor's fee shall be five (5%) percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.04.C.2.a and 11.04.C.2.b is that the Contractor's fee shall be based on: (1) a fee of not greater than ten (10%) percent of the costs incurred under Paragraphs 13.01.A.1 and 13.01.A.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of five percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted work the maximum total cumulative fee to be paid by Owner shall

EJCDC® C-700 (Rev. 1), Standard General Conditions of the Construction Contract.

be no greater than twenty (20%) percent of the costs incurred by the Subcontractor that actually performs the work;

- d. no fee shall be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
- e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five (5%) percent of such net decrease; and
- f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 11.04.C.2.a through 11.04.C.2.e, inclusive.

11.05 Change of Contract Times

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times shall comply with the provisions of Paragraph 11.06. Any Claim for an adjustment in the Contract Times shall comply with the provisions of Article 12 and as detailed below.
- B. If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice to the Owner and Engineer as provided herein shall be given. Such notice shall include sufficient information to advise the other party of the circumstances giving rise to the claim for relief, the specific contractual adjustment or relief requested and the basis of such request including, without limitation, an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.
- C. If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction. Such Claim shall not be filed by the Contractor unless, as a minimum, the Contractor can provide data substantiating adverse weather conditions, including humidity or precipitation, materially in excess of and extraordinarily deviating from those reasonably foreseeable for the municipality in which the Project is located (as evidenced by review of National Weather Bureau statistics for the Project's location for the preceding twenty (20) year period). Notwithstanding the foregoing, the Contractor shall not file a Claim for any conditions affected by reasonably anticipatable, seasonal, or ordinary weather conditions.
- D. Whenever the Contractor claims an extension of the Contract Time, only the unavoidable delay caused to completion of the Work as a whole shall be considered in measuring or evaluating the extent of the delay. If, for example, extra work can be (or could have been) performed along with the regular work called for by the Contract Documents so as to eliminate a delay in the progress of the Work or some portion thereof, without causing necessary delay to such regular work, no Claim for extension of the Contract Time shall be granted. In any event, even though a cause of delay meets all of the above conditions, any extension shall be granted only to the extent that the effect of such cause cannot be avoided or efforts and measures (including original schedule, a recovery schedule, and if unable to recover (no extension of time required) a proposed revised schedule), whether before or after the occurrence of the cause of delay. No extension shall be granted for any delay to the extent that: (i) such delay arises from any act or omission of the Contractor in breach of its obligations under this Agreement, or (ii) such delay arises from concurrent

causes, or (iii) the work purported to cause a delay may be accomplished without impact to the progress and critical path of the established Project schedule.

- E. The Contractor shall give written notice to the Owner, the Engineer within ten (10) days after the time that he knows of any cause which will result (or has resulted) in delay for which he claims or intends to claim an extension of the Contract Time (including those causes which the Owner or the Architect is responsible for or of which it has knowledge). Such notice shall not be effective unless given to the Owner and the Engineer. Any such written notice shall (1) explicitly state that an extension is claimed; (2) state in detail the circumstances which form the basis of the delay; and (3) describe as fully as practicable at the time the date of commencement and duration or expected duration of the delay and its effect on the various portions of the Work. The Contractor shall provide such supporting documentation as the Owner or Engineer may require, including, but not limited to:
1. A printout (preferably on 2' x 3' paper) of the original Project CPM Schedule, sorted by early start and total float, and clearly showing the Critical Path,
 2. A printout the precedence logic, including lead lag relationship, in tabular data format, for the original Project CPM schedule,
 3. A tabular data printout of each activity and the total float and free float for each activity in the original Project CPM schedule,
 4. A printout (preferably on 2' x 3' paper) of the proposed recovery Project CPM schedule, sorted by early start and total float, and clearly showing the proposed recovery Critical Path,
 5. A printout the precedence logic, including lead lag relationship tabular data, for the proposed recovery Project CPM schedule,
 6. A tabular print out of each activity and the total float and free float in the proposed recovery Project CPM schedule,
 7. Written narrative of the causes of delay, the measures taken to absorb the claimed delay, and the resulting proposed schedule sequences in the proposed recovery Project CPM schedule, and if it is shown that a recovery Project CMP schedule (delay is absorbed and no extension of time is ultimately required) is not possible, then,
 8. A printout (preferably on 2' x 3' paper or larger) of the proposed revised Project CPM schedule, sorted by early start and total float, and clearly showing the proposed revised Critical Path,
 9. A printout the precedence logic, including lead lag relationship tabular data, for the proposed revised CPM schedule,
 10. A tabular print out of each activity and the total float and free float in the proposed revised CPM schedule.

The submission of such written notice within the time period provided above shall be a condition precedent to any extension of the Contract Time, otherwise the claim shall be deemed to be waived.

11.06 Change Proposals

- A. Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; appeal an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; contest a set-off against payment due; or seek other relief under

the Contract. The Change Proposal shall specify any proposed change in Contract Times or Contract Price, or both, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents.

1. *Procedures:* Contractor shall submit each Change Proposal to Engineer promptly (but in no event later than twenty (20) days) after the start of the event giving rise thereto, or after such initial decision. The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within fifteen (15) days after the submittal of the Change Proposal. The supporting data shall be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event. Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal.
 2. *Engineer's Action:* Engineer will review each Change Proposal and, within thirty (30) days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change Proposal within thirty (30) days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.
 3. *Binding Decision:* Engineer's decision will be final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- B. *Resolution of Certain Change Proposals:* If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice shall be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.

11.07 Execution of Change Orders

- A. Owner and Contractor shall execute appropriate Change Orders covering:
1. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 2. changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 3. changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.02, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise), or other engineering or technical matters; and
 4. changes in the Contract Price or Contract Times, or other changes, which embody the substance of any final and binding results under Paragraph 11.06, or Article 12.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed

under the terms of this Paragraph 11.07, it shall be deemed to be of full force and effect, as if fully executed.

11.08 Notification to Surety

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12 – CLAIMS

12.01 Claims

- A. *Claims Process:* The following disputes between Owner and Contractor shall be submitted to the Claims process set forth in this Article:
 - 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 - 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents; and
 - 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters.
- B. *Submittal of Claim:* The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than twenty (20) days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within twenty (20) days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim shall rest with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, or both, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.
- C. *Review and Resolution:* The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim shall be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation:*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate shall stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after sixty (60) days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process shall resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process shall resume as of the date of the conclusion of the mediation, as determined by the mediator.

3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action shall be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim shall be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim shall be incorporated in a Change Order to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.
- H. There shall be no Arbitration.
- I. Notwithstanding anything to the contrary in the Agreement, the Owner reserves in its sole discretion and decision the right to terminate Mediation and proceed directly to Litigation in the County where the Project is located.

ARTICLE 13 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 Cost of the Work

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or
 2. To determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included*: Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 13.01.C, and shall include only the following items:
 1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation,

EJCDC® C-700 (Rev. 1), Standard General Conditions of the Construction Contract.

health and retirement benefits, and holiday pay applicable thereto. The actual and verifiable expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner, and conditioned upon those workers being paid all such amounts less normal deduction.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. The Contractor shall so notify the Owner of such discount opportunities in time to reasonably accept and provide such payments. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work properly performed by Subcontractors. Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee the Owner shall be notified, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work with the Owner's prior written consent.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work. Travel to and from the Project site from home shall not be a Cost of the Work
 - b. Actual and verifiable cost(s), including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.
 - c. Rentals of all construction equipment and machinery, and the parts thereof, whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. Said Rental rates and charges shall not be greater than those of rental firms in the general area of the Project. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
 - d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence or acts or inactions of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or

for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 6.05), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of actual and verifiable premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

C. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
- 4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
- 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- 6. Costs or losses resulting from lost, damaged, or stolen tools and equipment.
- 7. Costs of bonding or securing liens or defending claims filed by any Subcontractor, any Sub-subcontractor, any direct or lower tier supplier or any other party for whom any of such parties or the Contractor is responsible arising from nonpayment, unless such nonpayment is the result of the Owner's unexcused or wrongful failure to pay the Contractor undisputed amounts as and when due under the Contract Documents;
- 8. Labor, material, and equipment costs or any other costs incurred which should be back-charged to any Subcontractor, any Sub-subcontractor, any direct or lower tier

supplier, or any other party for whom the Contractor is responsible.

9. Costs covered by any insurance carried by a Contractor, any Subcontractor, and Sub-subcontractor or a direct or lower tier supplier, or other party for whom the Contractor is responsible, and costs which would have been covered by insurance but for failure of the Contractor or direct or lower tier supplier, or other party for whom the Contractor is responsible, to maintain the insurance coverage required by the Contract Documents or properly submit, process or give notice of the occurrence or claim.
 10. Costs of employee bonuses and executive bonuses whether or not based in whole or in part on performance related to the Work, unless agreed to in writing by Owner.
 11. Costs of insurance or bond premiums not required by the Contract Documents; data processing costs; overtime premium expense if the necessity to work overtime to keep to schedule is the fault of the Contractor, any Subcontractor, any Sub-subcontractor, any direct or lower tier supplier, or any other party for whom the Contractor is responsible; costs incurred after the Contractor's application for final payment; legal, mediation costs; costs of relocation or temporary living expenses; costs of home office computer services or other outside computer processing services; cellular phone charges; and costs of commuting to or from the Project site or charges for vehicles used by supervisory or administrative personnel.
 12. Amounts required to be paid by Contractor for federal, state, or local income or franchise taxes.
 13. Costs associated with Contractor's failure to (i) obtain any and all applicable permits that are Contractor's responsibility under the Contract Documents in a timely manner or (ii) coordinate and schedule inspections and commissioning.
 14. Any cost attributable to the Project and incurred by Contractor prior to its receipt of the applicable Notice to Proceed from, or execution of any applicable Price Amendment or Change Order by Owner, unless specifically authorized in writing by Owner.
 15. Legal, mediation or arbitration costs or consultant or claims related expenses.
 16. Penalties, extensions or fines imposed by any governmental authority caused by or arising out of conduct of the Contractor, any Subcontractor, any Sub-subcontractor, any direct or lower tier supplier, or any other party for whom the Contractor is responsible.
 17. Any costs or expenses in connection with any indemnity provided by Contractor pursuant to the Contract Documents.
 18. Costs incurred or paid for recruiting employees (whether to third party recruiters or to employees); and
 19. Severance or similar payments on account of terminated employees.
- D. *Contractor's Fee:* When the Work as a whole is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 11.04.C.
- E. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined

pursuant to this Article 13, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
 - 1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - 2. Contractor's costs for unloading, handling, and distribution on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance*: Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual verifiable quantities.
- C. Each unit price shall be expressly deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of the following paragraph.
- E. Within twenty (20) days of Engineer's written decision under the preceding paragraph, Contractor may submit a Change Proposal, or Owner may file a Claim, seeking an adjustment in the Contract Price if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement;
 - 2. there is no corresponding adjustment with respect to any other item of Work; and

3. Contractor believes that it is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price, and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 14 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

14.01 Access to Work and Use of Site

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.
- B. The right of possession of the Site and the improvements made thereon by the Contractor shall remain at all times in the Owner. The Contractor's right to entry and use thereof arises solely from the permission granted by the Owner under the Contract Documents. The Contractor shall confine operations at the Site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the Site with materials or equipment. The Owner shall not be liable to the Contractor, Contractor's forces, or any visitor or guests with respect to the conditions of the Site, except to the extent caused by the Owner.

14.02 Tests, Inspections, and Approvals

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work shall be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;

4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests shall be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be accepted by Owner, or approved by Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such acceptances or approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering shall be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 Defective Work

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs, losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 Acceptance of Defective Work

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved

by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work shall be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 Uncovering Work

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 Owner May Stop the Work

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, then Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed

expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.

C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15 – PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.

B. *Applications for Payments:*

1. At least twenty (20) days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment acceptable to the Owner, lender, and Engineer filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location stored, insured, protected, clearly segregated, and labeled with Owner and Project name and address agreed to in writing by the Owner, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens, and evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements as required by the Owner to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications:*

1. Engineer will, within ten (10) days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief using the standard of care of Engineers on similar projects in the Greater Boston and North Shore areas:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work and using the standard of care of Engineers on similar projects in the Greater Boston and North Shore areas.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract but that inspections have been performed using the standard of care of Engineers on similar projects in the Greater Boston and North Shore areas; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has

used the money paid on account of the Contract Price, or

- e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
- 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
- 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due:*

- 1. Thirty (30) days after receipt of a properly processed Application for Payment to Owner with Engineer's recommendation, the amount recommended that is properly due and owing (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner:*

- 1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. claims have been made against Owner on account of Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages on account of Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;
 - b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. the Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph

14.07, or has accepted defective Work pursuant to Paragraph 14.04;

- h. the Contract Price has been reduced by Change Orders;
 - i. an event that would constitute a default by Contractor and therefore justify a termination for cause has occurred;
 - j. liquidated damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - l. there are other items entitling Owner to a set off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor written notice (with a copy to Engineer) within ten (10) days of receipt of a properly completed Application for Payment stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor notifies the Owner in writing (with a copy to the Engineer) that the Contractor remedies the reasons for such action. The reduction imposed shall be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 15.01.C.1 and subject to interest as provided in the Agreement.

15.02 Contractor's Warranty of Title

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than seven days after the time of payment by Owner.

15.03 Substantial Completion

- A. When Contractor considers the entire Work ready for its intended use and after the Contractor has prepared its own pre-punchlist inspection and completed same, the Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.
- B. Within seven (7) days after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which shall fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have seven (7) days after receipt of the

preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within fourteen (14) days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said fourteen (14) days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.

- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin and continuously work on the punch list of items to be completed or corrected in an expeditious manner prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 Partial Use or Occupancy

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
 - 1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through E for that part of the Work.
 - 2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 - 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the

provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.05 regarding builder's risk or other property insurance.

15.05 Final Inspection

- A. Upon written notice from Contractor that it has completed all of the punchlist(s) and the entire Work or an agreed portion thereof is complete, Engineer will within seven (7) days make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately and continuously take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 Final Payment

A. Application for Payment:

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, as-built drawings, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.11), and other documents, Contractor may make application for final payment.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.
 - d. a list of all disputes that Contractor believes are unsettled; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.

B. Engineer's Review of Application and Acceptance:

1. If, on the basis of Engineer's observation of the Work during construction and final

inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the Application for Payment to Owner for payment. Such recommendation shall account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to the provisions of Paragraph 15.07. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

- C. *Completion of Work*: The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment.
- D. *Payment Becomes Due*: Thirty (30) days after the presentation to Owner of the properly completed final Application for Payment of amounts properly due and owing and accompanying documentation, the amount recommended by Engineer (less any further sum Owner is entitled to set off against Engineer's recommendation, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions above with respect to progress payments) will become due and shall be paid by Owner to Contractor.

15.07 *Waiver of Claims*

- A. The making of final payment will not constitute a waiver by Owner of claims or rights against Contractor. Owner expressly reserves claims and rights arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 15.05, from Contractor's failure to comply with the Contract Documents or the terms of any special guarantees specified therein, from outstanding Claims by Owner, or from Contractor's continuing obligations under the Contract Documents.
- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one (1) year after the date of Final Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents, or by any specific provision of the Contract Documents), any Work is found to be defective, or if the repair of any damages to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas used by Contractor as permitted by Laws and Regulations, is found to be defective, then Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such other adjacent areas;
 - 2. correct such defective Work;
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others).
- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16 – SUSPENSION OF WORK AND TERMINATION

16.01 Owner May Suspend Work

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than ninety (90) consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension. Any Change Proposal seeking such adjustments shall be submitted no later than thirty (30) days after the date fixed for resumption of Work.

16.02 Owner May Terminate for Cause

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule);
 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 4. Contractor's repeated disregard of the authority of Owner or Engineer or Federal, State or Local authorities having jurisdiction.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) ten days written notice that Owner is considering a declaration that Contractor is in default and termination of the contract, Owner may proceed to:
 1. declare Contractor to be in default, and give Contractor (and any surety) notice that

the Contract is terminated; and

2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within seven days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond shall govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 Owner May Terminate For Convenience

- A. Upon seven (7) days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid on account of loss of anticipated overhead, profits, or revenue, or other economic loss arising out of or resulting from such termination.

16.04 Contractor May Stop Work or Terminate

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than ninety (90) consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any properly completed and submitted Application for Payment within thirty (30) days after it is submitted, or
(2) Owner fails for thirty (30) days to pay Contractor any sum finally determined to be properly due and owing, then Contractor may, upon seven (7) days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on a properly completed and submitted Application for Payment within 30 days after it is submitted, or Owner has failed for thirty (30) days to pay Contractor any sum finally determined to be due, Contractor may, seven (7) days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17 – FINAL RESOLUTION OF DISPUTES

17.01 Methods and Procedures

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this Article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full; and
 2. Disputes between Owner and Contractor concerning the Work or obligations under the Contract Documents, and arising after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this Article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions; or
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18 – MISCELLANEOUS

18.01 Giving Notice

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
1. delivered in person, by a commercial courier service or otherwise, to the individual or to a member of the firm or to an officer of the corporation for which it is intended; or
 2. delivered at or sent by registered or certified mail, postage prepaid, to the last

business address known to the sender of the notice.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by calendar days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

ARTICLE 19 – MISCELLANEOUS

U.S Department of Commerce Economic Development Administration – EDA Contracting Provisions for Construction Projects (Attached Hereto and Made a Part Hereof) with notice by Owner of Contractor responsibility for the latest edition as of the execution date of the Agreement) See below.

Attachment K: Payroll Form and Davis-Bacon Wage Rates

Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.



Rev. Dec. 2008

OMB No.:1235-0008
Expires: 07/31/2024

[illegible]

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) requires contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

Date _____

I, _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by _____ on the _____
(Contractor or Subcontractor)
_____ ; that during the payroll period commencing on the _____
(Building or Work)
_____ day of _____, _____, and ending the _____ day of _____, _____,
all persons employed on said project have been paid the full weekly wages earned, that no rebates have
been or will be made either directly or indirectly to or on behalf of said
_____ from the full
(Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly
from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part
3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948,
63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are
correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the
applicable wage rates contained in any wage determination incorporated into the contract; that the classifications
set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide apprenticeship
program registered with a State apprenticeship agency recognized by the Bureau of Apprenticeship and
Training, United States Department of Labor, or if no such recognized agency exists in a State, are registered
with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:
(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

- in addition to the basic hourly wage rates paid to each laborer or mechanic listed in
the above referenced payroll, payments of fringe benefits as listed in the contract
have been or will be made to appropriate programs for the benefit of such employees,
except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each laborer or mechanic listed in the above referenced payroll has been paid,
as indicated on the payroll, an amount not less than the sum of the applicable
basic hourly wage rate plus the amount of the required fringe benefits as listed
in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR
SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 3729 OF
TITLE 31 OF THE UNITED STATES CODE.

"General Decision Number: NH20220025 07/15/2022

Superseded General Decision Number: NH20210025

State: New Hampshire

Construction Type: Heavy

County: Rockingham County in New Hampshire.

HEAVY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	<ul style="list-style-type: none"> . Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	<ul style="list-style-type: none"> . Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Modification Number	Publication Date
0	01/07/2022
1	02/18/2022
2	02/25/2022

3 03/18/2022
 4 07/08/2022
 5 07/15/2022

ELEC0490-008 06/01/2022

	Rates	Fringes
ELECTRICIAN.....	\$ 32.80	21.68

IRON0007-039 03/16/2022

	Rates	Fringes
IRONWORKER (Reinforcing and Structural).....	\$ 29.02	24.04

* PLUM0131-005 06/06/2022

	Rates	Fringes
PIPEFITTER.....	\$ 38.50	25.05

SUNH2015-011 06/16/2017

	Rates	Fringes
CARPENTER, Includes Form Work....	\$ 28.17	8.09
CEMENT MASON/CONCRETE FINISHER...	\$ 25.49	18.11
LABORER: Asphalt, Includes Raker, Shoveler, Spreader and Distributor.....	\$ 23.70	1.54
LABORER: Common or General.....	\$ 18.61	4.49
LABORER: Pipelayer.....	\$ 30.35	17.03
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 28.51	10.16
OPERATOR: Bulldozer.....	\$ 21.70	4.09
OPERATOR: Crane.....	\$ 29.91	6.60
OPERATOR: Drill.....	\$ 28.78	15.26
OPERATOR: Loader.....	\$ 30.49	19.06
OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 27.10	5.69
OPERATOR: Roller.....	\$ 23.02	4.52
PAINTER (Brush and Roller).....	\$ 33.55	19.15
TRAFFIC CONTROL: Flagger.....	\$ 17.24	1.54
TRUCK DRIVER: Dump Truck.....	\$ 19.02	5.73

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that

classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request

review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISIO"

Attachment L: EDA Contracting Provisions for
Construction Projects, EDA Sign, and EDA Notice of
Requirements for Affirmative Action

U. S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION



EDA CONTRACTING PROVISIONS FOR CONSTRUCTION PROJECTS

These EDA Contracting Provisions for Construction Projects (EDA Contracting Provisions) are intended for use by recipients receiving federal assistance from the U. S. Department of Commerce - Economic Development Administration (EDA). They contain provisions specific to EDA and other federal provisions not normally found in non-federal contract documents. The requirements contained herein must be incorporated into all construction contracts and subcontracts funded wholly or in part with federal assistance from EDA.

TABLE OF CONTENTS

1. Definitions
2. Applicability
3. Federally Required Contract Provisions
4. Required Provisions Deemed Inserted
5. Inspection by EDA Representatives
6. Examination and Retention of Contractor's Records
7. Construction Schedule and Periodic Estimates
8. Contractor's Title to Material
9. Inspection and Testing of Materials
10. "OR EQUAL" Clause
11. Patent Fees and Royalties
12. Claims for Extra Costs
13. Contractor's and Subcontractor's Insurance
14. Contract Security Bonds
15. Labor Standards - Davis-Bacon and Related Acts
16. Labor Standards - Contract Work Hours and Safety Standards Act
17. Equal Employment Opportunity
18. Contracting with Small, Minority and Women's Businesses
19. Health, Safety and Accident Prevention
20. Conflict of Interest and Other Prohibited Interests
21. New Restrictions on Lobbying
22. Historical and Archaeological Data Preservation
23. Clean Air and Water
24. Use of Lead-Based Paints on Residential Structures
25. Energy Efficiency
26. Environmental Requirements
27. Debarment, Suspension, Ineligibility and Voluntary Exclusions
28. EDA Project Sign
29. Buy America

1. **DEFINITIONS**

Agreement – The written instrument that is evidence of the agreement between the Owner and the Contractor overseeing the Work.

Architect/Engineer - The person or other entity engaged by the Recipient to perform architectural, engineering, design, and other services related to the work as provided for in the contract.

Contract – The entire and integrated written agreement between the Owner and the Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

Contract Documents – Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents.

Contractor – The individual or entity with whom the Owner has entered into the Agreement.

Drawings or Plans – That part of the Contract Documents prepared or approved by the Architect/Engineer that graphically shows the scope, extent, and character of the Work to be performed by the Contractor.

EDA - The United States of America acting through the Economic Development Administration of the U.S. Department of Commerce or any other person designated to act on its behalf. EDA has agreed to provide financial assistance to the Owner, which includes assistance in financing the Work to be performed under this Contract. Notwithstanding EDA's role, nothing in this Contract shall be construed to create any contractual relationship between the Contractor and EDA.

Owner – The individual or entity with whom the Contractor has entered into the Agreement and for whom the Work is to be performed.

Project – The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

Recipient – A non-Federal entity receiving a Federal financial assistance award directly from EDA to carry out an activity under an EDA program, including any EDA-approved successor to the entity.

Specifications – That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.

Subcontractor – An individual or entity having direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

Work – The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

2. **APPLICABILITY**

The Project to which the construction work covered by this Contract pertains is being assisted by the United States of America through federal assistance provided by the U.S. Department of Commerce - Economic Development Administration (EDA). Neither EDA, nor any of its departments, entities, or employees is a party to this Contract. The following EDA Contracting Provisions are included in this Contract and all subcontracts or related instruments pursuant to the provisions applicable to such federal assistance from EDA.

3. **FEDERALLY REQUIRED CONTRACT PROVISIONS**

(a) All contracts in excess of the simplified acquisition threshold - currently fixed at \$150,000 (*see* 41 U.S.C. §§ 134 and 1908) must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate.

(b) All contracts in excess of \$10,000 must address termination for cause and for convenience by the Recipient including the manner by which it will be effected and the basis for settlement.

(c) All construction contracts awarded in excess of \$10,000 by recipients of federal assistance and their contractors or subcontractors shall contain a provision requiring compliance with Executive Order 11246 of September 24, 1965, *Equal Employment Opportunity*, as amended by Executive Order 11375 of October 13, 1967, and Department of Labor implementing regulations at 41 C.F.R. part 60.

(d) All prime construction contracts in excess of \$2,000 awarded by Recipients must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. §§ 3141-3148) as supplemented by Department of Labor regulations at 29 C.F.R. part 5. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. § 874 and 40 U.S.C. § 3145) as supplemented by Department of Labor regulations at 29 C.F.R. part 3.

(e) All contracts awarded by the Recipient in excess of \$100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. §§ 3702 and 3704 (the Contract Work Hours and Safety Standards Act) as supplemented by Department of Labor regulations at 29 C.F.R. part 5.

(f) All contracts must include EDA requirements and regulations that involve a requirement on the contractor or sub-contractor to report information to EDA, the Recipient or any other federal agency.

- (g) All contracts must include EDA requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.
- (h) All contracts must include EDA requirements and regulations pertaining to copyrights and rights in data.
- (i) All contracts and subgrants in excess of \$150,000 must contain a provision that requires compliance with all applicable standards, orders, or requirements issued under the Clean Air Act (42 U.S.C. § 7401 *et seq.*) and the Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C. § 1251 *et seq.*), and Executive Order 11738, *Providing for Administration of the Clean Air Act and the Federal Water Pollution Control Act With Respect to Federal Contracts, Grants, or Loans*.
- (j) Contracts must contain mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. § 6201).
- (k) Contracts must contain a provision ensuring that contracts are not to be made to parties on the government wide Excluded Parties List System in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 C.F.R. part 180.
- (l) Contracts must contain a provision ensure compliance with the Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352) under which contractors that apply or bid for an award of \$100,000 or more must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. § 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.
- (m) If the Recipient is a state agency or agency of a political subdivision of a state, any contract awarded must contain a provision ensuring compliance with section 6002 of the Solid Waste Disposal Act (42 U.S.C. § 6962), as amended by the Resource Conservation and Recovery Act related to the procurement of recovered materials.

4. **REQUIRED PROVISIONS DEEMED INSERTED**

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion of correction.

5. **INSPECTION BY EDA REPRESENTATIVES**

The authorized representatives and agents of EDA shall be permitted to inspect all work, materials, payrolls, personnel records, invoices of materials, and other relevant data and records.

6. **EXAMINATION AND RETENTION OF CONTRACTOR'S RECORDS**

(a) The Owner, EDA, or the Comptroller General of the United States, or any of their duly authorized representatives shall, generally until three years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

(b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders that do not exceed \$10,000.

(c) The periods of access and examination in paragraphs (a) and (b) above for records relating to (1) appeals under the disputes clause of this contract, (2) litigation or settlement of claims arising from the performance of this contract, or (3) costs and expenses of this contract to which the Owner, EDA, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

7. **CONSTRUCTION SCHEDULE AND PERIODIC ESTIMATES**

Immediately after execution and delivery of the contract, and before the first partial payment is made, the Contractor shall deliver to the Owner an estimated construction progress schedule in a form satisfactory to the Owner, showing the proposed dates of commencement and completion of each of the various subdivisions of work required under the Contract Documents and the anticipated amount of each monthly payment that will become due to the Contractor in accordance with the progress schedule. The Contractor also shall furnish the Owner (a) a detailed estimate giving a complete breakdown of the contract price and (b) periodic itemized estimates of work done for the purpose of making partial payments thereon. The costs employed in making up any of these schedules will be used only to determine the basis of partial payments and will not be considered as fixing a basis for additions to or deductions from the contract price.

8. **CONTRACTOR'S TITLE TO MATERIAL**

No materials, supplies, or equipment for the work shall be purchased by the Contractor or by any subcontractor that is subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The Contractor warrants and guarantees that he/she has good title to all work, materials, and equipment used by him/her in the Work, free and clear of all liens, claims, or encumbrances.

9. **INSPECTION AND TESTING OF MATERIALS**

All materials and equipment used in the completion of the Work shall be subject to adequate inspection and testing in accordance with accepted standards. The laboratory or inspection agency shall be selected by the Owner. Materials of construction, particularly those upon which the strength and durability of any structure may depend, shall be subject to inspection and testing to establish conformance with specifications and suitability for intended uses.

10. **"OR EQUAL" CLAUSE**

Whenever a material, article, or piece of equipment is identified in the Contract Documents by reference to manufacturers' or vendors' names, trade names, catalogue numbers, etc., it is intended merely to establish a standard. Any material, article, or equipment of other manufacturers and vendors that will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or equipment so proposed is, in the opinion of the Architect/Engineer, of equal substance and function. However, such substitution material, article, or equipment shall not be purchased or installed by the Contractor without the Architect/Engineer's written approval.

11. **PATENT FEES AND ROYALTIES**

(a) Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device that is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Architect/Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by the Owner in the Contract Documents.

(b) To the fullest extent permitted by Laws and Regulations, the Contractor shall indemnify and hold harmless the Owner and the Architect/Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

12. **CLAIMS FOR EXTRA COSTS**

No claims for extra work or cost shall be allowed unless the same was done in pursuance of a written order from the Architect/Engineer approved by the Owner.

13. **CONTRACTORS AND SUBCONTRACTORS INSURANCE**

(a) The Contractor shall not commence work under this Contract until the Contractor has obtained all insurance reasonably required by the Owner, nor shall the Contractor allow any subcontractor to commence work on his/her subcontract until the insurance required of the subcontractor has been so obtained and approved.

(b) Types of insurance normally required are:

- (1) Workers' Compensation
- (2) Contractor's Public Liability and Property Damage
- (3) Contractor's Vehicle Liability
- (4) Subcontractors' Public Liability, Property Damage and Vehicle Liability
- (5) Builder's Risk (Fire and Extended Coverage)

(c) **Scope of Insurance and Special Hazards:** The insurance obtained, which is described above, shall provide adequate protection for the Contractor and his/her subcontractors, respectively, against damage claims that may arise from operations under this contract, whether such operations be by the insured or by anyone directly or indirectly employed by him/her and also against any of the special hazards that may be encountered in the performance of this Contract.

(d) **Proof of Carriage of Insurance:** The Contractor shall furnish the Owner with certificates showing the type, amount, class of operations covered, effective dates, and dates of expiration of applicable insurance policies.

14. **CONTRACT SECURITY BONDS**

(a) If the amount of this Contract exceeds \$150,000, the Contractor shall furnish a performance bond in an amount at least equal to one hundred percent (100%) of the Contract price as security for the faithful performance of this Contract and also a payment bond in an amount equal to one hundred percent (100%) of the Contract price or in a penal sum not less than that prescribed by State, Territorial, or local law, as security for the payment of all persons performing labor on the Work under this Contract and furnishing materials in connection with this Contract. The performance bond and the payment bond may be in one or in separate instruments in accordance with local law. Before final acceptance, each bond must be approved by EDA. If the amount of this Contract does not exceed \$150,000, the Owner shall specify the amount of the payment and performance bonds.

(b) All bonds shall be in the form prescribed by the Contract Documents except as otherwise provided in applicable laws or regulations, and shall be executed by such sureties as are named in the current list of *Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies* as published in Treasury Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's

authority to act. Surety companies executing the bonds must also be authorized to transact business in the state where the Work is located.

15. **LABOR STANDARDS - DAVIS-BACON AND RELATED ACTS**
(as required by section 602 of PWEDA)

(a) **Minimum Wages**

(1) All laborers and mechanics employed or working upon the site of the Work in the construction or development of the Project will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act at 29 C.F.R. part 3, the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at the time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor, which is attached hereto and made a part hereof, regardless of any contractual relationship that may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 C.F.R. § 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 C.F.R. § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates determined under 29 C.F.R. § 5.5(a)(1)(ii) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(2) (i) Any class of laborers or mechanics to be employed under the Contract, but not listed in the wage determination, shall be classified in conformance with the wage determination. EDA shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(A) The work to be performed by the classification requested is not performed by a classification in the wage determination;

(B) The classification is utilized in the area by the construction industry; and

(C) The proposed wage rate, including any bona fide fringe benefits, bears a

reasonable relationship to the wage rates contained in the wage determination.

(ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and EDA or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by EDA or its designee to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, D.C. 20210.

(iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and EDA or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), EDA or its designee shall refer the questions, including the views of all interested parties and the recommendation of EDA or its designee, to the Administrator for determination.

(iv) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(2)(ii) or (iii) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(b) **Withholding**

EDA or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this Contract or any other federal contract with the same prime Contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee or helper employed or working on the site of the Work in the construction or development of the Project, all or part of the wages required by the Contract, EDA or its designee may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations

have ceased. EDA or its designee may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due. The Comptroller General shall make such disbursements in the case of direct Davis-Bacon Act contracts.

(c) **Payrolls and basic records**

(1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the Work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the Work in the construction or development of the Project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 C.F.R. § 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, the plan or program is financially responsible, and the plan or program has been communicated in writing to the laborers or mechanics affected, and provide records that show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(2) (i) For each week in which Contract work is performed, the Contractor shall submit a copy of all payrolls to the Owner for transmission to EDA or its designee. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 C.F.R. part 5.5(a)(3)(i). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose. It may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, D.C. 20402; or downloaded from the U.S. Department of Labor's website at <https://www.dol.gov/whd/forms/wh347.pdf>. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors

(ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:

(A) That the payroll for the payroll period contains the information required to be maintained under 29 C.F.R. § 5.5(a)(3)(i) and that such information is correct and complete;

(B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 C.F.R. part 3; and

(C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.

(iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 15(c)(2)(ii) of this section.

(iv) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under section 1001 of Title 18 and section 3729 of Title 31 of the U.S. Code.

(3) The Contractor or subcontractor shall make the records required under paragraph 15(c)(1) of this section available for inspection, copying, or transcription by authorized representatives of EDA or its designee or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, EDA or its designee may, after written notice to the Contractor or Owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 C.F.R. § 5.12.

(d) **Apprentices and Trainees.**

(1) **Apprentices.** Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training (Bureau), or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any

apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a Project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) **Trainees.** Except as provided in 29 C.F.R. § 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program that has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman's hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(3) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity

requirements of Executive Order 11246, *Equal Employment Opportunity*, as amended, and 29 C.F.R. part 30.

(e) **Compliance with Copeland Anti-Kickback Act Requirements.** The Contractor shall comply with the Copeland Anti-Kickback Act (18 U.S.C. § 874 and 40 U.S.C. § 3145) as supplemented by Department of Labor regulations (29 C.F.R. part 3, “Contractors and Subcontractors on Public Buildings or Public Works Financed in Whole or in Part by Loans or Grants of the United States”). The Act provides that the Contractor and any subcontractors shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which they are otherwise entitled. The Owner shall report all suspected or reported violations to EDA.

(f) **Subcontracts.** The Contractor and any subcontractors will insert in any subcontracts the clauses contained in 29 C.F.R. §§ 5.5(a)(1) through (10) and such other clauses as EDA or its designee may require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 C.F.R. § 5.5.

(g) **Contract termination; debarment.** The breach of the contract clauses in 29 C.F.R. § 5.5 may be grounds for termination of the contract, and for debarment as a Contractor and a subcontractor as provided in 29 C.F.R. § 5.12.

(h) **Compliance with Davis-Bacon and Related Act Requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 C.F.R. parts 1, 3, and 5 are herein incorporated by reference in this contract.

(i) **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 C.F.R. parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and EDA or its designee, the U.S. Department of Labor, or the employees or their representatives.

(j) **Certification of Eligibility.**

(1) By entering into this Contract, the Contractor certifies that neither it nor any person or firm that has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 C.F.R. § 5.12(a)(1).

(2) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 C.F.R. § 5.12(a)(1).

(3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. § 1001.

16. **LABOR STANDARDS - CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

As used in this paragraph, the terms “laborers” and “mechanics” include watchmen and guards.

(a) **Overtime requirements.** No Contractor or subcontractor contracting for any part of the Contract work, which may require or involve the employment of laborers or mechanics, shall require or permit any such laborer or mechanic in any workweek in which that person is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(b) **Violation; liability for unpaid wages, liquidated damages.** In the event of any violation of the clause set forth in paragraph (a) of this section, the Contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a) of this section.

(c) **Withholding for unpaid wages and liquidated damages.** EDA or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the Contractor or subcontractor under any such Contract or any other federal contract with the same prime Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b) of this section.

(d) **Subcontracts.** The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (a) through (c) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a) through (c) of this section.

17. **EQUAL EMPLOYMENT OPPORTUNITY**

(a) The Recipient hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 C.F.R. chapter 60, which is paid for in whole or in part with funds obtained from EDA, the following equal opportunity clause:

During the performance of this contract, the Contractor agrees as follows:

Economic Development Administration
Contracting Provisions for Construction Projects

(1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided setting forth the provisions of this nondiscrimination clause.

(2) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.

(3) The contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the contractor's legal duty to furnish information.

(4) The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers representatives of the Contractor's commitments hereunder, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(5) The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965 and of the rules, regulations, and relevant orders of the Secretary of Labor.

(6) The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by EDA and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

(7) In the event of the Contractor's noncompliance with the nondiscrimination clauses of

this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally-assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.

(8) The Contractor will include the portion of the sentence immediately preceding paragraph 17(a)(1) and the provisions of paragraphs 17(a)(1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as EDA or the Secretary of Labor may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event the Contractor becomes involved in or is threatened with litigation with a subcontractor or vendor as a result of such direction by EDA or the Secretary of Labor, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

(9) The Recipient further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally-assisted construction work. Provided, however, that if the Recipient so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality, or subdivision of such government that does not participate in work on or under the Contract.

(10) The Recipient agrees that it will assist and cooperate actively with EDA and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish EDA and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist EDA in the discharge of the EDA's primary responsibility for securing compliance.

(11) The Recipient further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a Contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive Order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by EDA or the Secretary of Labor pursuant to Part II, Subpart D of the Executive Order. In addition, the Recipient agrees that if it fails or refuses to comply with these undertakings, EDA may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this EDA financial assistance; refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case

to the Department of Justice for appropriate legal proceedings.

(b) Exemptions to Above Equal Opportunity Clause (41 C.F.R. chapter 60):

(1) Contracts and subcontracts not exceeding \$10,000 (other than Government bills of lading, and other than contracts and subcontracts with depositories of Federal funds in any amount and with financial institutions which are issuing and paying agents for U.S. savings bonds and savings notes) are exempt. The amount of the Contract, rather than the amount of the federal financial assistance, shall govern in determining the applicability of this exemption.

(2) Except in the case of subcontractors for the performance of construction work at the site of construction, the clause shall not be required to be inserted in subcontracts below the second tier.

(3) Contracts and subcontracts not exceeding \$10,000 for standard commercial supplies or raw materials are exempt.

18. **CONTRACTING WITH SMALL, MINORITY AND WOMEN'S BUSINESSES**

(a) If the Contractor intends to let any subcontracts for a portion of the work, the Contractor shall take affirmative steps to assure that small, minority and women's businesses are used when possible as sources of supplies, equipment, construction, and services.

(b) Affirmative steps shall consist of:

(1) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(2) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;

(3) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;

(4) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises;

(5) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies;

(6) Requiring each party to a subcontract to take the affirmative steps of this section; and

(7) The Contractor is encouraged to procure goods and services from labor surplus area firms.

19. **HEALTH, SAFETY, AND ACCIDENT PREVENTION**

(a) In performing this contract, the Contractor shall:

- (1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to their health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;
- (2) Protect the lives, health, and safety of other persons;
- (3) Prevent damage to property, materials, supplies, and equipment; and
- (4) Avoid work interruptions.

(b) For these purposes, the Contractor shall:

- (1) Comply with regulations and standards issued by the Secretary of Labor at 29 C.F.R. part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 3701 – 3708); and
- (2) Include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.

(c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this Contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 C.F.R. part 1904.

(d) The Owner shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the Work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Owner may issue an order stopping all or part of the Work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.

(e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as EDA, or the Secretary of Labor shall direct as a means of enforcing such provisions.

20. **CONFLICT OF INTEREST AND OTHER PROHIBITED INTERESTS**

(a) No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part hereof.

(b) No officer, employee, architect, attorney, engineer, or inspector of or for the Owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the Project, shall become directly or indirectly interested personally in this Contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the Project.

(c) The Contractor may not knowingly contract with a supplier or manufacturer if the individual or entity who prepared the Contract Documents has a corporate or financial affiliation with the supplier or manufacturer.

(d) The Owner's officers, employees, or agents shall not engage in the award or administration of this Contract if a conflict of interest, real or apparent, may be involved. Such a conflict may arise when: (i) the employee, officer or agent; (ii) any member of their immediate family; (iii) their partner or (iv) an organization that employs, or is about to employ, any of the above, has a financial interest in the Contractor. The Owner's officers, employees, or agents shall neither solicit nor accept gratuities, favors, or anything of monetary value from the Contractor or subcontractors.

(e) If the Owner finds after a notice and hearing that the Contractor, or any of the Contractor's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee, or agent of the Owner or EDA in an attempt to secure this Contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Contract, the Owner may, by written notice to the Contractor, terminate this Contract. The Owner may also pursue other rights and remedies that the law or this Contract provides. However, the existence of the facts on which the Owner bases such findings shall be an issue and may be reviewed in proceedings under the dispute resolution provisions of this Contract.

(f) In the event this Contract is terminated as provided in paragraph (e) of this section, the Owner may pursue the same remedies against the Contractor as it could pursue in the event of a breach of this Contract by the Contractor. As a penalty, in addition to any other damages to which it may be entitled by law, the Owner may pursue exemplary damages in an amount (as determined by the Owner) which shall not be less than three nor more than ten times the costs the Contractor incurs in providing any such gratuities to any such officer or employee.

21. **RESTRICTIONS ON LOBBYING**

(a) This Contract, or subcontract is subject to 31 U.S.C. § 1352, regarding lobbying restrictions. The section is explained in the common rule, 15 C.F.R. part 28 (55 FR 6736-6748, February 26, 1990). Each bidder under this Contract or subcontract is generally prohibited from using federal funds for lobbying the Executive or Legislative Branches of the Federal Government in connection with this EDA Award.

(b) **Contract Clause Threshold:** This Contract Clause regarding lobbying must be included in each bid for a contract or subcontract exceeding \$100,000 of federal funds at any tier under the EDA Award.

(c) **Certification and Disclosure:** Each bidder of a contract or subcontract exceeding \$100,000 of federal funds at any tier under the federal Award must file Form CD-512, *Certification Regarding Lobbying – Lower Tier Covered Transactions*, and, if applicable, Standard Form-LLL, *Disclosure of Lobbying Activities*, regarding the use of any nonfederal funds for lobbying. Certifications shall be retained by the Contractor or subcontractor at the next higher tier. All disclosure forms, however, shall be forwarded from tier to tier until received by the Recipient of the EDA Award, who shall forward all disclosure forms to EDA.

(d) **Continuing Disclosure Requirement:** Each Contractor or subcontractor that is subject to the Certification and Disclosure provision of this Contract Clause is required to file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by such person. Disclosure forms shall be forwarded from tier to tier until received by the Recipient of the EDA Award, who shall forward all disclosure forms to EDA.

(e) **Indian Tribes, Tribal Organizations, or Other Indian Organizations:** Indian tribes, tribal organizations, or any other Indian organizations, including Alaskan Native organizations, are excluded from the above lobbying restrictions and reporting requirements, but only with respect to expenditures that are by such tribes or organizations for lobbying activities permitted by other federal law. An Indian tribe or organization that is seeking an exclusion from Certification and Disclosure requirements must provide EDA with the citation of the provision or provisions of federal law upon which it relies to conduct lobbying activities that would otherwise be subject to the prohibitions in and to the Certification and Disclosure requirements of 31 U.S.C. § 1352, preferably through an attorney's opinion. Note, also, that a non-Indian subrecipient, contractor, or subcontractor under an award to an Indian tribe, for example, is subject to the restrictions and reporting requirements.

22. **HISTORICAL AND ARCHAEOLOGICAL DATA PRESERVATION**

The Contractor agrees to facilitate the preservation and enhancement of structures and objects of historical, architectural or archaeological significance and when such items are found and/or unearthed during the course of project construction. Any excavation by the Contractor that uncovers an historical or archaeological artifact shall be immediately reported to the Owner and a representative of EDA. Construction shall be temporarily halted pending the notification process and further directions issued by EDA after consultation with the State Historic

Preservation Officer (SHPO) for recovery of the items. *See* the National Historic Preservation Act of 1966 (54 U.S.C. § 300101 *et seq.*, formerly at 16 U.S.C. § 470 *et seq.*) and Executive Order No. 11593 of May 31, 1971.

23. **CLEAN AIR AND WATER**

Applicable to Contracts in Excess of \$150,000

(a) **Definition.** “Facility” means any building, plant, installation, structure, mine, vessel, or other floating craft, location, or site of operations, owned, leased, or supervised by the Contractor or any subcontractor, used in the performance of the Contract or any subcontract. When a location or site of operations includes more than one building, plant, installation, or structure, the entire location or site shall be deemed a facility except when the Administrator, or a designee, of the United States Environmental Protection Agency (EPA) determines that independent facilities are collocated in one geographical area.

(b) In compliance with regulations issued by the EPA, 2 C.F.R. part 1532, pursuant to the Clean Air Act, as amended (42 U.S.C. § 7401 *et seq.*); the Federal Water Pollution Control Act, as amended (33 U.S.C. § 1251 *et seq.*); and Executive Order 11738, the Contractor agrees to:

(1) Not utilize any facility in the performance of this contract or any subcontract which is listed on the Excluded Parties List System, part of the System for Award Management (SAM), pursuant to 2 C.F.R. part 1532 for the duration of time that the facility remains on the list;

(2) Promptly notify the Owner if a facility the Contractor intends to use in the performance of this contract is on the Excluded Parties List System or the Contractor knows that it has been recommended to be placed on the List;

(3) Comply with all requirements of the Clean Air Act and the Federal Water Pollution Control Act, including the requirements of section 114 of the Clean Air Act and section 308 of the Federal Water Pollution Control Act, and all applicable clean air and clean water standards; and

(4) Include or cause to be included the provisions of this clause in every subcontract and take such action as EDA may direct as a means of enforcing such provisions.

24. **USE OF LEAD-BASED PAINTS ON RESIDENTIAL STRUCTURES**

(a) If the work under this Contract involves construction or rehabilitation of residential structures over \$5,000, the Contractor shall comply with the Lead-based Paint Poisoning Prevention Act (42 U.S.C. § 4831). The Contractor shall assure that paint or other surface coatings used in a residential property does not contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight or 5,000 parts per million (ppm) by weight. For purposes of this section, “residential property” means a dwelling unit, common areas, building exterior surfaces, and any surrounding land, including outbuildings, fences and play equipment affixed to the land, belonging to an owner and available for use by residents, but not

including land used for agricultural, commercial, industrial or other non-residential purposes, and not including paint on the pavement of parking lots, garages, or roadways.

- (b) As a condition to receiving assistance under PWEDA, recipients shall assure that the restriction against the use of lead-based paint is included in all contracts and subcontracts involving the use of federal funds.

25. **ENERGY EFFICIENCY**

The Contractor shall comply with all standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. § 6201) for the State in which the Work under the Contract is performed.

26. **ENVIRONMENTAL REQUIREMENTS**

When constructing a Project involving trenching and/or other related earth excavations, the Contractor shall comply with the following environmental constraints:

- (1) **Wetlands.** When disposing of excess, spoil, or other construction materials on public or private property, the Contractor shall not fill in or otherwise convert wetlands.
- (2) **Floodplains.** When disposing of excess, spoil, or other construction materials on public or private property, the Contractor shall not fill in or otherwise convert 100 year floodplain areas delineated on the latest Federal Emergency Management Agency (FEMA) Floodplain Maps, or other appropriate maps, i.e., alluvial soils on Natural Resource Conservation Service (NRCS) Soil Survey Maps.
- (3) **Endangered Species.** The Contractor shall comply with the Endangered Species Act, which provides for the protection of endangered and/or threatened species and critical habitat. Should any evidence of the presence of endangered and/or threatened species or their critical habitat be brought to the attention of the Contractor, the Contractor will immediately report this evidence to the Owner and a representative of EDA. Construction shall be temporarily halted pending the notification process and further directions issued by EDA after consultation with the U.S. Fish and Wildlife Service.

27. **DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSIONS**

As required by Executive Orders 12549 and 12689, *Debarment and Suspension*, 2 C.F.R. Part 180 and implemented by the Department of Commerce at 2 C.F.R. part 1326, for prospective participants in lower tier covered transactions (except subcontracts for goods or services under the \$25,000 small purchase threshold unless the subrecipient will have a critical influence on or substantive control over the award), the Contractor agrees that:

- (1) By entering into this Contract, the Contractor and subcontractors certify, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared
- Economic Development Administration
Contracting Provisions for Construction Projects

ineligible, or voluntarily excluded from participation in this Contract by any federal department or agency.

(2) Where the Contractor or subcontractors are unable to certify to any of the statements in this certification, the Contractor or subcontractors shall attach an explanation to this bid.

See also 2 C.F.R. part 180 and 2 C.F.R. § 200.342.

28. **EDA PROJECT SIGN**

The Contractor shall supply, erect, and maintain in good condition a Project sign according to the specifications provided by EDA. To the extent practical, the sign should be a free standing sign. Project signs shall not be located on public highway rights-of-way. Location and height of signs will be coordinated with the local agency responsible for highway or street safety in the Project area, if any possibility exists for obstructing vehicular traffic line of sight. Whenever the EDA site sign specifications conflict with State law or local ordinances, the EDA Regional Director will permit such conflicting specifications to be modified so as to comply with State law or local ordinance.

29. **BUY AMERICA**

To the greatest extent practicable, contractors are encouraged to purchase American-made equipment and products with funding provided under EDA financial assistance awards.

EDA PROJECT SIGN

The Contractor shall supply, erect, and maintain in good condition a project sign according to the specifications set forth below:

EDA SITE SIGN SPECIFICATIONS

Size: 4' x 8' x ¾"

Materials: Exterior grade/MDO plywood (APA rating A-B)

Supports: 4" x 4" x 12' posts with 2" x 4" cross branching

Erection: Posts shall be set a minimum of three feet deep in concrete footings that are at least 12" in diameter.

Paint: Outdoor enamel

Colors: Jet Black, Blue (PMS300), and Gold (PMS7406). Specifically, on white background the following will be placed:

The U. S. Department of Commerce seal in blue, black, and gold;

“EDA” in blue;

“U. S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT

ADMINISTRATION” in black;

“In partnership with” in blue;

(Actual name of the) “EDA Grant Recipient” in black;

Lettering: Specific fonts are named below; positioning will be as shown on the attached illustration.

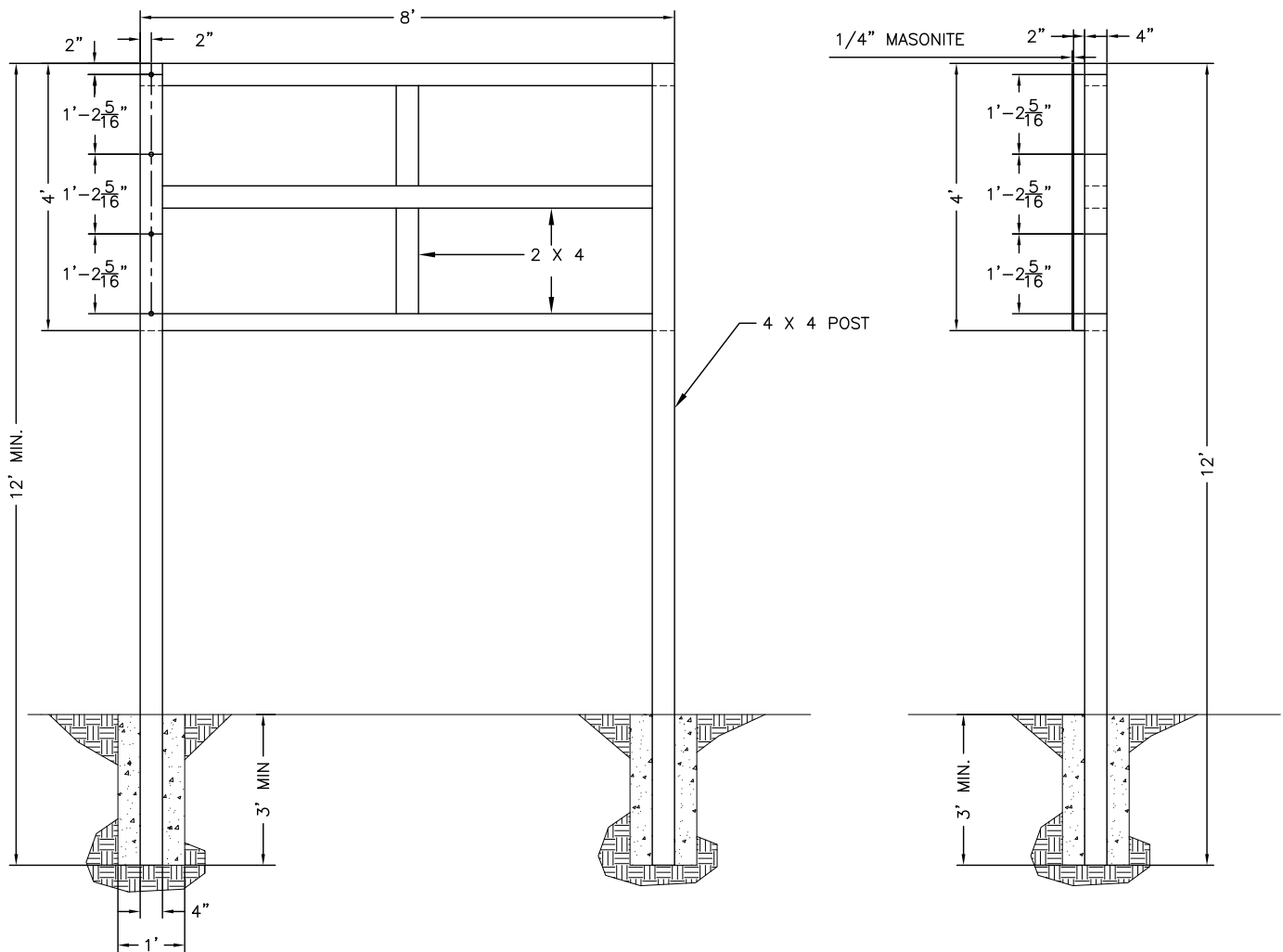
“U. S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT
ADMINISTRATION” use Bank Gothic Medium - **BANK GOTHIC MED**

“In partnership with” use Univers™ 55 Oblique - **Univers 55**

(Name of) “EDA Grant Recipient” use Univers™ Extra Black 85 **Univers 85**

Project signs will not be erected on public highway rights-of-way. If any possibility exists for obstruction to traffic line of sight, the location and height of the sign will be coordinated with the agency responsible for highway or street safety in the area.

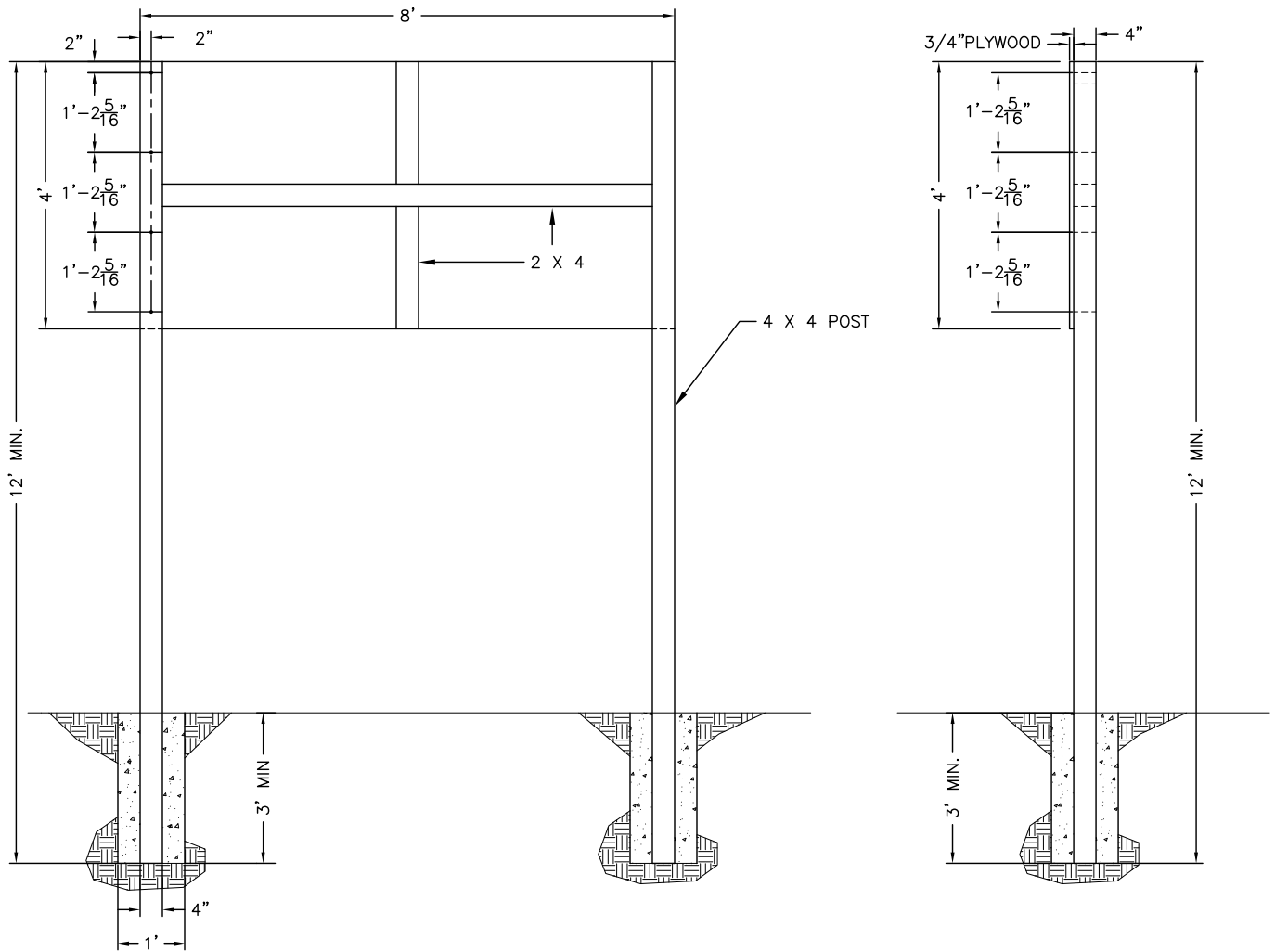
The EDA Regional Director may permit modifications to these specifications if they conflict with state law or local ordinances.



SIGN A
MASONITE SIGN
SCALE: 3/8" = 1'

PROJECT – SIGN A

ECONOMIC DEVELOPMENT ADMINISTRATION



SIGN B
PLYWOOD SIGN
SCALE: 3/8" = 1'

PROJECT – SIGN B

ECONOMIC DEVELOPMENT ADMINISTRATION



EDA

U.S. DEPARTMENT OF COMMERCE ECONOMIC DEVELOPMENT ADMINISTRATION

In partnership with

<EDA Grant Recipient Name>



**NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION
TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY
(EXECUTIVE ORDER 11246 AND 41 CFR PART 60-4)**

The following Notice shall be included in, and shall be a part of all solicitations for offers and bids on all Federal and federally assisted construction contracts or subcontracts in excess of \$10,000.

The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables	Goals for minority participation for each trade	Goals for female participation for each trade
	%	6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non federally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is:

State of _____

County of _____

City of _____

Attachment M: Specifications, Permits, Sample Submittal
Cover Form, and Sample Pile Driving Logs

TOWN OF SEABROOK, NEW HAMPSHIRE
OFFICE OF THE TOWN MANAGER
99 LAFAYETTE ROAD
SEABROOK, NH 03874

**SPECIFICATIONS
FOR
SEABROOK SEAWALL REPAIR
SEABROOK, NH**



JUNE 2022

EDA AWARD NUMBER: 01-01-14894

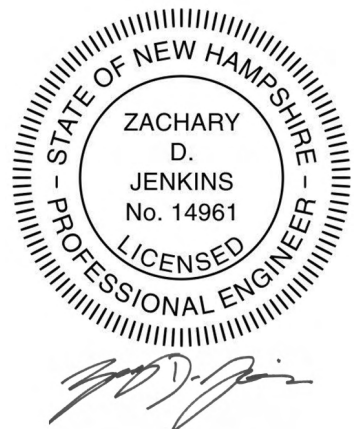


TABLE OF CONTENTS

<u>Division</u>	<u>Section</u>	<u>Title</u>	<u>Page</u>
1		<u>GENERAL CONDITIONS</u>	
	01 00 00	General Requirements	1
2		<u>EXISTING CONDITIONS</u>	
	02 01 00	Mobilization and Demobilization	18
	02 41 00	Demolition and Deconstruction	20
3		<u>CONCRETE</u>	
	03 30 53	Cast-in-Place Concrete	28
5		<u>METALS</u>	
	05 05 23	Welding, Structural	40
	05 12 00	Structural Steel	46
6		<u>WOOD, PLASTICS, AND COMPOSITES</u>	
	06 13 33	Miscellaneous Timberwork	52
9		<u>FINISHES</u>	
	09 97 13	Epoxy Coating	58
31		<u>EARTHWORK</u>	
	31 05 19	Geotextile	62
	31 23 00	Excavation and Fill	67
	31 41 16	Metal Sheet Piling	81
	31 62 16	Steel Pipe Piles	90
	31 62 19	Timber Piles	95
32		<u>EXTERIOR IMPROVEMENTS</u>	
	32 12 17	Hot Mix Bituminous Pavement	100
<u>Appendix</u>	A	Geotechnical Boring Logs	
	B	Permits: NHDES 2020-03249; USACE NAE-2022-00035	
	C	Sample Submittal Cover Form	
	D	Sample Pile Driving Log	

SECTION 01 00 00

GENERAL REQUIREMENTS

01/2021

SCOPE OF WORK

1. WORK INCLUDED: Major items of work shall include the following:
 - 1.1 North Wall Repair:
 - 1.1.1 Provide new steel sheet pile bulkhead/cap outboard of the existing bulkhead and tie into existing tieback system with internal steel wale and tieback extensions.
 - 1.1.2 Select demolition of the existing bulkhead, appurtenances, and amenities.
 - 1.1.3 Replace two (2) mooring bollards as indicated.
 - 1.1.4 Replace timber fender system and dolphin clusters.
 - 1.1.5 Replace safety bollards.
 - 1.1.6 Provide site features such as hot mix asphalt pavement.
 - 1.2 South Wall Repair:
 - 1.2.1 Provide new steel sheet pile bulkhead/cap outboard of the existing bulkhead and tie into existing tieback system with internal steel wale and tieback extensions.
 - 1.2.2 Temporarily remove and replace existing aluminum gangway, floating docks, light post, and jib crane.
 - 1.2.3 Replace steel float guides.
 - 1.2.4 Cut existing derelict steel sheet pile and provide with new concrete cap.
 - 1.2.5 Provide site features such as hot mix asphalt pavement.
 - 1.3 Work associated with these items are described in the following specification sections and/or are shown on the contract drawings. Incidental work items not listed above and necessary for completing the project shall be included.
2. DOCUMENTS: These specifications and accompanying drawings and other documents listed are the property of the Owner and comprise legal documentation that pertains exclusively to this project. Documents will be made available in a format determined by the solicitation method.

2.1	Construction Drawings:	Design of Repairs, Seabrook Seawall, June 2022, Sheets 1 through 13
2.2	Reference Drawings:	
2.3	Reference Permits:	Permits: NHDES 2020-03249; USACE NAE-2022-00035
2.4	Reference Documents:	Geotechnical Boring Logs (July 2020)

WORK BY OTHERS

1. **WORK NOT INCLUDED IN THE CONTRACT:** Non-contractor personnel will accomplish the following work items necessary for completion of the project. However, the contractor must coordinate accomplishment of these work items with the appropriate parties noted below in accordance with “Coordination”.

1.1 Work by other Contractors or Service Companies: Contractor personnel and equipment associated with another construction contract in progress may require access to the site during execution of this contract. The contractor shall coordinate work and ensure that work operations do not interfere with the contract currently in progress. The contractor shall allow service contract personnel access to the site for trash removal, snow removal, grounds maintenance or the performance of other related service contracts. The Owner will advise the contractor of the trash removal, grounds maintenance or other recurring maintenance schedules.

CONTRACTOR WORK HOURS

1. **WORK HOURS:** Accomplish work during normal unit operational hours of 7:30 a.m. to 4:30 p.m., Monday through Friday unless otherwise approved by the Owner. Note any departures from these work hours to the Engineer.

2. **SATURDAY, SUNDAY AND HOLIDAYS:** The contractor shall provide the Engineer and Owner at least forty-eight hours advance notice prior to working on weekends or Federal holidays. The Owner may reject any such request without impacting the completion time of the contract.

3. **CONTRACT COMPLETION:** The contractor shall complete work by **June 30, 2023**. Limitations imposed by these work hours will not entitle the Contractor additional time to complete the project.

PRE-BID SITE VISITS

1. **GENERAL:** Bidders are responsible for visiting the site to field verify existing conditions and determine actual dimensions and the nature of the work required. Failure to visit the site does not relinquish the bidder from determining the extent and scope of the work required and estimating the difficulty and cost to complete the project. Requests for equitable adjustments, in either time or money, arising from failing to field verify site conditions may be denied.
2. **SITE VISIT:** The site is accessible to the public, there is no restriction on timing or notification required for pre-bid site visit.

PRE-CONSTRUCTION SITE CONDITIONS

1. **SITE CONDITION VERIFICATION:** The Contractor shall verify the conditions of the existing site, equipment and facilities potentially affected by the work under this contract and photograph and/or videotape the conditions in order to document their pre-construction condition. Copies of the photos and videos shall be submitted to the Engineer prior to starting work.
2. **UTILITIES:** The contractor shall use proactive measures such as digging, metering, testing, underground utility location devices, and utility company location services to locate all underground utilities identified in the area of work at no additional expense to the Owner. Additional cost of unplanned outages and repair of damaged utilities, including emergency repairs by others, not properly identified by the Contractor shall be the Contractor's responsibility.

COORDINATION

1. **INTERFERENCE WITH TOWN AND ADJACENT FISHING OPERATIONS:** Accomplish work in a manner that causes minimal impact on normal operations. The Contractor shall notify the Engineer and Owner at least five working days in advance of any planned outages of water, electrical, telephone, or sanitary facilities. Notify the Engineer and Owner at least one week prior to beginning construction.

FIELD ADJUSTMENTS

1. The Owner may authorize field adjustments. Field adjustments are those alterations that do not affect time, price, or intent of the contract documents. All field adjustments shall be documented and indicated on the As-Built Drawings.

UTILITY PERMITS

1. The Contractor is responsible for obtaining all permits required for connection to all public or private utility systems. This shall include all permit, inspection, administrative and accessory costs normally charged of customers by the utility.

1.1 All Tie-in and/or connection fees will be paid by the Contractor.

BUILDING PERMITS

1. Building permits with the Town of Seabrook shall be obtained by the Contractor at no additional cost to the Owner if required.

ENVIRONMENTAL PERMITS

1. Unless directed by other sections of this specification, the Contractor will not be responsible for obtaining environmental permits.
2. The Contractor is responsible for meeting the special condition requirements of the permits.
3. Environmental permits are included in the Appendix.

REQUESTS FOR INFORMATION

1. SUMMARY:

A. Section Includes: Administrative requirements for requests for information.

2. DEFINITIONS:

A. Request for Information: A document submitted by the Contractor requesting clarification of a portion of the contract documents, hereinafter referred to as RFI (Request for Information).

B. Proper RFIs: A properly prepared request for information shall include a detailed written statement that indicates the specific Drawings or Specification in need of clarification and the nature of the clarification requested.

1. RFIs shall be sequentially numbered.
2. Drawings shall be identified by drawing number and location on the drawing sheet.
3. Specifications shall be identified by Section number, page and paragraph.

C. Improper RFIs: RFIs that are not properly prepared.

1. Improperly prepared RFIs will not be processed by the Engineer, but will be returned unprocessed.

D. Frivolous RFIs: RFIs that request information that is clearly shown on the Contract Documents.

1. Frivolous RFIs may be returned unprocessed.

3. CONTRACTOR'S REQUESTS FOR INFORMATION:

A. When the Contractor is unable to determine from the Contract Documents, the material, process or system to be installed, the Engineer shall be requested to make a clarification of the indeterminate item.

1. Wherever possible after contract award, such clarification shall be requested at the next site visit by the Engineer or Owner, with the response entered on the daily reports. When clarification at the site visit is not possible either because of the urgency of the need, or the complexity of the item, Contractor shall prepare and submit an RFI to the Engineer.

B. Contractor shall endeavor to minimize the number of RFIs. In the event that the process becomes unwieldy, in the opinion of the Engineer because of the number and frequency of the RFIs submitted, the Engineer may require the Contractor to abandon the process and submit future requests as either submittals, substitutions or requests for change.

C. RFIs shall be submitted on the form provided by the Engineer or Owner. Forms completely filled in, and if prepared by hand, shall be fully legible after photocopying or fax transmission. Each page of the attachments to RFIs shall bear the RFI number in the upper right corner.

D. RFIs shall be originated by the Prime Contractor.

1. RFIs from subcontractors or material suppliers shall be submitted through, reviewed by, and signed by the Prime Contractor prior to submitting to the Engineer.
2. The Contracting Officer will neither act on nor respond to RFIs received directly from subcontractors or suppliers.

E. Contractor shall carefully study the Contract Documents to assure that the requested information is not available therein. RFIs which request information available in the Contract Documents will be deemed either Improper or Frivolous as defined above.

F. In cases where RFIs are issued to request clarification of coordination issues, for example, pipe and duct routing, clearances, specific locations of work shown diagrammatically, and similar items when feasible, Contractor shall fully lay out a

suggested solution using drawings or sketches drawn to scale, and submit with the RFI.

G. RFIs shall not be used for the following purposes:

1. To request approval of submittals.
2. To request approval of substitutions.
3. To request changes which entail additional cost or credit.
4. To request different methods of performing work than those drawn and specified.

H. In the event the Contractor believes that a clarification by the Engineer results in additional cost or time, the Contractor shall not proceed with the work indicated by the RFI until a modification is prepared and approved. RFIs do not automatically justify a cost increase in the work or a change in the project schedule.

1. Answered RFIs shall not be construed as approval to perform extra work.

I. Contractor shall prepare and maintain a log of RFIs, and at any time requested by the Engineer, Contractor shall furnish copies of the log showing outstanding RFIs. Contractor shall note unanswered RFIs in the log.

J. Contractor shall allow up to 14 days review and response time for RFIs, however, the Engineer will endeavor to respond in a timely fashion to RFIs.

4. ENGINEER'S RESPONSE TO RFIs:

A. Engineer will respond to RFIs on one of the following forms:

1. Proper RFIs:
 - a. Change Order
 - b. Request for Proposal
2. Improper or Frivolous RFIs:
 - a. Unprocessed RFIs will be returned with a stamp or notation: Not Reviewed.
3. Answers to properly prepared RFIs may be made directly upon the RFI form with supplementary instructions as necessary.

PROJECT MEETINGS

1. LOCATION: Project meetings will be conducted either on-site or with a conference call. The following meetings may be held:

1.1 Pre-Construction Conference: After award of a contract, the Owner will arrange a conference with the contractor, and necessary personnel. The purpose of this conference is to orient the Contractor to procedures for wage rates, contractual and administrative matters, and to discuss specific issues regarding actual construction.

1.2 Progress and Technical Review Meetings: These meetings generally take place at the project site. Either party may request a meeting to review the progress of the project and/or review or clarify the technical requirements of the specifications.

CONSTRUCTION SCHEDULE, SCHEDULE OF VALUES, AND PROGRESS SCHEDULE

1. **In accordance with the Notice to Proceed letter**, the Contractor shall submit the following:

a. Construction Schedule-This schedule shall be prepared using a horizontal bar graph with time scale. It shall be in an industry accepted Project Management format and shall accurately display:

1. All major categories of work to be performed within the required contract completion date broken out in sufficient detail to track progress throughout the life of the contract. Major work categories should include but are not limited to mobilization, carpentry, plumbing, mechanical, electrical, roofing, concrete, site work, and demobilization. In addition to construction activities, procurement times for critical items, submittal turnaround time, mobilization, final inspection, punchlist work, and demobilization shall be shown on the schedule.
2. The duration of each work category.
3. Any concurrent work categories.

b. Schedule of Values-This schedule shall be prepared as a **detailed** cost breakdown of the contract price and be submitted with the Construction Schedule. This schedule shall include but not be limited to costs of materials, equipment, and labor for all major work categories shown on the Construction Schedule. The Contractor shall adhere to the following guidelines when developing the Schedule of Values.

1. Format – The line items in the Schedule of Values **shall** be the same as that of the Construction Schedule.
2. Bonds – Bonding costs will only be paid in a lump sum if they are broken out separately and included with the schedule of values. The Contractor shall provide evidence that he has furnished full payment to the surety.
3. Materials – To request progress payments for materials delivered to the construction or fabrication site, the particular category of work associated with the materials must be broken down into separate material and labor costs.

2. **UPDATES: Each month and /or with each progress payment request**, the Contractor **shall** submit the following:

a. **Progress Schedule**-This schedule shall be an update of the Construction Schedule. It shall show the current schedule of all work.

1. Modifications – If modifications are made to the contract, the work added shall be tracked separately from the original Construction Schedule and shall maintain its individuality on the Progress Schedule throughout the life of the contract. Progress Payment requests shall not lump modification costs into the original contract price.

CONSTRUCTION DAILY REPORTS

1. **GENERAL:** The Contractor shall complete a Daily Report for each and every day after mobilization. The importance of an accurate, fully detailed Daily Report, promptly delivered to the designated On-Site Representative cannot be overemphasized. The report shall provide an accurate cumulative summary of the history and performance of the work. The Daily Report shall document weather; work hours; work in-place; inspections and tests conducted, and their results; dimensional checks; equipment and material checks; data on workers by classification; the mobilization and demobilization of construction equipment; materials delivered to the site; and any other pertinent noteworthy event; e.g., personnel injury, site visit by Owner, etc.
2. **RESPONSIBILITY:** The Daily Reports play an important role in settling disputes and claims for both parties. For this reason the On-Site Representative and the Contractor's Superintendent, together, should review the report to ensure its completeness and accuracy.

SUBMITTAL PROCEDURES

1. **GENERAL:** The Contractor shall submit to the Engineer and Owner (4) hard copies of submittals or digital submittal in PDF format required by this specification and/or itemized on the "**List of Submittals**" found at the end of this division.
2. **REQUEST:** A "**CONTRACT ITEM ACCEPTANCE REQUEST**" shall accompany all submittals. All items shall be individually listed and clearly identified, referencing the applicable Section and Paragraph. A copy of this form is located at the end of this division and may be reproduced as needed.
 - 2.1 Up to eight (8) items may be listed on an individual acceptance request. Number each Contract Item Acceptance Request consecutively (*Submittals # 1, 2, etc.*) and re-submittals with letters (*Submittal #1A is the first re-submittal of Submittal #1*).
 - 2.2 Submittals shall be forwarded to the Engineer and Owner. The contractor **shall allow 14 calendar days**, excluding mailing time, for the review process in the Construction Schedule and all project planning. In instances where submittal review must be expedited, the Contractor may annotate the Contract Item Acceptance Request as "Urgent". The Engineer will make every effort to accelerate the review of each urgent submittal; however, the Contractor should not anticipate a reduced time schedule and shall plan project progress accordingly.
3. **ACCEPTANCE:** Submittals will be stamped "Accepted," "Accepted with Comments," or "Resubmit". Acceptance, Acceptance with comments or Resubmit for each item will be indicated on the Contract Item Acceptance Request form and one copy returned to the Contractor.

3.1 **Prompt re-submittal of items is required.** The Contractor shall furnish a new Contract Item Acceptance Request numbered in accordance with the requirements of paragraph 2.1.

4. **DEFECTIVE WORK:** Acceptance of Submittals **does not** restrict the Owner's right to reject departures from contract requirements, use of damaged or improperly installed items/materials, or latent defects, nor does it prejudice the Owner's rights of rejecting any work found defective at Final Inspection and Acceptance.

4.1 Work started or completed prior to submittal acceptance is **solely** at Contractor's risk and may jeopardize contract performance.

SAFETY PROGRAM

1. **GENERAL:** The Contractor is wholly responsible for work site safety. The Contractor shall implement a safety program that protects the lives and health of personnel in the construction area, prevents damage to property, and avoids work interruptions. The Contractor shall provide appropriate safety barricades, signs, signal lights, etc. (see "Lights, Signs & Barricades") as well as complying with the requirements of all applicable Federal, State and Local safety laws, rules and regulations.

2. **COMPLIANCE:** The Contractor is specifically required to comply with the requirements of the U. S. Army Corps of Engineers "Safety and Health Requirements Manual" (EM 385-1-1, *latest version available*) and the "Accident Prevention" clause (FAR 52.236-13). Once accepted, this safety plan shall become part of the contract requirements. ***Note: This review/acceptance does not in any way relinquish the Contractor from responsibility for work site safety nor the obligation to comply with the OSHA regulations found in 29 CFR 1910 & 1926 or any other State or Local safety law, rule or regulation applicable to the contract work.***

3. **SAFETY PLAN:** The Contractor **shall submit a written safety plan.** At a minimum, this plan shall describe the Contractor's general safety program and identify specific safety provisions for hazards incidental to the contract work; e.g., elevated working surfaces, working over water, working from floating work platforms, overhead crane operations, etc.

TEMPORARY UTILITIES

1. **GENERAL:** All temporary utility connections shall be compatible with existing materials and equipment to provide safe and efficient installation, operation and removal.

2. **ELECTRICITY AND WATER:** Limited Owner-supplied electrical power and water are available on the site. The Contractor will be permitted to utilize these utilities in performing the work, provided that the existing systems are not overloaded. The Contractor is responsible for verifying suitability of these existing utilities for use. The Contractor is responsible for installing and removing all connections to existing systems and shall ensure work and materials are in

accordance with local codes.

3. **TELEPHONE**: Telephone services will not be available for use by the Contractor.
4. **WATER HOOKUP**: All connections to the water system shall be equipped with back flow protection. Temporary potable water pipes and hoses shall be sterilized before being placed in operation and every time the system is opened to the atmosphere for repair or relocation.
5. **SANITARY FACILITIES**: It shall be the Contractor's responsibility to furnish and maintain approved portable toilet facilities for all Contractor personnel, including separate facilities for men and women. The Owner will designate the physical location for the facility and the Contractor shall maintain the toilet facility to the satisfaction of the Owner. Contractor personnel are forbidden to use toilet facilities within existing buildings.

TEMPORARY FIRE PROTECTION

1. **TEMPORARY FIRE PROTECTION**: Install and maintain temporary fire-protection facilities to protect against predictable and controllable fire loss. Comply with NFPA 10 "Standard for Portable Fire Extinguishers" and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations".
 - 1.1 Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher at each floor stairwell and one at each building construction opening for personnel egress.
 - 1.2 Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire-protection facilities, stairways and other access routes for fighting fires.
 - 1.3 Provide independent supervision of welding, flame cutting and other open flame work. Provide each fire supervisor with an appropriate fire extinguisher.
 - 1.4 Provide training for all personnel on-site in the proper operation of each type of fire extinguisher provided. Provide all personnel with the proper notification procedure to summon the local fire department or emergency medical service.
 - 1.5 There shall be NO SMOKING or unsupervised open flame permitted inside any structure, temporary or permanent; nor within 25 feet of combustible material or within 50 feet of flammable liquids or compressed gasses.

CONFINED ENTRY

1. **COMPLIANCE**: The Contractor shall comply with OSHA 29 CFR 1910.146, Permit-Required Confined Space. If required, the Contractor shall provide a Confined Space Entry Plan to the Engineer and Owner prior to entering, or starting any work, in a confined space. The

Contractor shall provide all equipment and materials as required to comply with OSHA and complete the work under this contract.

ACCESS ROADS AND PARKING

1. **ACCESS**: Access to the site is available from public roads. Any damage to these roads by the Contractor's vehicles shall be repaired without cost to the Owner.
2. **PARKING**: Vehicular operations and parking shall comply with all applicable government orders and regulations. All driveways and entrances serving the Owner shall be kept clear and available to emergency vehicles at all times.
3. **VEHICLE AND VEHICLE OPERATION**: All vehicles, owned by the Contractor or employees of the Contractor, and operators of these vehicles, shall meet all state regulations for safety, noise, loading and minimum liability insurance. All vehicle operators demonstrating reckless or careless operation in the opinion of the Owner shall not be allowed to operate vehicles on government property for the duration of the contract.
4. **VISITORS**: No visiting vehicles will be permitted on government property unless the operator is employed by a subcontractor or supplier.

STAGING AREAS AND ACCESS

1. **LOCATION**: The Contractor shall store materials and operate equipment within the confines of the project work/laydown areas identified in the construction drawings. Storage of materials outside of the staging area will not be permitted.
2. **ADJACENT AREAS**: The Contractor shall ensure that all land and vegetation adjacent to the staging area and access drive remain undisturbed and undamaged; all damages shall be repaired at no cost to the Owner.

LIGHTS, SIGNS & BARRICADES

1. **GENERAL**: The contractor shall provide and maintain all warning lights, sign, and barriers to insure the safety of pedestrians or vehicles traveling near or through any hazardous area caused by the execution of the Contract work.
2. **LIGHTING**: All lighting requirements shall meet table 7-1 in the US Army Corps of Engineers Safety and Health Requirements Manual (EM 385-1-1).
3. **BARRICADES**: Hard barricades or flexible barriers shall completely encompass all exterior work areas. Flexible barriers shall consist of 1/2 inch steel bars or 2" X 2" wood stakes driven 12 inches minimum into hard packed soil. Space stakes on a maximum 10 feet interval and with two rows of yellow or orange 1/4 inch diameter rope (wire and plastic tape are not acceptable) at 24 inches and 36 inches each above ground.

4. HAZARD FENCING: Special fencing 4 foot high shall be installed to prevent small children or pets from entering the work area when within 300 feet of family housing or for special hazards as shown on the drawings.
5. TEMPORARY FENCING: Temporary construction fence shall be 6 foot high chain link style to limit public access as indicated on the drawings. Contractor shall be responsible for maintaining the fence and providing a secure site.
6. CONSTRUCTION SIGN: The Contractor shall erect and maintain in good condition a project identification sign throughout the duration of construction. The sign shall be erected within 30 days of the notice to proceed. Locate and install the sign at the location specified by the Owner or Engineer

EROSION AND SEDIMENT CONTROL

1. GENERAL: The Contractor shall plan and execute all earthwork to minimize the duration of exposure of unprotected soils. Temporary protection shall be provided on side and back slopes as soon as rough grading is completed or when sufficient soil is exposed to require protection to prevent erosion. All earthwork brought to final grade shall be finished immediately.
 - a. Contractor is responsible for meeting Erosion and Sediment control requirements of the New Hampshire Department of Environmental Services and other local, state, and federal regulations as required.
2. METHODS: The Contractor shall prevent erosion, control sedimentation, and prevent waterborne soil from entering surface waters, ditches, and storm drain inlets by use of any or all of the following methods.
 - 2.1 Mechanical Control: Divert runoff by constructing ditches or berms. Filter runoff using straw bale dikes, filter fabric dams or other methods.
 - 2.2 Sediment Basins: Trap sediment in temporary basins sized to accommodate the runoff of a local 25-year storm. Pump basins dry and remove accumulated sediment after each storm. Use a paved weir or vertical overflow pipe for overflow. Establish effluent quality monitoring programs as required by federal, state, and local regulations.
 - 2.3 Vegetation and Mulch: Protect slopes by accelerated growth of vegetation, mulching, or netting. Stabilize slopes by hydroseeding, sodding, anchoring mulch or netting in place.
 - 2.4 Geotextiles: Protect and stabilize slopes by anchoring geotextile fabric or matting. The Contractor shall use a geotextile designed and sized for the particular application.
3. OTHER METHODS: Other erosion and sediment control methods may be used, as authorized by the Engineer.

POLLUTION CONTROL

1. **VOLATILE ORGANIC COMPOUND (VOC) REGULATIONS:** Contractors are required to comply with local, state and federal VOC compliance laws and regulations in the foregoing order of precedence. In order to comply with the provisions of the Clean Air Act, each state must have a State Implementation Plan. Some contractors may be required to abide by the provisions of a Title V Permit. Some contractors may be required by state or local law to operate under the terms of a Compliance Plan to reduce VOC Emissions.

1.1 In accordance with the Notice to Proceed Letter, the contractor will submit copies of any local, state or federal implementation plans, permits or compliance plans required/applicable to the use/application of VOCs at contractor's facility or offsite work places.

1.2 If no local, state or federal implementation plans, permits or compliance plans are required/applicable to the use/application of VOCs, then the contractor shall submit to the designated Contracting Officer a letter, notarized under oath, that such documents are not required.

1.3 If the use of paint is required the contractor shall submit to the Engineer and in accordance with the Notice to Proceed Letter, certificates, specifications or manufacturing data verifying the VOC rating.

2. **SPILL RESPONSE PLAN:** The Contractor shall submit a Spill Response Plan covering all regulated materials brought to the site for execution of work and all wastes generated as a result of the work to the Engineer. The plan shall include, at a minimum, the following: types and quantity of all substances covered under this plan; the reportable quantity (RQ) for each substance; the on site storage location of each substance; the Contractor's spill response equipment, if applicable; procedures to be followed for responding to a spill, including initial responses to be taken; procedures to be followed in reporting a spill, including the names and telephone numbers for all federal, state, and local agencies/authorities to be notified; and the name, address, and telephone number (work, home, cell and pager) of all Contractor response and media relations personnel.

2.1 In the event of a spill or release, the Contractor shall be responsible for immediate implementation of the spill response plan and restoration of the site to pre-spill condition at no cost to the Owner. The Contractor shall also immediately notify the Engineer and Owner to coordinate further notifications.

MARINE LIGHTS AND SIGNALS

1. **GENERAL:** The Contractor's Marine equipment shall display such lights and day signals as may be required under applicable Navigation Rules. The Contractor shall inquire at the nearest Coast Guard Marine Safety Office for specific information on these rules. The Contractor to the satisfaction of the Engineer shall mark offshore structures during all phases of construction and removal. Contractor shall provide any lights, daymarkers or buoys required at no additional cost to the Owner.

RECOVERED MATERIALS NOTICE

1. **GENERAL**: It is the intent of the Owner to comply with the requirements of Section 6002 of the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (RCRA or the Act) as amended, 42 U.S.C. 6962 and Executive Order 12873 as they apply to the procurement of the materials designated in paragraph 2.
2. **DESIGNATED RECOVERED MATERIALS**: It is the purpose of this section to designate items that are or can be made with recovered materials. These designated items can be found at <http://www.epa.gov/epaoswer/non-hw/procure/products.htm> .
3. **CONTRACTOR RESPONSIBILITY**: The contractor should provide recycled materials to the extent practical, provided the materials meet all other requirements of the applicable specification section.

HAZARDOUS WASTE

1. **GENERAL**: The Contractor shall comply with all federal, state, and local environmental regulations dealing with the generation, management, storage, and disposal of solid, toxic, and hazardous wastes. The Contractor shall ensure that all wastes are properly containerized, labeled and placarded, managed, tested, stored, documented/manifested, transported and disposed of in accordance with all applicable regulations.
2. **USED ELECTRIC LAMPS**: 40 CFR 273 requires that electric lamps, including incandescent, fluorescent, neon and high intensity discharge (mercury vapor, high/low pressure sodium, metal halide) lamps that are no longer of use be recycled or treated as hazardous waste. The Contractor shall not dispose of any used electric lamps as solid waste. The Contractor shall recycle all waste electric lamps generated as a result of this work only at a licensed recycling facility.
3. **METALS**: Unless noted otherwise, scrap metal shall not be landfilled or treated as hazardous waste. Recycle all scrap metal by smelting or any other acceptable recycling process. Scrap metal includes ductwork, light fixture housings, pipe, mechanical and electrical equipment, doors and frames, etc.
4. **SUBMITTALS**: The Contractor shall provide the Engineer with signed and fully executed originals of all hazardous waste profiles, test results, hazardous waste manifests and/or other shipping papers, electric lamp disposal documents and all other required documentation. Maximum payment retention shall be withheld until this documentation is received.

SAFETY DATA SHEETS AND MATERIAL HANDLING PROCEDURES

1. **DATA SHEETS**: Submit a Safety Data Sheet (SDS) for all materials containing hazardous substances required for contract execution. Information provided in SDS's shall meet the requirements of 29 CFR 1910.1200. SDS's require Engineer review and acceptance prior to bringing these materials on site.

2. **MATERIAL STORAGE:** Limit the quantity of these materials stored on site to the amount needed for execution of work. Storage of excess materials will not be permitted. Assure that the storage of these materials comply with all applicable federal, state, and local laws and regulations and provide additional storage facilities (paint lockers, etc.) as required for the storage of such materials. Coordinate the physical location of storage areas with the Owner prior to bringing these materials on site.
3. **PROTECTIVE MEASURES:** The contractor shall take all protective measures outlined on the SDS's and as required by federal, state, and local regulations to protect all personnel in the vicinity of the work area from exposure to these materials. The Contractor shall include any required protective measures in the Safety Plan (See "Safety Program"). The Owner shall review protective measures prior to allowing use of these materials.
4. **DISPOSAL OF EXCESS MATERIAL:** The Contractor shall dispose of all excess hazardous materials as required by the SDS and all applicable federal, state, and local laws and regulations.

PROTECTION FROM WEATHER AND CONSTRUCTION OPERATIONS

1. **TEMPORARY ENCLOSURES:** Protect existing facilities/equipment and new construction, whether in progress or newly completed, from the adverse effects of the weather and construction operations. Provide temporary enclosures, coverings and barriers as required to afford protection against exposure, weather and wind damage and from construction operations which could degrade, stain, age, or reduce the finished quality of new work or damage existing facilities and equipment.
2. **REAPPLICATION:** All temporary closures or enclosures shall be made ready for immediate re-application in the event of sudden storms or man-made conditions requiring protection of existing facilities or completed construction.
3. **CLIMATE CONTROL:** Where temporary heat is required during construction to protect work completed, all openings shall be made weather tight to allow the maintenance of 68 degrees F heat minimum with the existing or temporary heating equipment or 78 degrees F. maximum with existing or temporary cooling.
4. **PIPING:** Prevent water-filled pipes or tanks from freezing for both interior and exterior systems installed or in storage.

GENERAL CLEANUP & SITE RESTORATION OF WORK AREAS

1. **GENERAL:** The Contractor shall remove and properly dispose of all trash and debris incidental to the contract work from the limits of site, as well as all adjacent affected areas. The Engineer and Owner shall determine the extent and interval of these cleanups.
2. **WORK AREA CLEANUP:** At the end of each day the entire work area and all adjacent affected areas shall be thoroughly cleaned by removing all trash, debris, dust, etc. caused by the

contract work. Any floor, wall or ceiling surfaces that may have been stained or soiled by the contract work shall be restored to pre-construction condition.

3. SITE RESTORATION: If at any time while performing the contract the Contractor causes damage or destruction to any portion of any Owner property or grounds; e.g., bulkheads, pavement, lawns, shrubbery, etc., it shall be the Contractor's responsibility to replace and/or restore the damage as approved by the Engineer at no additional cost to the Owner.

4. POST CONSTRUCTION CLEANUP: Upon completion of the job, the Contractor shall clean up the job site, returning it to a state of cleanliness equal to or exceeding that in which it was found. The Contractor shall properly dispose of any trash, extra materials, dirt, debris, or other litter that remains. If the job site appearance is not to the satisfaction of the Owner, final acceptance will not be approved.

AS BUILT DRAWINGS

1. GENERAL: Maintain one full size set of contract drawings to record variations from the original design. **All deviations shall be neatly and clearly marked in RED** on these drawings to show work and/or materials actually provided. As Built drawings shall be **updated** as work progresses and kept at the work site for the duration of the contract. These drawings shall be available for review upon request by the Engineer or Owner.

2. DISCOVERED UTILITIES: Indicate the exact location of any **underground utility lines discovered in the course of the work** on the As-Built drawings.

3. PERMITTED VARIATIONS: As Built drawings shall reflect the actual construction and materials provided when alternative materials or work methods are allowed in the specifications and/or drawings or if the scope is altered by award of bid items, subsequent changes or modifications.

4. STANDARDS: Variations shown on As Built drawings shall be neat, clear and conform with standard drafting practices. Mark-ups shall include supplementary notes, legends, and details necessary to convey the exact representation of construction actually provided. **To comply with Computer Assisted Design (CAD) practices, only full size AS BUILT drawings are acceptable.**

5. SUBMITTAL: Submit As Built drawings for Engineer acceptance upon completion of the contract. The survey shall be performed in accordance with Section III of the NHDOT Survey Technical Standards Manual. **Final payment will not be until all required As-Built drawings are accepted.** Maximum retention shall be withheld for late or incomplete As Built drawings.

OPERATING INSTRUCTIONS AND TRAINING

1. MANUALS: Upon completion of the work, but before the work is accepted by the Owner, the Contractor must forward two complete bound sets of instructions, tabbed and identified for reference, for all equipment and/or systems provided under this contract. The instructions shall include component parts, manufacturer's certificates, warranty slips, parts lists, descriptive brochures, and manufacturer's maintenance and operating instructions.

SECTION 02 01 00
MOBILIZATION AND DEMOBILIZATION
01/2021

PART 1 GENERAL

This section shall consist of all administrative and overhead cost; preparatory work; operations; and testing; including, but not limited to those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site, for establishment of Contractor's field facilities, signage, buildings, and other facilities and accessories (floats, jon boat, job lighting and power, firefighting provisions, etc.), environmental requirements consistent with the permits necessary for work on the project, and all other work and operations which must be performed or for costs which must be incurred prior to beginning work. All services and materials specified in Division 1 of the specifications shall also be included for payment under this item.

1.1 SUBMITTALS

Submittals shall be accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES.

PART 2 PRODUCTS

2.1 GENERAL

- a. Products shall be as required and as specified in other sections.

PART 3 EXECUTION

3.1 SITE PREPARATION AND RESTORATION

- a. Contractor shall provide site access as required for the transport of materials, personnel and equipment to the job site.
- b. Contractor shall remove all materials used for access and restore all areas to their preconstruction condition.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- a. MOB/DEMOB (MOBILIZATION AND DEMOBILIZATION) shall be measured as a lump sum with the percentage of MOB/DEMOB complete as measured by the Engineer. Total payment under this item shall be less than 20 percent of the total contract amount bid.

- b. Following mobilization of equipment on site and approval of shop drawings, the Contractor can invoice for 20 percent of this item. Following completion of 40 percent of the work under the Contract, the Contractor may invoice 65 percent (45 percent more) of this item. Following completion of all work under this item, the Contractor may invoice the remaining 35 percent of this item.

4.2 PAYMENT

- a. MOB/DEMOB shall be paid for under Contract Item 020100-1 for the percentage of site preparation complete, which price shall include all material, equipment, labor, submittals, and other incidental or appurtenant work required to complete mobilization and demobilization, site preparation, and site restoration as shown on the Drawings, as specified herein, and as approved by the Engineer.
- b. Payment Items

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>
020100-1	MOB/DEMOB	LUMP SUM

-- End of Section -

SECTION 02 41 00

DEMOLITION AND DECONSTRUCTION 01/2021

PART 1 GENERAL

This section covers demolition and removals as required to complete the work. Coordinate structural, site, and utility demolition to perform work in similar areas simultaneously and avoid re-working earthwork procedures.

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 145	(1991; R 2008) Standard Specification for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
AASHTO T 180	(2010) Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop

AMERICAN SOCIETY OF SAFETY “G”S (ASSE/SAFE)

ASSE/SAFE A10.6	(2006) Safety Requirements for Demolition Operations
-----------------	--

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2008; Errata 1-2010; Changes 1-3 2010; Changes 4-6 2011; Change 7 2012) Safety and Health Requirements Manual
------------	--

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 61	National Emission Standards for Hazardous Air Pollutants
-----------	--

1.2 PROJECT DESCRIPTION

1.2.1 Demolition/Deconstruction Plan

- a. Prepare a Demolition Plan and Deconstruction Plan, submit proposed salvage, demolition, deconstruction, and removal procedures for approval before work is started. Include in the plan, procedures for careful removal and disposition of materials specified to be salvaged, coordination with other work in progress, a disconnection schedule of utility services, a detailed description of methods and equipment to be used for each operation and of the sequence of operations, and shoring plans. Shoring designs shall be completed by a Professional Engineer, licensed in the State of New Hampshire. Provide procedures for safe conduct of the work in accordance with EM 385-1-1. Plan shall be approved by Engineer prior to work beginning.

1.2.2 General Requirements

- a. Do not begin demolition or deconstruction until authorization is received from the Owner. The work includes demolition, deconstruction, salvage of identified items and materials, and removal of resulting rubbish and debris. Remove rubbish and debris from site daily, unless otherwise directed. Store materials that cannot be removed daily in areas specified by the Engineer or Owner. In the interest of occupational safety and health, perform the work in accordance with EM 385-1-1, Section 23, Demolition, and other applicable Sections.

1.3 ITEMS TO REMAIN IN PLACE

- a. Take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Owner. Repair or replace damaged items as approved by the Engineer. Coordinate the work of this section with all other work indicated. Construct and maintain shoring, bracing, and supports as required. Ensure that structural elements are not overloaded. Increase structural supports or add new supports as may be required as a result of any cutting, removal, deconstruction, or demolition work performed under this contract. Shoring, repairs, reinforcement, or structural replacement require approval by the Engineer prior to performing such work. Shoring and structural design shall be completed by a Professional Engineer, licensed in the State of New Hampshire.

1.3.1 Existing Construction Limits and Protection

- a. Do not disturb existing construction beyond the extent indicated or necessary for installation of new construction. Provide temporary shoring and bracing for support of structural components to prevent settlement or other movement. Provide protective measures to control accumulation and migration of dust and dirt in all work areas. Remove dust and debris from work areas daily.

1.3.2 Trees

- a. Protect trees within the project site which might be damaged during demolition or deconstruction, and which are indicated to be left in place, by a 6 foot high fence. Erect and secure fence a minimum of 5 feet from the trunk of individual trees or follow the outer perimeter of branches or clumps of trees. Replace any tree designated to remain that is damaged during the work under this contract with like-kind or as approved by the Engineer.

1.3.3 Utility Service

- a. Maintain existing utilities indicated to stay in service and protect against damage during demolition and deconstruction operations. Prior to start of work, utilities serving each area of alteration or removal will be shut off by the Town and disconnected and sealed by the Contractor. All outages shall be coordinated with the Town, the Engineer, and other associated parties. Notification of all outages shall be provided to the Engineer a minimum of 7 days prior to the required outage.

1.3.4 Facilities

- a. Protect electrical and mechanical services and utilities. Where removal of existing utilities and pavement is specified or indicated, provide approved barricades, temporary covering of exposed areas, and temporary services or connections for electrical and mechanical utilities. Ensure that no elements determined to be unstable are left unsupported and place and secure bracing, shoring, or lateral supports as may be required as a result of any cutting, removal, deconstruction, or demolition work performed under this contract.

1.4 BURNING

- a. The use of burning at the project site for the disposal of refuse and debris will not be permitted.

1.5 SUBMITTALS

Submit the following in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Existing Conditions Photographs
- Demolition and Deconstruction Plan
- Falsework Plan
- Work-Start Notification

1.6 QUALITY ASSURANCE

- a. Submit timely notification of demolition, deconstruction and renovation projects to Federal, State, regional, and local authorities. Comply with Federal, State, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses," conform to the safety requirements contained in ASSE/SAFE A10.6. Comply with the Environmental Protection Agency requirements specified. Use of explosives will not be permitted.

1.6.1 Dust and Debris Control

- a. Prevent the spread of dust and debris and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding, or pollution.

1.7 PROTECTION

1.7.1 Protection of Personnel

- a. Before, during and after the demolition and deconstruction work continuously evaluate the condition of the structure being demolished and deconstructed and take immediate action to protect all personnel working in and around the project site. No area, section, or component of structural elements will be allowed to be left standing without sufficient bracing, shoring, or lateral support to prevent collapse or failure while workmen remove debris or perform other work in the immediate area.

1.8 RELOCATIONS

- a. Perform the removal and reinstallation of relocated items as indicated with workmen skilled in the trades involved. Repair or replace items to be relocated which are damaged by the Contractor with new undamaged items as approved by the Engineer.

1.9 EXISTING CONDITIONS

- a. Before beginning any demolition or deconstruction work, survey the site and examine the drawings and specifications to determine the extent of the work. Record existing conditions in the presence of the Engineer showing the condition of structures and other facilities adjacent to areas of alteration or removal. Digital photographs will be acceptable as a record of existing structural components, possible conflicting electrical conduits, plumbing lines, and other damage and description of surface conditions that exist prior to before starting work. It is the Contractor's responsibility to verify and document all required outages which will be required during the course of work, and to note these outages on the record document. Submit survey results.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 EXISTING FACILITIES TO BE REMOVED

Inspect and evaluate existing structures onsite for reuse. Existing construction scheduled to be removed for reuse shall be disassembled. Dismantled and removed materials are to be separated, set aside, and prepared as specified, and stored or delivered to a collection point for disposal, as specified. Materials shall be designated for reuse onsite whenever possible. The Contractor shall be responsible for protecting materials that are specified for reuse.

3.1.1 Structures

- a. Remove existing structures as necessary to accommodate the installation of new bulkhead structures and site work as indicated on the drawings and as specified. Provide neat, straight sawcuts where partial concrete or asphalt removals are required.

3.1.2 Chain Link Fence

- a. Existing chain link fence shall be removed as required to complete the work. Chain link fence shall be replaced in-kind as coordinated with the Owner.

3.1.2 Utilities and Related Equipment

3.1.2.1 General Requirements

Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by the Owner. Do not interrupt existing utilities serving facilities occupied and used by the Owner except when approved in writing and then only after temporary utility services have been approved and provided. Do not begin demolition or deconstruction work until all utility disconnections have been made. Shut off and cap utilities for future use, as indicated.

3.1.2.2 Disconnecting Existing Utilities

Remove existing utilities, as indicated or uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Engineer. When utility lines are encountered but are not indicated on the drawings, notify the Engineer and Owner prior to further work in that area. Remove meters and related equipment and deliver to a location on the station in accordance with instructions of the Engineer.

3.1.3 Paving and Slabs

Remove concrete paving and slabs as necessary and as indicated on the drawings. Provide neat sawcuts at limits of pavement and slab removals.

3.2 CONCURRENT EARTH-MOVING OPERATIONS

Do not begin excavation, filling, and other earth-moving operations that are sequential to demolition or deconstruction work in areas occupied by structures to be demolished or deconstructed until all demolition and deconstruction in the area has been completed and debris removed. Fill holes, open basements and other hazardous openings.

3.3 DISPOSITION OF MATERIAL

3.3.1 Title to Materials

Except for salvaged items specified in related sections or as shown on the contract drawings for salvage and/or reinstallation, and for materials or equipment scheduled for salvage, all materials and equipment removed and not reused or salvaged, shall become the property of the Contractor and shall be removed from the site. Title to materials resulting from demolition and deconstruction, and materials and equipment to be removed, is vested in the Contractor upon approval by the Engineer and Owner of the Contractor's demolition, deconstruction, and removal procedures, and authorization by the Owner to begin demolition and deconstruction. The Owner will not be responsible for the condition or loss of, or damage to, such property after contract award. Showing for sale or selling materials and equipment on site is prohibited.

3.3.2 Reuse of Materials and Equipment

Remove and store materials and equipment indicated on the drawings to be reused or relocated to prevent damage, and reinstall as the work progresses.

3.4 CLEANUP

The Contractor is responsible for maintaining a clean work site at all times. Remove debris and rubbish from the site as necessary. Remove and transport the debris in a manner that prevents spillage on streets or adjacent areas. Apply local regulations regarding hauling and disposal.

3.5 DISPOSAL OF REMOVED MATERIALS

3.5.1 Regulation of Removed Materials

Dispose of debris, rubbish, scrap, and other nonsalvageable materials resulting from removal operations with all applicable federal, state and local regulations as contractually specified. Storage of removed materials on the project site is prohibited.

3.5.2 Burning on Site

Burning of materials removed from demolished and deconstructed structures will not be permitted on site.

3.5.3 Removal from Site

Transport waste materials removed from demolished and deconstructed structures, except waste soil, from site for legal disposal. Dispose of waste soil as directed.

3.6 REUSE OF SALVAGED ITEMS

- A. Recondition salvaged materials and equipment designated for reuse before installation. Replace items damaged during removal and salvage operations or restore them as necessary to usable condition.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- a. DEMOLITION AND DECONSTRUCTION shall be measured as the percentage of demolition complete as measured by the Engineer and shall include the demolition and removal of structures as indicated on the drawings, including but not limited to, demolition and removal of existing sheet pile and tieback assembly, concrete, pavement, fender piles, dolphin clusters, safety and mooring bollards, float guides, and chainlink fence; and temporary removal and reinstallation of light posts, jib crane, timber floats, and gangway; and other structures as indicated on the drawings.
- b. Obstructions encountered during pile driving operations that prevent the completion of work are to be removed and relocated and shall be considered incidental to 31 41 16 METAL SHEET PILING and 31 62 19 TIMBER PILES.

4.2 PAYMENT

- a. NORTH WALL DEMOLITION AND DECONSTRUCTION shall be paid for under Contract Item 024100-1 at the contract lump sum price for demolition complete, which shall include full compensation for demolition work including all material, equipment, labor, transportation, disposal, and other incidental or appurtenant work required to complete demolition as shown on the drawings, as specified herein, and as approved by the Engineer for the north wall repair.
 - i. Existing timber piles that are broken during removal and not removed in their entirety or cut at the mudline will not be paid for.

- b. SOUTH WALL DEMOLITION AND DECONSTRUCTION shall be paid for under Contract Item 024100-2 at the contract lump sum price for demolition complete, which shall include full compensation for demolition work including all material, equipment, labor, transportation, disposal, and other incidental or appurtenant work required to complete demolition as shown on the drawings, as specified herein, and as approved by the Engineer for the south wall repair.
- c. Total payment for NORTH WALL DEMOLITION AND DECONSTRUCTION and SOUTH WALL DEMOLITION AND DECONSTRUCTION shall be less than 20 percent of the total contract bid amount.
- d. Payment Items

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>
024100-1	NORTH WALL DEMOLITION AND DECONSTRUCTION	LUMP SUM
024100-2	SOUTH WALL DEMOLITION AND DECONSTRUCTION	LUMP SUM

-- End of Section --

SECTION 03 30 53

CAST-IN-PLACE CONCRETE 01/2021

PART 1 GENERAL

Work under this section covers cast-in-place concrete for bulkhead closures, pile caps, and other incidental work as shown on the drawings and specified herein.

1.1 REFERENCES

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN CONCRETE INSTITUTE INTERNATIONAL (ACI)

ACI MCP SET	Manual of Concrete Practice
-------------	-----------------------------

ASTM INTERNATIONAL (ASTM)

ASTM A185/A185M	Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
ASTM A615/A615M	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A706	Standard Specification for Deformed Plain Low-Alloy Steel Bars for Concrete Reinforcement
ASTM C31/C31M	Standard Practice for Making and Curing Concrete Test Specimens in the Field
ASTM C33/C33M	Standard Specification for Concrete Aggregates
ASTM C39/C39M	Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
ASTM C94/C94M	Standard Specification for Ready-Mixed Concrete
ASTM C143/C143M	Standard Test Method for Slump of Hydraulic-Cement Concrete
ASTM C150/C150M	Standard Specification for Portland Cement
ASTM C171	Standard Specification for Sheet Materials for Curing Concrete

ASTM C172/C172M	Standard Practice for Sampling Freshly Mixed Concrete
ASTM C173/C173M	Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C231/C231M	Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260/C260M	Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C309	Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
ASTM C494/C494M	Standard Specification for Chemical Admixtures for Concrete
ASTM C618	Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C685/C685M	Concrete Made by Volumetric Batching and Continuous Mixing
ASTM C989/C989M	Standard Specification for Slag Cement for Use in Concrete and Mortars
ASTM C1064/C1064M	Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
ASTM D75/D75M	Standard Practice for Sampling Aggregates

U.S. ARMY CORPS OF ENGINEERS (USACE)

COE CRD-C 400	Requirements for Water for Use in Mixing or Curing Concrete
---------------	---

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 247	Comprehensive Procurement Guideline for Products Containing Recovered Materials
------------	---

1.2 SYSTEM DESCRIPTION

The Owner retains the option to sample and test aggregates and concrete to determine compliance with the specifications. Provide facilities and labor as may be necessary to assist the Owner in procurement of representative test samples.

Obtain samples of aggregates prior to batching in accordance with ASTM D75/D75M and sample concrete in accordance with ASTM C172/C172M.

Determine slump and air content in accordance with ASTM C143/C143M and ASTM C231/C231M, respectively, when cylinders are molded.

Prepare, cure, and transport compression test specimens in accordance with ASTM C31/C31M. Test compression test specimens in accordance with ASTM C39/C39M.

Take samples for strength tests at least once per 100 cubic yards placed or not less than once each shift in which concrete is produced. Provide a minimum of three specimens from each sample; two to be tested at 28 days (90 days if pozzolan is used) for acceptance, and one will be tested at 7 days for information.

1.2.1 Strength

- a. Acceptance test results are the average strengths of two specimens tested at 28 days (90 days if pozzolan is used).
- b. The strength of the concrete is considered satisfactory so long as the average of three consecutive acceptance test results equal or exceed the specified compressive strength, f_c , and no individual acceptance test result falls below f_c by more than 500 psi.

1.2.2 Concrete Mixture Proportions

- a. Concrete mixture proportions are the responsibility of the Contractor. Mixture proportions shall include the dry weights of cementitious material(s); the nominal maximum size of the coarse aggregate; the specific gravities, absorptions, and saturated surface-dry weights of fine and coarse aggregates; the quantities, types, and names of admixtures; and quantity of water per cubic yard of concrete.
- b. Provide materials included in the mixture proportions of the same type and from the same source as will be used on the project.
- c. Specified compressive strength (f_c) shall be 4,000 psi at 28 days (90 days if pozzolan is used).
- d. Maximum nominal size coarse aggregate is 3/4 inch, in accordance with ACI MCP SET Part 3.
- e. Maximum water cement ratio: 0.45.

- f. Submit the applicable test reports and mixture proportions that will produce concrete of the quality required, ten days prior to placement of concrete.

1.3 SUBMITTALS

Submit the following in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Reinforcing Steel Shop Drawings
- Product Data
 - Air-Entraining Admixtures
 - Water-Reducing or Retarding Admixture
 - Batching and Mixing Equipment
 - Fly Ash
 - Mix Design Data
 - Reinforcing Steel
- Aggregate Test Reports
- Concrete Mixture Proportions
- Compressive Strength Testing
- Slump Test Reports
- Cementitious Materials Certificates
- Aggregate Certificates
- Bill of Lading

PART 2 PRODUCTS

2.1 MATERIALS

Submit manufacturer's literature from suppliers which demonstrates compliance with applicable specifications for the specified materials.

2.1.1 Cementitious Materials

- a. Submit Manufacturer's certificates of compliance, accompanied by mill test reports, attesting that the concrete materials meet the requirements of the specifications under which they are furnished.
- b. Provide cementitious materials that conform to the appropriate specifications listed:

2.1.1.1 Portland Cement

- a. ASTM C150/C150M, Type I, or II.

2.1.1.2 Pozzolan

- a. Provide pozzolan that conforms to ASTM C618, Class C or F, including requirements of Tables 1A and 2A.

2.1.2 Aggregates

- a. Fine and coarse aggregates shall meet the quality and grading requirements of ASTM C33/C33M Class Designations 4S or better.
- b. Do not use aggregates containing soluble salts or other substances such as iron sulphides, pyrite, marcasite or ochre which can cause stains on exposed concrete surfaces.
- c. Submit certificates of compliance and test reports for aggregates showing the material(s) meets the quality and grading requirements of the specifications under which it is furnished.

2.1.3 Admixtures

- a. Admixtures to be used, when required or approved, shall comply with the appropriate specification listed. Retest chemical admixtures that have been in storage at the project site, for longer than 6 months or that have been subjected to freezing, at the expense of the Contractor at the request of the Owner and will be rejected if test results are not satisfactory.

2.1.3.1 Air-Entraining Admixtures

- a. Provide air-entraining admixture that meets the requirements of ASTM C260/C260M.

2.1.3.2 Water-Reducing or Retarding Admixture

- a. Provide water-reducing or retarding admixture meeting the requirements of ASTM C494/C494M, Type A, B, or D.

2.1.3.3 Fly Ash

- a. Fly Ash used as a supplementary cementitious material shall conform to ASTM C618, Class C with 4 percent maximum loss on ignition and 35 percent maximum cement replacement by weight.

2.1.3.4 Blast Furnace Slag

- a. Ground granulated blast furnace slag used as a supplementary cementitious materials shall conform to ASTM C989/C989M, Grade 120 with between 25 to 50 percent maximum cement replacement by weight.

2.1.4 Water

- a. Use fresh, clean, potable water for mixing and curing, free from injurious amounts of oil, acid, salt, or alkali, except that unpotable water may be used if it meets the requirements of COE CRD-C 400.

2.1.5 Ready-Mix Concrete

- a. Concrete shall be ready-mix concrete with mix design data conforming to ACI MCP SET Part 2. Bill of Lading for each ready-mix concrete delivery shall be in accordance with ASTM C94/C94M.
- b. Compressive Strength: 4000 psi minimum compressive strength.
- c. Slump: 3 to 5 inch according to ASTM C143/C143M and ACI MCP SET Part 1.
- d. Use one brand and type of cement for formed concrete having exposed-to-view finished surfaces.
- e. Cementitious materials and admixtures in accordance with Section 2.1 Materials.
- f. Air Content: Air content shall be between 5 and 8 percent.

2.1.6 Reinforcing Steel

- a. Reinforcing steel shall conform to ASTM A615/A615M, Grade 60. Welded steel wire fabric shall conform to the requirements of ASTM A185/A185M, Grade 65.
- b. Details of reinforcement not shown shall be in accordance with ACI MCP SET Part 3, Chapters 7 and 12.

PART 3 EXECUTION

3.1 PREPARATION

- a. Prepare forms, construction joints, and base of placement. The surface shall be clean, damp, and free of laitance.
- b. Construct ramps and walkways, as necessary, to allow safe and expeditious access for concrete and workmen.
- c. Remove snow, ice, standing or flowing water, loose particles, debris, and foreign matter.
- d. Earth foundations shall be satisfactorily compacted.
- e. Ensure spare vibrators are available.
- f. The entire preparation shall be accepted by the Engineer prior to placing.

3.1.1 Embedded Items

- a. Secure reinforcement in place after joints, anchors, and other embedded items have been positioned.
- b. Arrange internal ties so that when the forms are removed the metal part of the tie is not less than 2 inches from concrete surfaces permanently exposed to view or exposed to water on the finished structures.
- c. Embedded items shall be free of oil and other foreign matters such as loose coatings or rust, paint, and scale. The embedding of wood in concrete is permitted only when specifically authorized or directed.
- d. All equipment needed to place, consolidate, protect, and cure the concrete shall be at the placement site and in good operating condition.

3.1.2 Formwork Installation

- a. Provide formwork as required to support full weight of wet concrete. Forms shall be properly aligned, adequately supported, and mortar-tight. Chamfer all exposed joints and edges, unless otherwise indicated.

3.1.3 Production of Concrete

3.1.3.1 Ready-Mixed Concrete

- a. Provide ready-mixed concrete conforming to ASTM C94/C94M except as otherwise specified.

3.1.3.2 Concrete Made by Volumetric Batching and Continuous Mixing

- a. Concrete made by volumetric batching and continuous mixing shall conform to ASTM C685/C685M.

3.1.3.3 Batching and Mixing Equipment

The Contractor has the option of using an on-site batching and mixing facility. The facility shall provide sufficient batching and mixing equipment capacity to prevent cold joints. Submit the method of measuring materials, batching operation, and mixer for review, and manufacturer's data for batching and mixing equipment demonstrating compliance with the applicable specifications.

3.2 CONVEYING AND PLACING CONCRETE

- a. Concrete placed below the water table shall be placed via tremie method.

- b. Concrete placement is not permitted when weather conditions prevent proper placement and consolidation without approval.
- c. When concrete is mixed and/or transported by a truck mixer, deliver the concrete to the site of the work completing the discharge within 1-1/2 hours or 45 minutes when the placing temperature is 86 degrees F or greater unless a retarding admixture is used.
- d. Convey concrete from the mixer to the forms as rapidly as practicable by methods which prevent segregation or loss of ingredients.
- e. Concrete shall be in place and consolidated within 15 minutes after discharge from the mixer.
- f. Deposit concrete as close as possible to its final position in the forms and regulate it so that it may be effectively consolidated in horizontal layers 18 inches or less in thickness with a minimum of lateral movement. Carry on the placement at such a rate that the formation of cold joints will be prevented. Perform conveying and placing concrete in conformance with the following:

3.2.1 Consolidation

- a. Consolidate each layer of concrete by internal vibrating equipment.
- b. Systematically accomplish internal vibration by inserting the vibrator through the fresh concrete in the layer below at a uniform spacing over the entire area of placement.
- c. The distance between insertions shall be approximately 1.5 times the radius of action of the vibrator and overlay the adjacent, just-vibrated area by approximately 4 inches.
- d. Ensure that the vibrator penetrates rapidly to the bottom of the layer and at least 6 inches into the layer below, if such a layer exists.
- e. Hold vibrator stationary until the concrete is consolidated and then withdraw it slowly at the rate of about 3 inches per second.

3.2.2 Cold-Weather Requirements

- a. No concrete is to be mixed or placed when the ambient temperature is below 36 degrees F or if the ambient temperature is below 41 degrees F and falling.
- b. Provide suitable covering and other means as approved for maintaining the concrete at a temperature of at least 50 degrees F for not less than 72 hours after placing and at a temperature above freezing for the remainder of the curing period.
- c. Do not mix salt, chemicals, or other foreign materials with the concrete to prevent freezing.

- d. Remove and replace concrete damaged by freezing at the expense of the Contractor.

3.2.3 Hot-Weather Requirements

- a. When the rate of evaporation of surface moisture, as determined by use of Figure 1 of ACI MCP SET Part 2, is expected to exceed 0.2 psf per hour, provisions for windbreaks, shading, fog spraying, or covering with a light-colored material shall be made in advance of placement, and such protective measures taken as quickly as finishing operations will allow.

3.2.4 Lifts in Concrete

- a. Deposit concrete in horizontal layers not to exceed 60 inches in thickness, and as required to prevent blowout of formwork. Carry on placement at a rate that prevents the formation of cold joints. Place slabs in one lift.

3.3 FINISHING

3.3.1 Temperature Requirement

- a. Do not finish or repair concrete when either the concrete or the ambient temperature is below 50 degrees F.

3.3.2 Finishing Unformed Surfaces

- a. Float finish all unformed surfaces that are not to be covered by additional concrete or backfill, to elevations shown, unless otherwise specified.

3.4 CURING AND PROTECTION

- a. Beginning immediately after placement, and continuing for at least 7 days, cure and protect all concrete from premature drying, extremes in temperature, rapid temperature change, freezing, mechanical damage, and exposure to rain or flowing water. Forms shall remain in-place for a minimum of 72 hours after placement, upon approval from the Engineer.
- b. Provide all materials and equipment needed for adequate curing and protection at the site of the placement prior to the start of concrete placement.
- c. Accomplish moisture preservation of moisture for concrete surfaces not in contact with forms by one of the following methods:
 - i. Continuous sprinkling or ponding.
 - ii. Application of absorptive mats or fabrics kept continuously wet.
 - iii. Application of sand kept continuously wet.

- iv. Application of impervious sheet material conforming to ASTM C171.
- v. Application of membrane-forming curing compound conforming to ASTM C309, Type 1-D, on surfaces permanently exposed to view. Accomplish Type 2 on other surfaces in accordance with manufacturer's instructions.

3.5 TESTS AND INSPECTIONS

3.5.1 Field Testing Technicians

- a. The individuals who sample and test concrete, as required in this specification, shall have demonstrated a knowledge and ability to perform the necessary test procedures equivalent to the ACI minimum guidelines for certification of Concrete Field Testing Technicians, Grade I.

3.5.2 Inspection Details and Frequency of Testing

3.5.2.1 Preparations for Placing

- a. Inspect forms and embedded items in sufficient time prior to each concrete placement by the Contractor to certify that it is ready to receive concrete.

3.5.2.2 Air Content

- a. Check air content at least once during each shift that concrete is placed. Obtain samples in accordance with ASTM C172/C172M and tested in accordance with ASTM C231/C231M.

3.5.2.3 Slump

- a. Check slump once during each shift that concrete is produced. Obtain samples in accordance with ASTM C172/C172M and tested in accordance with ASTM C143/C143M.

3.5.2.4 Consolidation and Protection

- a. Ensure that the concrete is properly consolidated, finished, protected, and cured.

3.5.3 Action Required

3.5.3.1 Placing

- a. Do not permit placing to begin until the availability of an adequate number of acceptable vibrators, which are in working order and have competent operators, has been verified.

3.5.3.2 Air Content

- a. Whenever an air content test result is outside the specification limits, adjust the dosage of the air-entrainment admixture prior to delivery of concrete to forms.

3.5.3.3 Slump

- a. Whenever a slump test result is outside the specification limits, adjust the batch weights of water and fine aggregate prior to delivery of concrete to the forms. The adjustments are to be made so that the water-cement ratio does not exceed that specified in the submitted concrete mixture proportion.

3.5.4 Reports

- a. Report the results of all tests and inspections conducted at the project site informally at the end of each shift. Submit written reports weekly. Deliver within 3 days after the end of each weekly reporting period.

3.6 STEEL REINFORCING

- a. Reinforcement shall be free from loose, flaky rust and scale, and free from oil, grease, or other coating which might destroy or reduce the reinforcement's bond with the concrete.

3.6.1 Fabrication

- a. Shop fabricate steel reinforcement in accordance with ACI MCP SET Parts 2 and 3. Shop details and bending shall be in accordance with ACI MCP SET Parts 2 and 3.

3.6.2 Supports

- a. Secure reinforcement in place by the use of metal or concrete supports, spacers, or ties.

3.7 EMBEDDED ITEMS

Before placing concrete, take care to determine that all embedded items are firmly and securely fastened in place. Provide embedded items free of oil and other foreign matter, such as loose coatings of rust, paint and scale. Embedding of wood in concrete is permitted only when specifically authorized or directed.

3.8 FIELD TESTING

- a. Provide samples and test concrete for quality control during placement. Sampling of fresh concrete for testing shall be in accordance with ASTM C172/C172M.
- b. Test concrete for compressive strength at 7 and 28 days for each design mix. Concrete test specimens shall conform to ASTM C31/C31M. Perform Compressive strength testing conforming to ASTM C39/C39M.

- c. Test Slump at the site of discharge for each design mix in accordance with ASTM C143/C143M.
- d. Test air content for air-entrained concrete in accordance with ASTM C231/C231M. Test concrete using lightweight or extremely porous aggregates in accordance with ASTM C173/C173M.
- e. Determine temperature of concrete at time of placement in accordance with ASTM C1064/C1064M.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for concrete. Include costs under items for which concrete work is required.

-- End of Section --

SECTION 05 05 23

WELDING, STRUCTURAL 1/2021

PART 1 GENERAL

This project includes work where the environment for welding is not ideal. Therefore it is expected that the contractor will pre-assemble and weld to the maximum extent possible in a protected shop environment. All above water welding shall be in accordance with AWS D1.1/D1.1M and all underwater welding shall be in accordance with AWS D3.6/D3.6M

1.1 GENERAL DESCRIPTION:

This section includes but is not limited to, the requirements for the welding procedure, welder and welding procedure qualifications, production welding and the inspection thereof associated with the fabrication and installation.

1.2 APPLICABLE PUBLICATIONS:

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN SOCIETY FOR NONDESTRUCTIVE TESTING (ASNT)

ASNT RP SNT-TC-1A	Recommended Practice
-------------------	----------------------

AMERICAN PETROLEUM INSTITUTE (API)

API RP 2A	Recommended Practice for Planning, Designing and Constructing Fixed Offshore Platforms
-----------	--

API RP 2X	Ultrasonic and Magnetic Examination of Offshore Structural Fabrication and Guidelines for Qualification of Technicians
-----------	--

API RP 2A-WSD	Recommended Practice for Planning, Designing and Constructing Fixed Offshore Platforms - Working Stress Design, 21st Edition
---------------	--

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	Structural Welding Code - Steel
----------------	---------------------------------

AWS D3.6/D3.6M	Specification for Underwater Welding
----------------	--------------------------------------

AWS QC1

Standard for AWS Certification of Welding Inspectors

ASTM INTERNATIONAL (ASTM)

ASTM E709

Standard Guide for Magnetic Particle Examination

1.3 QUALITY CONTROL:

1.3.1 Approvals

- a. All approvals of welding procedures, welders, and welder operators shall be obtained from the Engineer before fabrication is started.

1.3.2 Inspection of Welding Materials

- a. All welding materials provided by the Contractor are subject to inspection by the Engineer and records of inspections shall be submitted to the Owner for record purposes.

1.3.3 Welding Materials

Unless otherwise specified, welding materials shall conform to Section 4 of AWS D1.1/D1.1M and applicable sections of AWS D3.6/D3.6M and shall be certified by the manufacturer as meeting the requirements of the Classification. Welding material shall be handled, shipped, stored in a manner that will prevent contamination or other damage.

1.4 SUBMITTALS

Approval is required for all submittals. Submit the following in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Field Test Records
- Qualification of Welders and Welding Operators
- Qualification of Welding Procedures
- Inspector Requirements

PART 2 PRODUCTS

- 2.1 Welding electrodes shall be E70xx in accordance with AWS D1.1/D1.1M.

PART 3 EXECUTION

3.1 QUALIFICATION OF WELDING PROCEDURES

3.1.1 Qualification of Welding Procedures

- a. It is the responsibility of the Contractor to formulate and physically qualify welding procedures for each of the types of steel (and anticipated combinations thereof) listed in Section 05 12 00 STRUCTURAL STEEL for each of the welding processes to be used in this work.
- b. Welding preparation, procedures and practices shall be qualified in accordance with AWS D1.1/D1.1M, Section 5, Part B, except as modified by this specification.
- c. All procedures shall be approved by the Engineer, and his decision relative to qualification is final. Requests for approval shall be submitted in writing prior to usage for production welding. Approval is required prior to the initial usage of each procedure but not for similar applications of the procedure thereafter.

3.1.2 Previous Procedures

- a. In the event the Contractor has specified welding procedures previously qualified by testing, then such test materials and test results may be evaluated in relation to materials and welding processes for this work, and if satisfactory, may be accepted as qualified to the requirements of this specification. Submission of such welding procedures and certified test results for review and approval by the Engineer prior to instituting their use shall be considered mandatory requirement.

3.1.3 Documentation

- a. Copies of each welding procedure shall be submitted to the Engineer for approval. One copy of each procedure will be returned to the Contractor marked approved (or disapproved) for usage.
- b. The documentation for each procedure shall contain but is not limited to welding process, material classification and thickness, filler material, machine settings (voltage and amperage), applicable positions, cleaning, joint preparation and fitup, preheating, back gouging, and test results.

3.1.4 Additional Requirements

- a. Additional impact requirements are required for weld metals as defined by API RP 2A-WSD, Section 10.2.2.

3.2 QUALIFICATION OF WELDERS AND WELDING OPERATORS

- a. All welders and welding operators for this work shall be tested and qualified in accordance with AWS D1.1/D1.1M, Section 5, Parts C and D. Welders shall be required to qualify in the welding of the respective steel forms and alloys or types and classifications specified for use in the project.

3.3 PRODUCTION WELDING

3.3.1 Electrodes

- a. Welding electrodes shall be selected for the appropriate steel, alloys, positions, methods, and conditions prevailing for the intended use. All welding electrodes shall be such as will best develop the full strength and equivalent characteristics of the respective steel sections being welded. Welding materials which are not readily identifiable, or on which the flux has been damaged, or which are otherwise of questionable acceptability, shall not be used.

3.3.2 Welding Machines

- a. All arc-welding shall be accomplished with welding machines in such condition as to enable qualified welders and welding operators to follow the applicable procedure specifications and attain resulting welds of acceptable quality as required by the codes and/or specifications.

3.3.3 Preparation

- a. Shearing, flame cutting, beveling and chipping shall be done carefully and accurately in such a manner to produce a smooth and uniform surface. Whenever possible, this work shall be done with automated or mechanically guided tools. All edges, including bevels, shall be left free of slag, deep scars and gouges.

3.3.4 Beveling

- a. Particular importance shall be assigned to maintaining joint detail dimensions, included groove angle, and joint root opening clearance during fit-up activities. Any beveled edge that has been damaged or does not conform to the standard joint welding detail shown in the drawings shall be restored to the minimum acceptable tolerance prior to its incorporation into the structure.

3.3.5 Preheating

- a. Preheating of base metal prior to welding shall be in accordance with the qualified welding procedure.

3.3.6 Weather

- a. Welding shall not be permitted during conditions of precipitation or wind speeds exceeding the conditions for which a welding procedure has been qualified, unless in a protective environment.

3.3.7 Sequencing

- a. Weld bead sequencing shall be typically as shown in the applicable welding procedure. Weld sequencing shall be such as to minimize residual stress build up.

3.3.8 Grounding

- a. During welding offshore, the welding generator shall be grounded only to the component of the structure being welded and as close as practical to the work. Grounding connections to the barge/ship carrying the welding generators will not be permitted.
- b. The welding and ground cable shall be completely insulated and shall not be allowed to drop or hang in the water.
- c. The minimum cross-sectional area of the return ground cable shall be one million circular mils per 2,000 amperes per 100 feet of cable.
- d. Grounding cable lugs shall be tightly secured to grounding plates. The lug contact shall be thoroughly cleaned to bare metal.
- e. Grounding efficiency shall be monitored by simultaneously measuring the potential of the structure and the barge/ship housing the welding generators. A change in potential reading from either indicates insufficient grounding.

3.4 CONNECTIONS

3.4.1 Joints for Rolled Shapes, Plates and Tubes

- a. All fabrication involving the connection of steelwork by welding shall conform to the weld size and joint preparation shown on the drawings. Unless otherwise indicated, sections shall be joined with complete joint penetration groove welds in such a manner as to develop 100 percent joint efficiency.

3.5 INSPECTION OF PRODUCTION WELDING

3.5.1 Contractor's Responsibility

- a. Contractor shall provide all completed field test records to the Owner. All welds shall be visually inspected. The Contractor shall provide a minimum of 8 hours on site of weld inspection to assure all welds are in accordance with the contract documents.

3.5.1.1 Inspector Requirements

- a. Welding Inspectors: Personnel performing weld inspections shall be AWS Certified Welding Inspectors (CWI) qualified and certified in accordance with the provisions of AWS QC1. Certified Welding Inspectors may be supported by assistant welding inspectors (not necessarily qualified to AWS QC1) who may perform specific inspection functions under the supervision of a CWI.
- b. Area Preparation: Prior to inspection of the Contractor's work, the Contractor shall clean the working area sufficiently to allow access to the work. The Contractor shall furnish, install

and maintain in a safe operating condition, the necessary scaffolding, ladders, walkways, lighting, etc., to allow for safe and thorough inspection by the Engineer.

- c. Access to Work: Technicians engaged in non-destructive test activities shall have access to the Contractor's fabricating facility in general and area of testing in particular. The Contractor shall not interfere with testing activities and shall allow adequate time for inspection.
- d. Surface Preparation: The Contractor shall clean all major welds of slag, spatter, dirt, grease, oil and loose scale to aid in the visual inspection of those welds.

3.6 CORRECTION OF DEFECTIVE WELDS

3.6.1 Defects Observed by Visual Inspection

- a. Weld areas containing defects exceeding the standards of acceptance in AWS D1.1/D1.1M, shall be repaired at the Contractor's expense.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT AND PAYMENT

- A. No separate payment shall be made for welding. Include costs under items for which welding is required.

-- End of Section --

SECTION 05 12 00

STRUCTURAL STEEL 01/2021

PART 1 GENERAL

Work under this section covers structural steel and hardware for the wale, connection hardware, steel cap, tie-rods, and other miscellaneous steel hardware for the bulkhead repairs as indicated. When hardware is specified in another section that differs from this section, that section shall govern.

All work shall be performed in accordance with the New Hampshire State Building Code.

1.1 REFERENCES

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

AISC 201	AISC Certification Program for Structural Steel Fabricators
AISC 317	ASD Manual of Steel Construction, Vol II: Connections
AISC 325	Steel Construction Manual
AISC 326	Detailing for Steel Construction

ASTM INTERNATIONAL (ASTM)

ASTM A123/A123M	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A153/A153M	Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A36/A36M	Standard Specification for Carbon Structural Steel
ASTM A53/A53M	Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM A240/A240M	Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

ASTM A312/A312M	Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
ASTM A572/A572M	Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
ASTM A615/A615M	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A775/A775M	Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM F436	Standard Specification for Hardened Steel Washers
ASTM F593	Stainless Steel Bolts, Hex Cap Screws, and Studs
ASTM F3125/F3125M	Standard Specification for High Strength Structural Bolts and Assemblies

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M	Structural Welding Code - Steel
----------------	---------------------------------

1.2 SYSTEM DESCRIPTION

Provide the structural steel system, including galvanizing, complete and ready for use. Structural steel systems including design, materials, installation, workmanship, fabrication, assembly, erection, inspection, quality control, and testing shall be provided in accordance with AISC 325 except as modified in this contract.

1.3 SUBMITTALS

Approval is required for all submittals. The following shall be submitted in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Fabrication drawings
- Certificates
 - Structural Steel
 - Steel Pipe
 - Tie-Rods
 - Tie-Rod Couplers
 - Bolts, nuts, and washers
 - Welding electrodes and rods
 - Galvanizing

1.4 QUALITY ASSURANCE

1.4.1 Drawing Requirements

- a. Contractor is responsible for verifying dimensions on site prior to submission of drawings.
- b. Submit fabrication drawings for approval prior to fabrication. Prepare in accordance with AISC 326, AISC 325 and AISC 317. Fabrication drawings shall not be reproductions of contract drawings.
- c. Include complete information for the fabrication and erection of the structure's components, including the location, type, and size of bolts, welds, member sizes and lengths, connection details, blocks, copes, and cuts. Use AWS standard welding symbols.

1.4.2 Certifications

1.4.2.1 Welding Procedures and Qualifications

In accordance with Section 05 05 23 WELDING, STRUCTURAL.

PART 2 PRODUCTS

2.1 STEEL

2.1.1 Structural Steel

- a. Steel plates shall be ASTM A 36/A 36M, Grade 36. All steel plates shall be epoxy coated plain steel with the exception of the plates used for tie rod splice connections.
- b. All rolled shapes, shall be ASTM A 572/A 572M, Grade 50. All steel shapes shall be epoxy coated plain steel.

2.1.2 Steel Pipe

- a. Steel pipe for the Mooring Bollard shall be ASTM A53/A53M, Type E or S, Grade B, plain steel.

2.1.3 Tie-Rods

- a. Tie rod extensions and thru-rods shall be 75 ksi all-thread rod, in accordance with ASTM A615/A615M. All tie rod extensions and rods shall be epoxy coated. Threaded and welded portions of hardware is permitted to be field coated.

2.1.3.1 Tie-Rod Couplers

- a. Tie-rod couplers shall be mechanical couplers capable of developing the full ultimate capacity of the threaded rod. Couplers shall be turnbuckle or sleeve-nut type.

2.1.4 Reinforcement

- a. Epoxy coating for reinforcement shall be a fusion bonded epoxy in accordance with ASTM A775/A775M. Coating shall be applied to a minimum thickness of 8 mils.

2.2 BOLTS, NUTS, AND WASHERS

2.2.1 Bolts

- a. All Steel-to-Steel Connections shall be made with ASTM A449 Type 1 High Strength Bolts or Threaded Rods. All steel bolts and threaded rods used for the steel sheet pile, tieback, and fender system shall be epoxy coated unless otherwise noted as hot-dip galvanized. Threaded and welded portions of connection hardware is permitted to be field coated.
- b. All stainless steel bolts shall be Type 304 in accordance with ASTM F593.

2.2.2 Nuts

- a. Nuts used for the steel sheet pile, tieback, and fender system shall be epoxy coated Hex style unless otherwise noted. Threaded portions are permitted to be field coated.
- b. Nuts noted as hot-dip galvanized shall be ASTM A563, Grade A, Hex style.

2.2.3 Washers

- a. Washers for the steel sheet pile, tieback, and fender system shall be epoxy coated unless otherwise noted. Threaded portions are permitted to be field coated.
- b. Washers noted as hot-dip galvanized shall be in accordance with ASTM F 436.

2.3 STRUCTURAL STEEL ACCESSORIES

2.3.1 Welding Electrodes and Rods

Welding electrodes shall be E70xx in accordance with AWS D1.1/D1.1M.

2.4 COATING

2.4.1 Galvanizing

- a. ASTM A 123/A 123M or ASTM A 153/A 153M, as applicable, unless specified otherwise. Galvanize after fabrication where practicable.

2.4.2 Epoxy Coating

- a. Epoxy coating for steel associated with the steel sheet piles and tieback system shall be in accordance with 09 97 13 EPOXY COATING.
- b. Epoxy coating for reinforcement shall be a fusion bonded epoxy in accordance with ASTM A775/A775M. Coating shall be applied to a minimum thickness of 8 mils.

2.5 FABRICATION

- a. Fabrication shall be in accordance with the applicable provisions of AISC 325. Fabrication and assembly shall be done in the shop to the greatest extent possible. The fabricating plant shall be certified under the AISC 201 for Category STD structural steelwork.
- b. Contractor shall provide 1-inch diameter drain holes along length of wale.

2.5.1 Markings

- a. Prior to erection, members shall be identified by a painted erection mark. Connecting parts assembled in the shop for reaming holes in field connections shall be match marked with scratch and notch marks. Do not locate erection markings on areas to be welded. Do not locate match markings in areas that will decrease member strength or cause stress concentrations.

PART 3 EXECUTION

3.1 INSTALLATION

- a. Install steel elements in accordance with the drawings and as directed in other sections in these specifications.

3.2 WELDING

- a. In accordance with Section 05 05 23 WELDING, STRUCTURAL.

3.3 COATING REPAIR

3.3.1 Galvanizing Repair

- a. Galvanize after fabrication where practicable. Repair damage to galvanized coatings using ASTM A780/A780M zinc rich paint for galvanizing damaged by handling, transporting, cutting, welding, or bolting. Do not heat surfaces to which repair paint has been applied.

3.3.1.1 Epoxy Coating Repair

Scratches and damaged areas incurred while installing fusion bonded epoxy coated items shall be patched with a two-component, 80% solids (minimum), liquid epoxy resin. If a damaged area exceeds 15% of the total coated area, the entire item shall be replaced. The liquid epoxy coating shall be applied to a minimum dry-film thickness of 12 mils.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for structural steel. Include costs for structural steel under items where work is included.

-- End of Section --

SECTION 06 13 33

MISCELLANEOUS TIMBERWORK 01/2021

PART 1 GENERAL

1.1 REFERENCES

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)

AWPA M4	Standard for the Care of Preservative-Treated Wood Products
AWPA M6	Brands Used on Preservative Treated Materials
AWPA T1	Use Category System: Processing and Treatment Standard
AWPA U1	Use Category System: User Specification for Treated Wood

ASTM INTERNATIONAL (ASTM)

ASTM A153/A153M	Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A307	Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength

U.S. DEPARTMENT OF DEFENSE (DOD)

MIL-P-21035	Paint, High Zinc Dust Content, Galvanizing Repair (Metric)
-------------	--

1.2 SUBMITTALS

The following shall be submitted in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Timber preservative inspection/report
- Delivery inspection list
- MSDS and CIS Certificates

1.3 DELIVERY AND STORAGE

- a. Open-stack timber and lumber material on skids at least 12 inches above-ground, in a manner that will prevent warping and allow shedding of water, and in a manner that will prevent long timbers or pre-framed material from sagging or becoming crooked. Keep ground under and within 5 feet of such piles free of weeds, rubbish, and combustible materials. Protect materials from weather. Handle treated timber with ropes or chain slings without dropping, breaking outer fibers, bruising, or penetrating surface with tools. Do not use cant dogs, peaveys, hooks, or pike poles. Protect timber and hardware from damage.

1.4 QUALITY ASSURANCE

1.4.1 MSDS and CIS

- a. Provide Material Safety Data Sheets (MSDS) and Consumer Information Sheets (CIS) associated with timber pile and framing preservative treatment. Contractor shall comply with all safety precautions indicated on MSDS and CIS.

1.4.2 Timber Preservative Inspection

- a. Submit the inspection report of an independent inspection agency, for approval by the Engineer that offered products complying with applicable AWPAs Standards. Identify treatment on each piece by the quality mark of an agency accredited by the Board of Review of the American Lumber Standard Committee.

1.4.3 Delivery Inspection List

- a. Field inspect and submit a verification list of each treated timber member and each strapped bundle of treated lumber indicating the wording and lettering of the quality control markings, the species and the condition of the wood. Do not incorporate materials damaged in transport from plant to site. Inspect all preservative-treated wood, visually to ensure there are no excessive residual materials or preservative deposits. Material shall be clean and dry or it will be rejected due to environmental concerns.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Lumber and Timbers

2.1.1.1 Solid Sawn

- a. Provide solid sawn lumber and timbers of No. 2 Southern Pine identified by the grade mark of a recognized association or independent inspection agency using the specific grading requirements of an association recognized as covering the species used.

- b. The association or independent inspection agency shall be certified by the Board of Review, American Lumber Standards Committee, to grade the species used.
- c. Use commercial grade lumber for secondary members such as decking, joists and railings.
- d. All timber shall be supplied at a maximum moisture content of 19%.

2.1.1.2 Preservative Treatment

- a. Fabricate lumber and timbers before preservative treatment. Each piece of treated lumber or timber shall be branded, by the producer, in accordance with AWP A M6. Treat wood in accordance with AWP A standards for timber exposed to the saltwater environment. The Contractor shall be responsible for the quality of treated wood products.
- b. Drilled holes shall be thoroughly flushed with preservative. Similarly, cut timber surfaces shall be given two brush coats of preservative before installation in accordance with AWP A M4.

2.1.2 Hardware

- a. Bolts with necessary nuts and washers, timber connectors, drift pins, dowels, nails, screws, spikes, and other fastenings in accordance with ASTM A307.
- b. Provide cast-iron ogee, malleable iron washers, or plate or cut washers where indicated.
- c. Provide bolts with washers under nut and head.
- d. Provide timber connectors and other metal fastenings of type and size shown.
- e. All hardware shall be hot-dip galvanized.

2.1.2.1 Zinc-Coating

- a. Galvanize steel specified or indicated by the hot-dip process in accordance with ASTM A153/A153M, as applicable.

2.1.2.2 Epoxy Coating

- a. Hardware and miscellaneous steel associated with the steel sheet pile system that is indicated to be epoxy coated shall be in accordance with 09 97 13 EPOXY COATING.

PART 3 EXECUTION

3.1 CONSTRUCTION

- a. Cut, bevel, and face timbers prior to plant preservative treatment. In addition to the contract clause entitled "Accident Prevention" provide protective equipment for personnel fabricating, field treating, or handling materials treated with creosote or water-borne salts. Refer to paragraph entitled "MSDS and CIS."

3.1.1 Framing

- a. Cut and frame lumber and timber so that joints will fit over contact surface. Secure timbers and piles in alignment. Open joints are unacceptable.
- b. Bore holes for drift pins and dowels with a bit 1/16 inch less in diameter than the pin or dowel.
- c. Bore holes for truss rods or bolts with a bit 1/16 inch larger in diameter than rod or bolt.
- d. Bore holes for lag screws in two parts.
- e. Make lead hole for shank the same diameter as shank.
- f. Make lead hole for the threaded portion approximately two-thirds of the shank diameter.
- g. Bore holes in small timbers for boat or wire spikes with a bit of the same diameter or smallest dimension of the spike to prevent splitting.
- h. Counterbore for countersinking wherever smooth faces are indicated or specified.

3.1.2 Decking

- a. Make decking of a single thickness of plank supported by stringers or joists. Unless otherwise indicated, lay plank with heart side down and with tight joints.
- b. Nail each plank to each joist or nailing strip with at least two nails. Nails for decking shall be galvanized 20d common nails. Place nails at least 2-1/2 inches from edges of the plank.
- c. Cut ends of planks parallel to supporting members.
- d. Grade planks as to thickness and lay so that adjacent planks vary less than 1/16 inch.

3.1.3 Fastening

- a. Vertical bolts shall have nuts on the lower end. Where bolts are used to fasten timber to timber, timber to concrete, or timber to steel, bolt members together when they are installed and retighten immediately prior to final acceptance of contract.
- b. Provide bolts having sufficient additional threading to provide at least 3/8 inch per foot thickness of timber for future retightening.
- c. Fastening of one member to another shall be accomplished in such a manner that no cracking or splitting of timber members shall occur. Cracked or split members shall be replaced by the Contractor, to the approval of the Engineer, at no additional cost to the Owner.

3.2 FIELD TREATMENT

3.2.1 Galvanized Surfaces

- a. Repair and recoat zinc coating which has been field or shop cut, burned by welding, abraded, or otherwise damaged to such an extent as to expose the base metal.
- b. Thoroughly clean the damaged area by wire brushing and remove traces of welding flux and loose or cracked zinc coating prior to painting.
- c. Paint cleaned area with two coats of zinc oxide-zinc dust paint conforming to MIL-P-21035. Compound paint with a suitable vehicle in a ratio of one part zinc oxide to four parts zinc dust by weight.

3.2.2. Timber Surfaces

- a. Drilled holes shall be thoroughly flushed with preservative. Similarly, cut timber surfaces shall be given two brush coats of preservative before installation in accordance with AWP M4.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- a. TIMBER FENDER SYSTEM shall be measured per lump sum installed in place to the lines and elevations shown on the drawings, as specified herein, and as approved by the Engineer.

4.2 PAYMENT

- a. TIMBER FENDER SYSTEM shall be paid for under Contract Item 061333-1, which price shall include the installation of timber chocks, wales, fender piles, fastenings, appurtenances, and all other material, labor, equipment, labor, or incidental or appurtenant work required to install the timber fender system as shown on the drawings and as specified herein.

b. Payment Items

<u>UNIT</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>
061333-1	TIMBER FENDER SYSTEM	LUMP SUM

-- End of Section --

SECTION 09 97 13

EPOXY COATING 01/2021

PART 1 GENERAL

Work under this section includes epoxy coating of the safety bollards, steel sheet piles, and tieback system including associated hardware and miscellaneous steel, as indicated in the specifications, and as shown on the drawings.

1.1 REFERENCES

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM D7091	Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nondestructive Coatings Applied to Non-Ferrous Metals
ASTM E376	Measuring Coating Thickness by Magnetic-Field or Eddy-Current (Electromagnetic) Test Methods

THE SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC SP 2	Hand Tool Cleaning
SSPC PS 11.01	Black Coal Tar Epoxy Polyamide Painting System
SSPC Paint 16	Coal Tar Epoxy-Polyamide Black Paint
SSPC SP 1	Solvent Cleaning
SSPC SP 10/NACE No. 2	Near-White Blast Cleaning

1.2 SUBMITTALS

The following shall be submitted in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- 3-Coat Epoxy Paint Product Data and Material Certificates
- Field Patch Epoxy Paint Product Data and Material Certificates

1.3 ENVIRONMENTAL CONDITIONS

- a. Start work only when ambient and curing temperatures are within limits of coating manufacturer's recommendations and at least 5 degrees F above dew point temperature.

1.4 SAFETY AND HEALTH PRECAUTIONS

Work in a well ventilated area. Provide, and require workers to use, impervious clothing, gloves, face shields (8 inch minimum), and other appropriate protective clothing necessary to prevent eye and skin contact with coating materials. Keep coatings away from heat, sparks and flame.

PART 2 PRODUCTS

2.1 COATING SYSTEMS

2.1.1 Safety Bollard Coating

- a. Topside portions of safety bollards shall be painted with a 3-coat epoxy paint system, suitable for steel coating applications with abrasion resistance. The topcoat shall be yellow.

2.1.1.1 3-Coat Epoxy Paint

- a. Coating of steel sheet piles, wales, tie rod extensions, hardware, and miscellaneous steel as indicated on the drawings and these specifications shall be with an epoxy coal tar in accordance with SSPC Paint 16.
- b. Coating shall be a 3-coat epoxy coating system suitable for steel coating applications with abrasion resistance. Final dry film thickness of epoxy coating for fabricated steel shall be 16 mils including primer and topcoat. Ensure that no portion of coating is less than the specified minimum film thickness as recommended by the manufacturer. The total minimum film thickness for any combination of coats shall be the sum total of the averages of the specified thickness range of the individual coats.
- c. A primer from the same manufacturer as the coating, which is compatible with the coal tar epoxy coating, shall be used.
- d. Urethane topcoat shall be applied to the epoxy coal tar coating as recommended by the coating manufacturer.
- e. Steel sheet piles shall be coated a minimum of 4-feet below the mudline elevation.
- f. Threaded and welded portions of connections, hardware, and miscellaneous steel associated with the sheet pile and tieback system is permitted to be field coated.

PART 3 EXECUTION

3.1 CLEANING AND PREPARATION OF SURFACES

- a. Surface preparation for steel sheet piles, tieback extensions, steel wales, and associated miscellaneous steel and connections shall be in accordance with SSPC SP 10.
- b. Surface preparation for steel pipe bollards shall be in accordance with SSPC SP 2.

3.1.1 Solvent Cleaning

SSPC SP 1. Remove visible oil, grease, and drawing and cutting compounds by solvent cleaning.

3.1.2 Hand Tool Cleaning

SSPC SP 2. Remove all loose mill scale, loose rust, loose paint, and other loose detrimental foreign matter by hand chipping, scraping, sanding, and wire brushing.

3.2 3-PART EPOXY COATING APPLICATION

3.2.1 General

- a. Apply coats of each system so that finished surfaces are free from runs, sags, brush marks and variations in color.
- b. Unless otherwise specified by manufacturer's recommendations, do not allow drying time between coats to exceed 72 hours. Under conditions of direct sunlight or elevated ambient temperatures of 90 degrees F or greater, limit intercoat drying period to a maximum of 24 hours.

3.2.2 Coating Application

- a. The coating should be brushed, sprayed or roller applied in accordance with the manufacturer's directions. Ensure that the surfaces remain free of wind-blown contaminants.
- b. All above water threaded and welded connections made in the field shall be field coated in accordance with the manufacturer's recommendations. Completely remove weld slag prior to coating application.

3.2.3 Repair of Defects

- a. Repair detected coating holidays, thin areas, and exposed areas damaged during construction by surface treatment and application of additional coating or by manufacturer's recommendations.

3.3 ADDITIONAL PROTECTION

- a. As directed by the Engineer, isolated sections of fabricated, coated steel, hardware, and bolts shall receive a field coating with a paraffin-based grease preservative. Preservative shall be hand applied using brush or cloth application.

3.4 FIELD TESTS

- a. Conduct testing in presence of Engineer.

3.4.1 Holiday Testing

- a. Prior to installation, test for holidays in total coating system. Use a low-voltage holiday detector of less than 90 volts in accordance with manufacturer's instructions. After repair of holidays by surface treatment and application of additional coating or by manufacturer's recommendation, retest with a low-voltage holiday detector.

3.4.2 Dry Film Thickness

- a. After repair of holidays, measure dry film thickness using a magnetic dry film thickness gage in accordance with ASTM D7091 and ASTM E376. Re-measure after an additional coat is applied, and add it to meet minimum thickness requirements.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- a. NORTH WALL EPOXY COATING shall be measured per lump sum furnished and installed complete as shown on the drawings, as specified herein, and as approved by the Engineer.
- b. SOUTH WALL EPOXY COATING shall be measured per lump sum furnished and installed complete as shown on the drawings, as specified herein, and as approved by the Engineer.

4.2 PAYMENT

- a. NORTH WALL EPOXY COATING shall be paid for under Contract Item 099713-1, which price shall include epoxy coating of steel waterfront structures including steel sheet piles, wale, tieback extensions, cap, angles, hardware, and other material, labor, incidental or appurtenant work required to complete epoxy coating of waterfront structures for the north wall repair.
- b. SOUTH WALL EPOXY COATING shall be paid for under Contract Item 099713-2, which price shall include epoxy coating of steel waterfront structures including steel sheet piles, wale, tieback extensions, cap, angles, hardware, and other material, labor, incidental or appurtenant work required to complete epoxy coating of waterfront structures for the south wall repair.
- c. Payment Items

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>
099713-1	NORTH WALL EPOXY COATING	LUMP SUM
099713-2	SOUTH WALL EPOXY COATING	LUMP SUM

-- End of Section --

SECTION 31 05 19

GEOTEXTILE 01/2021

PART 1 GENERAL

Work under this section covers geotextile to retain existing fill between the existing and proposed bulkhead as indicated in the contract drawings.

1.1 REFERENCES

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT)

NHDOT	NHDOT Standard Specifications for Road and Bridge Construction
-------	--

ASTM INTERNATIONAL (ASTM)

ASTM D 4873	Identification, Storage, and Handling of Geosynthetic Rolls and Samples
-------------	---

1.2 SUBMITTALS

- a. Submit the following in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Geotextile Product Data and Certificates

1.3 DELIVERY, STORAGE, AND HANDLING

- a. Deliver, store, and handle geotextile in accordance with ASTM D 4873.

1.3.1 Delivery

- a. Notify the Engineer a minimum of 24 hours prior to delivery and unloading of geotextile rolls packaged in an opaque, waterproof, protective plastic wrapping. The plastic wrapping shall not be removed until deployment. If quality assurance samples are collected, immediately rewrap rolls with the plastic wrapping.
- b. Geotextile or plastic wrapping damaged during storage or handling shall be repaired or replaced, as directed.

- c. Label each roll with the manufacturer's name, geotextile type, roll number, roll dimensions (length, width, gross weight), and date manufactured.

1.3.2 Storage

- a. Protect rolls of geotextile from construction equipment, chemicals, sparks and flames, temperatures in excess of 160 degrees F, or any other environmental condition that may damage the physical properties of the geotextile.
- b. To protect geotextile from becoming saturated, either elevate rolls off the ground or place them on a sacrificial sheet of plastic in an area where water will not accumulate.

1.3.3 Handling

- a. Handle and unload geotextile rolls with load carrying straps, a fork lift with a stinger bar, or an axial bar assembly. Rolls shall not be dragged along the ground, lifted by one end, or dropped to the ground.

PART 2 PRODUCTS

2.1 RAW MATERIALS

- a. A minimum of 7 days prior to scheduled use, submit manufacturer's certificate of compliance stating that the geotextile meets the requirements of this section.
- b. For needle punched geotextiles, the manufacturer shall also certify that the geotextile has been continuously inspected using permanent on-line full-width metal detectors and does not contain any needles which could damage other geosynthetic layers.
- c. The certificate of compliance shall be attested to by a person having legal authority to bind the geotextile manufacturer.

2.1.1 Geotextile

- a. Provide geotextile that is a nonwoven pervious sheet in accordance with Class I per NHDOT Specification Section 593. The use of woven slit film geotextiles (i.e. geotextiles made from yarns of a flat, tape-like character) will not be allowed.
- b. Add stabilizers and/or inhibitors to the base polymer, as needed, to make the filaments resistant to deterioration by ultraviolet light, oxidation, and heat exposure. Regrind material, which consists of edge trimmings and other scraps that have never reached the consumer, may be used to produce the geotextile. Post-consumer recycled material may also be used.
- c. Geotextile shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other, including the edges.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Subgrade Preparation

The surface underlying the geotextile shall be prepared in accordance with Specification 31 23 00.00 20 EXCAVATION AND FILL.

3.1.2 Placement

- a. Notify the Engineer a minimum of 24 hours prior to installation of geotextile. Geotextile shall be placed to ensure complete coverage from the top of the existing wall, to the top of the new replacement sheeting to ensure native fines cannot migrate through the replacement sheeting or crushed stone.
- b. Geotextile rolls which are damaged or contain imperfections shall be repaired or replaced as directed. The geotextile shall be laid flat and smooth so that it is in direct contact with the subgrade. The geotextile shall also be free of tensile stresses, folds, and wrinkles. On slopes steeper than 10 horizontal on 1 vertical, lay the geotextile with the machine direction of the fabric parallel to the slope direction.

3.2 SEAMS

3.2.1 Overlap Seams

- a. Continuously overlap geotextile panels a minimum of 18 inches at all longitudinal and transverse joints. Where seams must be oriented across the slope, lap the upper panel over the lower panel. Sewn seams shall not be permitted.

3.3 PROTECTION

- a. Protect the geotextile during installation from clogging, tears, and other damage. Damaged geotextile shall be repaired or replaced as directed. Use adequate ballast (e.g. sand bags) to prevent uplift by wind. The geotextile shall not be left uncovered for more than 7 days after installation.

3.4 REPAIRS

- a. Repair torn or damaged geotextile. Clogged areas of geotextile shall be removed. Perform repairs by placing a patch of the same type of geotextile over the damaged area. The patch shall extend a minimum of 12 inches beyond the edge of the damaged area. Patches shall be continuously fastened using approved methods. The machine direction of the patch shall be aligned with the machine direction of the geotextile being repaired. Remove and replace geotextile rolls which cannot be repaired. Repairs shall be performed at no additional cost to the Owner.

3.5 COVERING

- a. Do not cover geotextile prior to inspection and approval by the Engineer. Place final lifts of aggregate fill in a manner that prevents soil from entering the geotextile overlap zone, prevents tensile stress from being mobilized in the geotextile, and prevents wrinkles from folding over onto themselves. Aggregate fill shall not be dropped onto the geotextile from a height greater than 3 feet.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT AND PAYMENT

- a. No separate measurement or payment shall be made for geotextile used in excavation and backfilling operations. Include costs under items for which geotextile is required.

-- End of Section --

SECTION 31 23 00

EXCAVATION AND FILL 01/2021

PART 1 GENERAL

This section covers all general excavation, fill and earthwork related to this project. Additional requirements are defined in other sections of this specification set with relation to specific items of this project.

1.1 REFERENCES

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN WATER WORKS ASSOCIATION (AWWA)

AWWA C600	Installation of Ductile-Iron Water Mains and Their Appurtenances
-----------	--

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT)

NHDOT	NHDOT Standard Specifications for Road and Bridge Construction
-------	--

ASTM INTERNATIONAL (ASTM)

ASTM C 136	Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
------------	---

ASTM C 33	Standard Specification for Concrete Aggregates
-----------	--

ASTM D 1140	Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve
-------------	--

ASTM D 1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³) (2700 kN-m/m ³)
-------------	--

ASTM D 2321	Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
-------------	---

ASTM D 2487	Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D 4318	Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 698	Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/cu. ft. (600 kN-m/cu. m.))

1.2 DEFINITIONS

1.2.1 Underdrain Backfill

- a. A layer of clean, poorly graded crushed rock, stone, or natural sand or gravel having a high porosity which is placed beneath a building slab with or without a vapor barrier to cut off the capillary flow of pore water to the area immediately below a slab.

1.2.2 Degree of Compaction

- a. Degree of compaction is expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557, for general soil types, abbreviated as percent laboratory maximum density.

1.2.3 Hard Materials

- a. Weathered rock, dense consolidated deposits, or conglomerate materials which are not included in the definition of "rock" but which usually require the use of heavy excavation equipment, ripper teeth, or jack hammers for removal.

1.2.4 Rock

- a. Solid homogeneous interlocking crystalline material with firmly cemented, laminated, or foliated masses or conglomerate deposits, neither of which can be removed without systematic drilling and blasting, drilling and the use of expansion jacks or feather wedges, or the use of backhoe-mounted pneumatic hole punchers or rock breakers; also large boulders, buried masonry, or concrete other than pavement exceeding 1 cubic yard in volume. Removal of hard material will not be considered rock excavation because of intermittent drilling that is performed merely to increase production.

1.3 SUBMITTALS

The following shall be submitted in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Crushed Stone Test Reports
- Gravel Backfill Test Reports
- Off-Site Soil Test Reports

- Field Density Test Reports
- Backfill Certification and Confirmation
 - Submit copies of all laboratory and field test reports within 24 hours of the completion of the test. If applicable, submit unit price item rock quantity surveys at least 24 hours in advance of removal.

1.4 DELIVERY, STORAGE, AND HANDLING

Perform in a manner to prevent contamination or segregation of materials.

1.5 GENERAL CONSTRUCTION CRITERIA

- a. Surface elevations shown on drawings are approximate. Contractor shall confirm grades and inverts prior to start of work and ordering of materials.
- b. Ground water elevation is estimated to be equivalent to the water level of the river/harbor.
- c. Excavation, handling and disposal requirements for excavated soils shall be in accordance with the requirements specified below.
- d. Suitable soils excavated may be reused in earthwork operations, if the material meets the physical soil properties specified for backfill material.
- e. Any stockpiling of soils shall comply with State and Federal Permits and the current New Hampshire Department of Environmental Services Erosion and Sediment Control Best Management Practices (BMPs) and other applicable requirements.
- f. No work included in this project is in areas defined as hazardous soil. If suspect soil is encountered during work, all work shall be immediately stopped and the Engineer notified for further direction.

1.6 REQUIREMENTS FOR OFF SITE SOIL

- a. Soils brought in from off site shall be tested for the following contaminants:
 - i. Total Petroleum Hydrocarbons (TPH) using the GC/FID Method;
 - ii. Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX);
 - iii. Full RCRA 8 Metals;
 - iv. Toxicity Characteristic Leaching Procedure (TCLP) RCRA 8 Metals;
 - v. Polychlorinated Biphenyls (PCBs);
 - vi. Polycyclic Aromatic Hydrocarbons (PAHs); and
 - vii. Pesticides and Herbicides
- b. The soil shall not contain any TCLP concentration which exceeds the current Environmental Protection Agency (EPA) values listed in 40 CFR §261.24, Table 1 Maximum Concentration of Contaminants for Toxicity Characteristic EPA limits. TPH CONCENTRATIONS SHALL

NOT EXCEED 100 Mg/Kg. Representative sampling and testing of the backfill shall be conducted at a rate of 1 sample for every 1,000 tons, with a minimum of 1 sample per borrow source. Chemical analysis of the samples shall be performed by a certified laboratory using the most current Environmental Protection Agency (EPA) approved methods. Backfill shall not be brought on site until all laboratory test results have been approved by the Engineer. Aggregates containing less than 10% fines (material passing the number 4 sieve) shall not require testing. Borrow pits shall meet all appropriate state certification guidelines. Written confirmation that the purchased backfill material did not come from a chemically impacted area shall be provided by borrow pit supplier. Proof of certification and written confirmation shall be provided to the Engineer prior to backfill being brought on site.

1.7 QUALITY ASSURANCE

1.7.1 Excavation and Trenching Plan

- a. Provide Manufacturers Tabulated Data for trench boxes and other support systems to be used on the project. See EM 385-1-1, Section 25, Excavation and Trenching for requirements.

1.7.2 Utilities

- a. Movement of construction machinery and equipment over pipes and utilities during construction shall be at the Contractor's risk. Perform work adjacent to utilities as indicated in accordance with procedures outlined by utility company and the Town of Seabrook.
- b. For work immediately adjacent to or for excavations exposing a utility or other buried obstruction, excavate using hand tools. Start hand excavation on each side of the indicated obstruction and continue until the obstruction is uncovered or until clearance for the new grade is assured.
- c. Support uncovered lines or other existing work affected by the contract excavation as required to complete the work. Report damage to utility lines or subsurface construction immediately to the Engineer and Owner.

PART 2 PRODUCTS

2.1 SOIL MATERIALS

2.1.1 Satisfactory Materials

- a. Any materials classified by ASTM D 2487 as GW, GP, GM, GP-GM, GW-GM, GC, GP-GC, GM-GC, SW, SP free of debris, roots, wood, scrap material, vegetation, refuse, soft unsound particles, and frozen, deleterious, or objectionable materials. Unless specified otherwise, the maximum particle diameter shall be one-half the lift thickness at the intended location.

2.1.2 Unsatisfactory Materials

- a. Materials which do not comply with the requirements for satisfactory materials. Unsatisfactory materials also include man-made fills, trash, refuse, or backfills from previous construction. Unsatisfactory material also includes material classified as satisfactory which contains root and other organic matter, frozen material, and stones larger than 3 inches. The Engineer and Owner shall be notified of any contaminated materials.

2.1.3 Cohesionless and Cohesive Materials

- a. Cohesionless materials include materials classified in ASTM D 2487 as GW, GP, SW, and SP. Cohesive materials include materials classified as GC, SC, ML, CL, MH, and CH. Materials classified as GM, GP-GM, GW-GM, SW-SM, SP-SM, and SM shall be identified as cohesionless only when the fines are nonplastic (plasticity index equals zero). Materials classified as GM and SM will be identified as cohesive only when the fines have a plasticity index greater than zero.

2.1.4 Expansive Soils

- a. Soils that have a plasticity index equal to or greater than 20 when tested in accordance with ASTM D 4318.

2.1.5 Gravel Backfill

- a. Gravel backfill shall consist of inert material that is hard, durable stone and coarse sand, free from loam and clay, surface coatings, and deleterious materials. Gradation requirements shall be in accordance with NHDOT Specification Section 209.2.1.1 for granular backfill (sand) with less than 10% passing the No. 200 sieve.
- b. It is understood that the majority of existing onsite soils, if suitable, will be reused as gravel backfill as approved by the Engineer, with limited imported fill required. The Engineer and Owner reserve the right to require additional testing of the excavated onsite soil to determine suitability.

2.1.6 Crushed Stone

- a. Crushed stone shall consist of inert material that is hard, durable stone, free from loam, clay, surface coatings, and other deleterious materials. Gradation requirements shall be in accordance with Section 520, Standard Stone Size 67, Table 520-3 Coarse Aggregate in accordance with the NHDOT Standard Specifications for Road and Bridge Construction.

2.1.7 Aggregate Base Course

- a. Aggregate base course for paved areas shall be crushed gravel in accordance with Section 304 of the NHDOT Standard Specifications for Road and Bridge Construction.

2.2 UTILITY BEDDING MATERIAL

- a. Except as specified otherwise, provide bedding for buried piping in accordance with AWWA C600, Type 4, except as specified herein. Backfill to top of pipe shall be compacted to 95 percent of ASTM D 698 maximum density. Plastic piping shall have bedding to spring line of pipe. Provide ASTM D 2321 materials as follows:
 - i. Class I: Angular, 0.25 to 1.5 inches, graded stone, including a number of fill materials that have regional significance such as coral, slag, cinders, crushed stone, and crushed shells.
 - ii. Class II: Coarse sands and gravels with maximum particle size of 1.5 inches, including various graded sands and gravels containing small percentages of fines, generally granular and noncohesive, either wet or dry. Soil Types GW, GP, SW, and SP are included in this class as specified in ASTM D 2487.

2.3 BORROW

- a. Obtain borrow materials required in excess of those furnished from excavations from sources outside of the site.

2.4 BURIED WARNING AND IDENTIFICATION TAPE

- a. Polyethylene plastic and metallic core or metallic-faced, acid- and alkali-resistant, polyethylene plastic warning tape manufactured specifically for warning and identification of buried utility lines. Provide tape on rolls, 3 inch minimum width, color coded as specified below for the intended utility with warning and identification imprinted in bold black letters continuously over the entire tape length. Warning and identification to read, "CAUTION, BURIED (intended service) LINE BELOW" or similar wording. Color and printing shall be permanent, unaffected by moisture or soil.

Warning Tape Color Codes

Yellow:	Electric
Yellow:	Gas, Oil; Dangerous Materials
Orange:	Telephone and Other Communications
Blue:	Water Systems
Green:	Sewer Systems
White:	Steam Systems
Gray:	Compressed Air

2.4.1 Warning Tape for Metallic Piping

- a. Acid and alkali-resistant polyethylene plastic tape conforming to the width, color, and printing requirements specified above. Minimum thickness of tape shall be 0.003 inch. Tape

shall have a minimum strength of 1500 psi lengthwise, and 1250 psi crosswise, with a maximum 350 percent elongation.

2.4.2 Detectable Warning Tape for Non-Metallic Piping

- a. Polyethylene plastic tape conforming to the width, color, and printing requirements specified above. Minimum thickness of the tape shall be 0.004 inch. Tape shall have a minimum strength of 1500 psi lengthwise and 1250 psi crosswise. Tape shall be manufactured with integral wires, foil backing, or other means of enabling detection by a metal detector when tape is buried up to 3 feet deep. Encase metallic element of the tape in a protective jacket or provide with other means of corrosion protection.

2.5 DETECTION WIRE FOR NON-METALLIC PIPING

- a. Detection wire shall be insulated single strand, solid copper with a minimum of 12 AWG.

PART 3 EXECUTION

3.1 PROTECTION

3.1.1 Drainage

- a. So that construction operations progress successfully, completely drain construction site during periods of construction to keep soil materials sufficiently dry. The Contractor shall establish/construct storm drainage features (ponds/basins) at the earliest stages of site development, and throughout construction grade the construction area to provide positive surface water runoff away from the construction activity and/or provide temporary ditches, berms swales, and other drainage features and equipment as required to maintain dry soils, prevent erosion and undermining of foundations.
- b. When unsuitable working platforms for equipment operation and unsuitable soil support for subsequent construction features develop, remove unsuitable material and provide new soil material as specified herein.
- c. It is the responsibility of the Contractor to assess the soil and ground water conditions presented by the plans and specifications and to employ necessary measures to permit construction to proceed.
- d. Excavated slopes and backfill surfaces shall be protected to prevent erosion and sloughing. Excavation shall be performed so that the site, the area immediately surrounding the site, and the area affecting operations at the site shall be continually and effectively drained.

3.1.2 Underground Utilities

- a. The location of the existing utilities shown on the plans are approximate. The Contractor shall physically field verify the location and elevation of the existing utilities indicated prior

to starting construction. The Contractor shall contact Dig Safe, and utilize a private utility locating service as necessary. The Contractor shall confirm the location of all existing underground utilities prior to commencing any excavation work.

3.1.3 Machinery and Equipment

- a. Movement of construction machinery and equipment over pipes during construction shall be at the Contractor's risk. Repair, or remove and provide new pipe for existing or newly installed pipe that has been displaced or damaged.

3.2 EXCAVATION

3.2.1 General

- a. Excavate to contours, elevations to complete the work indicated on the plans.
- b. Keep excavations free from water as applicable. Excavate soil disturbed or weakened by Contractor's operations, soils softened or made unsuitable for subsequent construction due to exposure to weather.
- c. Excavations below indicated depths will not be permitted except to remove unsatisfactory material. Unsatisfactory material encountered below the grades shown shall be classified by Engineer and removed as directed.
- d. Refill with backfill material, depending on location with respect to structures and compact as required in herein. Unless specified otherwise, refill excavations cut below indicated depth with backfill and compact to minimum 95 percent of ASTM D 1557 maximum density
- e. Satisfactory material removed below the depths indicated, without specific direction of the Engineer, shall be replaced with satisfactory materials to the indicated excavation grade; except as specified for spread footings. Determination of elevations and measurements of approved over depth excavation of unsatisfactory material below grades indicated shall be done under the direction of the Engineer.
- f. No extra payment will be made for removal of unsuitable soils and replacement with satisfactory material or select fills as may be directed by the Engineer.

3.2.2 Pipe Trenches

- a. Excavate to the dimension indicated. Grade and shape bottom of trenches to provide uniform support for each section of pipe after pipe bedding placement. Tamp if necessary to provide a firm pipe bed. Recesses shall be excavated to accommodate bells and joints so that pipe will be uniformly supported for the entire length.
- b. Rock, where encountered, shall be excavated to a depth of at least 150 mm (6 inches) below the bottom of the pipe. Blasting is not allowed.

3.2.3 Hard Material and Rock Excavation

- a. Remove hard material and rock to elevations indicated in a manner that will leave foundation material in an unshattered and solid condition. Blasting is not allowed. Roughen level surfaces and cut sloped surfaces into benches for bond with concrete. Protect shale from conditions causing decomposition along joints or cleavage planes and other types of erosion.

3.2.4 Excavated Materials

- a. Satisfactory excavated material required for fill or backfill shall be placed in the proper section of the permanent work required or shall be separately stockpiled if it cannot be readily placed. Satisfactory material in excess of that required for the permanent work and all unsatisfactory material shall be disposed of in accordance with SECTION 02 41 00 DEMOLITION AND DECONSTRUCTION.

3.3 CONTROL OF EXCAVATIONS AND EXCAVATED MATERIALS

- a. All Excavation work shall conform with all applicable OSHA and EM385-1-1 requirements. All excavations shall be closed as soon as work within the excavation is complete. Excavated materials shall not be allowed to spread in an uncontrolled manner nor become contaminated with other debris. All excavations shall be properly barricaded with barricades and suitable warning devices in a good state of repair. The Owner will not provide barricades for Contractor use. The following controls also apply:

3.3.1 Excavated Materials to be Reused as Backfill

- a. Excavated soil materials from excavations which will remain open for LESS THAN TWO WEEKS may remain at the site of excavation and surrounded by erosion/sediment control measures as specified on the plans, permit requirements and/or state regulatory requirements.
- b. Excavated soil materials from excavations which will remain open for MORE THAN TWO WEEKS shall be removed from the site or covered with six (6) mil plastic sheeting and surrounded by erosion/sediment control measures as specified on the plans, permit requirements and/or state regulatory requirements.
- c. Soils meeting the requirements for backfill material as defined in the project specifications, may be reused in earthwork operations as backfill.

3.3.2 Excavated Materials Unsuitable for Backfill

- a. All excess soils not suitable for reuse shall be transported offsite and disposed of in accordance with local, state, and federal regulations.

3.4 SUBGRADE PREPARATION

- a. Unsatisfactory material in surfaces to receive fill or in excavated areas shall be removed and replaced with satisfactory materials as directed by the Engineer.
- b. The surface shall be scarified to a depth of 6 inches before the fill is started. Sloped surfaces steeper than 1 vertical to 4 horizontal shall be plowed, stepped, benched, or broken up so that the fill material will bond with the existing material.
- c. When subgrades are less than the specified density, the ground surface shall be broken up to a minimum depth of 6 inches, pulverized, and compacted to the specified density.
- d. Material shall not be placed on surfaces that are muddy, frozen, or contain frost.
- e. Compaction shall be accomplished by sheepsfoot rollers, pneumatic-tired rollers, steel-wheeled rollers, or other approved equipment well suited to the soil being compacted.
- f. Material shall be moistened or aerated as necessary to provide the moisture content that will readily facilitate obtaining the specified compaction with the equipment used. Moisture content shall not exceed the optimum moisture content by more than 2%.
- g. Minimum subgrade density shall be as specified herein.

3.5 FILLING AND BACKFILLING

- a. Fill and backfill to contours, elevations required to complete the work. Compact each lift before placing overlaying lift as specified below.

3.5.1 Gravel Backfill Placement

- a. Provide for excavated and backfill areas, and between existing and proposed sheet pile as indicated on the drawings.
- b. Place in maximum 12 inch loose lifts.
- c. Do not place over wet or frozen areas.
- d. Place backfill material adjacent to structures as the structural elements are completed and accepted. Place and compact material to avoid loading upon or against adjacent structures.

3.5.2 Crushed Stone Placement

- A. Provide between existing and proposed sheet pile as indicated on the drawings.
- B. Place in maximum 12 inch loose lifts.

- C. Backfill adjacent to structures shall be placed as structural elements are completed and accepted. Place and compact material to avoid loading upon or against adjacent structures.

3.5.3 Gravel Backfill Placement Over Pipes and at Walls

- a. Backfilling shall not begin until underground utilities systems have been inspected, tested and approved, and the excavation cleaned of trash and debris.
- b. Backfill shall be brought to indicated finish grade.
- c. Where pipe is coated or wrapped for protection against corrosion, the backfill material up to an elevation 2 feet above sewer lines and 1 foot above other utility lines shall be free from stones larger than 1 inch in any dimension.
- d. Heavy equipment for spreading and compacting backfill shall not be operated closer to foundation or retaining walls than a distance equal to the height of backfill above the top of footing; the area remaining shall be compacted in layers not more than 4 inches in compacted thickness with power-driven hand tampers suitable for the material being compacted.
- e. Backfill shall be placed carefully around pipes or tanks to avoid damage to coatings, wrappings, or tanks.

3.5.4 Trench Backfilling

- a. Backfill as rapidly as construction, testing, and acceptance of work permits. Place and compact trench backfill in 6 inch lifts to top of trench and in 6 inch lifts to one foot over pipe outside structures and paved areas.

3.6 BORROW

- a. Where satisfactory materials are not available in sufficient quantity from required excavations, approved borrow materials shall be obtained as specified herein.

3.7 BURIED WARNING AND IDENTIFICATION TAPE

- a. Provide buried utility lines with utility identification tape. Bury tape 12 inches below finished grade; under pavements and slabs, bury tape 6 inches below top of subgrade.

3.8 BURIED DETECTION WIRE

- a. Bury detection wire directly above non-metallic piping at a distance not to exceed 12 inches above the top of pipe. The wire shall extend continuously and unbroken, from manhole to manhole. The ends of the wire shall terminate inside the manholes at each end of the pipe, with a minimum of 3 feet of wire, coiled, remaining accessible in each manhole. The wire shall remain insulated over its entire length. The wire shall enter manholes between the top

of the corbel and the frame, and extend up through the chimney seal between the frame and the chimney seal. For force mains, the wire shall terminate in the valve pit at the pump station end of the pipe.

3.9 COMPACTION

- a. Determine in-place density of existing subgrade; if required density exists, no compaction of existing subgrade will be required. Density requirements specified herein are for cohesionless materials. When cohesive materials are encountered or used, density requirements may be reduced by 5 percent.

3.9.1 General Site

- a. Compact underneath areas designated for vegetation, seeding, topsoil, general landscaping areas and areas outside the 5 foot line of the paved area or structure to 95 percent of ASTM D 1557.

3.9.2 Utility Trenches

- a. Compact top 12 inches of subgrades, fill, and backfill to 95 percent of ASTM D 1557. Compact aggregate base coarse material to 100 percent of ASTM D 1557.

3.9.3 Adjacent Area

- a. Compact areas within 5 feet of structures to 95 percent of ASTM D 1557.

3.9.4 Paved Areas

- a. Compact top 12 inches of subgrades to 95 percent of ASTM D 1557. Compact fill and backfill materials to 95 percent of ASTM D 1557.

3.10 FINISH OPERATIONS

3.10.1 Grading

- a. Finish grades as indicated within one-tenth of one foot.
- b. Grade areas to drain water away from structures.
- c. Maintain areas free of trash and debris.
- d. For existing grades that will remain but which were disturbed by Contractor's operations, grade as directed.

3.10.2 Protection of Surfaces

- a. Protect newly backfilled, graded, and topsoiled areas from traffic, erosion, and settlements that may occur. Repair or reestablish damaged grades, elevations, or slopes.

3.11 FIELD QUALITY CONTROL

3.11.1 Sampling

- a. Take the number and size of samples required to perform the following tests.

3.11.2 Testing

- a. Perform one of each of the following tests for each material used. Provide additional tests for each source change.

3.11.2.1 Gravel Backfill Material Testing

- a. Test gravel backfill material in accordance with ASTM C 136 for conformance to gradation limits and ASTM D 1140 for material finer than the No. 200 sieve.
- b. ASTM D 698 or ASTM D 1557 for moisture density relations, as applicable.

3.11.2.2 Crushed Stone Testing

- a. Test crushed stone in accordance with ASTM C 136 for conformance to gradation limits.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- a. No separate measurement or payment shall be made for excavation, stockpiling, placement, and compaction of existing on-site material used for filling and backfilling. Include costs under items for which excavation, backfill, and compaction are required.
- b. Contractor shall utilize approved existing excavated material for backfilling as approved by the Engineer. Contractor shall coordinate ordering and delivery of imported fill material with the Engineer. Imported material delivery and measurement for payment shall not be made for material utilized for the Contractor's convenience or not approved by the Engineer.
- c. NORTH WALL GRAVEL BACKFILL ALLOWANCE and SOUTH WALL GRAVEL BACKFILL ALLOWANCE to supplement suitable on-site material shall be measured per cubic yard installed complete.

- d. NORTH WALL CRUSHED STONE and SOUTH WALL CRUSHED STONE Crushed stone shall be measured per cubic yard installed complete.
- e. Excess imported material that is not installed will not be eligible for payment.

4.2 PAYMENT

- a. NORTH WALL GRAVEL BACKFILL ALLOWANCE shall be paid for under Contract Item 312300-1, which price shall include full compensation for furnishing imported fill material to supplement suitable on-site material for filling and backfilling operations as shown on the drawings, as specified herein, and as approved by the Engineer for the north wall repair.
- b. shall be paid for under Contract Item 312300-2, which price shall include full compensation for furnishing crushed stone material to be installed between steel sheet piles as shown on the drawings, as specified herein, and as approved by the Engineer for the north wall repair.
- c. SOUTH WALL GRAVEL BACKFILL ALLOWANCE shall be paid for under Contract Item 312300-3, which price shall include full compensation for furnishing imported fill material to supplement suitable on-site material for filling and backfilling operations as shown on the drawings, as specified herein, and as approved by the Engineer for the south wall repair.
- d. SOUTH WALL CRUSHED STONE shall be paid for under Contract Item 312300-4, which price shall include full compensation for furnishing crushed stone material to be installed between steel sheet piles as shown on the drawings, as specified herein, and as approved by the Engineer for the south wall repair.
- e. Payment Items

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>
312300-1	NORTH WALL GRAVEL BACKFILL ALLOWANCE	CUBIC YARD
312300-2	NORTH WALL CRUSHED STONE	CUBIC YARD
312300-3	SOUTH WALL GRAVEL BACKFILL ALLOWANCE	CUBIC YARD
312300-4	SOUTH WALL CRUSHED STONE	CUBIC YARD

-- End of Section --

SECTION 31 41 16

METAL SHEET PILING **01/2021**

PART 1 GENERAL

Work under this section covers metal steel sheet piling as shown on the drawings and as specified herein.

1.1 REFERENCES

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M Structural Welding Code - Steel

ASTM INTERNATIONAL (ASTM)

ASTM A6/A6M Standard Specification for General Requirements for
Rolled Structural Steel Bars, Plates, Shapes, and Sheet
Piling

ASTM A690/A690M Standard Specification for High-Strength Low-Alloy
Nickel, Copper, Phosphorus Steel H-Piles and Sheet Piling
with Atmospheric Corrosion Resistance for Use in Marine
Environments

1.2 SYSTEM DESCRIPTION

Submit descriptions of pile driving equipment to be employed in the work. Descriptive information includes manufacturer's name, model numbers, capacity, rated energy, hammer details, cushion material, helmet, templates, and jetting equipment.

1.3 SUBMITTALS

Submit the following in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Metal Sheet Piling Shop Drawing
- Pile Driving Data
- Metal Sheet Piling Data and test reports
- Pile Driving Equipment
- Pulling and Redriving Operations Plan

- Delivery, Storage, and Handling
 - Submit delivery, storage, and handling plans for piles at least 30 days prior to delivery of piles to the job site.
- Pile Driving Record

1.4 QUALITY ASSURANCE

1.4.1 Material Certificates

- a. For each shipment, submit certificates identified with specific lots prior to installing piling. Include in the identification data piling type, dimensions, chemical composition, mechanical properties, section properties, heat number, and mill identification mark.

1.5 DELIVERY, STORAGE, AND HANDLING

- a. Materials delivered to the site shall be new and undamaged and shall be accompanied by certified test reports. Provide the manufacturer's logo and mill identification mark on the sheet piling as required by the referenced specifications.
- b. Store and handle sheet piling in the manner recommended by the manufacturer to prevent permanent deflection, distortion or damage to the interlocks; as a minimum, support on level blocks or racks spaced not more than 10 feet apart and not more than 2 feet from the ends. Storage of sheet piling should also facilitate required inspection activities and prevent damage to coatings and corrosion prior to installation.

PART 2 PRODUCTS

2.1 METAL SHEET PILING

- a. Submit detail drawings for sheet piling, including fabricated sections, wales, and tiebacks, showing complete piling dimensions and details, driving sequence and location of installed piling.
 - i. Include in the drawings details of top protection, special reinforcing tips, tip protection, lagging, splices, fabricated additions to plain piles, cut-off method, corrosion protection, and dimensions of templates and other temporary guide structures for installing piling. Provide details of the method for handling piling to prevent permanent deflection, distortion or damage to piling interlocks.
 - ii. Metal sheet piling shall be cold-rolled steel sections conforming to ASTM A690/A690M, Grade 50.

2.1.1 Interlocks

- a. The interlocks of sheet piling shall be free-sliding, provide a swing angle suitable for the intended installation but not less than 10 degrees when interlocked, and maintain continuous interlocking when installed.

2.1.2 General Requirements

- A. Sheet piling shall be full-length sections of the dimensions shown. Provide sheet piling with standard pulling holes. Metalwork fabrication for sheet piling shall be as specified and in Section 05 12 00 STRUCTURAL STEEL and 05 05 23 WELDING, STRUCTURAL.

COLD-ROLLED STEEL SECTIONS								
Section	Nominal Web Thick's (inch)	Nominal Width (inch)	Elastic Section Modulus per Linear Foot of Wall (cu in)	Weight per Sq Foot of Wall (lbs)	Weight per Linear Foot of Piling (lbs)	Minimum Interlocked Joint Strength in Tension (lbs per linear inch)		
						GR 50, A572	GR 50, A690	GR60, A572
SKZ-20 (OR APPROVED EQUAL)	0.315	28.5	31.69	20.31	48.24		10,000	

2.2 APPURTENANT METAL MATERIALS

- A. Provide metal plates, shapes, bolts, nuts, rivets and other appurtenant fabrication and installation materials conforming to manufacturer's standards and to the requirements specified in the respective sheet piling standards and in Section 05 12 00 STRUCTURAL STEEL.

2.3 TESTS, INSPECTIONS, AND VERIFICATIONS

- a. Requirements for material tests, workmanship and other measures for quality assurance shall be as specified and in Section 05 12 00 STRUCTURAL STEEL and 05 05 23 WELDING, STRUCTURAL

2.3.1 Materials Tests

- a. Submit certified materials tests reports showing that sheet piling and appurtenant metal materials meet the specified requirements, for each shipment and identified with specific lots

prior to installing materials. Material test reports shall meet the requirements of ASTM A6/A6M.

- b. Perform materials tests conforming to the following requirements.
 - i. Sheet piling and appurtenant materials shall be tested and certified by the manufacturer to meet the specified chemical, mechanical and section property requirements prior to delivery to the site.
 - ii. Testing of sheet piling for mechanical properties shall be performed after the completion of all rolling and forming operations.
 - iii. Testing of sheet piling shall meet the requirements of ASTM A6/A6M.

2.4 COATINGS

- a. Coating of steel sheet pile, tiebacks, and associated hardware and miscellaneous steel shall be in accordance with 09 97 13 EPOXY COATING.

PART 3 EXECUTION

3.1 EARTHWORK

- a. Perform in accordance with Section 31 23 00.00 20 EXCAVATION AND FILL. Backfill as indicated.

3.2 INSTALLATION

3.2.1 Pile Driving Equipment

- a. Submit complete descriptions of sheet piling driving equipment including hammers, jetting equipment, extractors, protection caps and other installation appurtenances, prior to commencement of work. Provide pile driving equipment conforming to the following requirements.

3.2.1.1 Driving Hammers

- a. Hammers shall be steam, air, or diesel drop, single-acting, double-acting, differential-acting, or vibrator type.
- b. The Contractor is responsible for providing a hammer capable of driving sheet piles to the indicated tip elevation as recommended by the manufacturer for the piling weights and subsurface materials to be encountered. The Engineer may require a change in the hammer used if installation is not achieving proper depth at no additional cost to the Owner.

- c. Repair damage to piling caused by use of a pile hammer with excess delivered force or energy.

3.2.1.2 Jetting Equipment

- a. No jetting will be permitted, except as required to remove obstructions. Any jetting shall be approved by the Engineer.

3.2.2 Placing and Driving

3.2.2.1 Placing

- a. Any excavation required within the area where sheet pilings are to be installed shall be completed prior to placing sheet pilings. Pilings properly placed and driven shall be interlocked throughout their length with adjacent pilings to form a continuous diaphragm throughout the length or run of piling wall.
 - i. Pilings shall be carefully located as shown. Pilings shall be placed plumb with out-of-plumbness not exceeding 1/8 inch per foot of length and true to line. Place the pile so the face will not be more than 5 inches from vertical alignment at any point. Top of pile at elevation of cut-off shall be within 1/2 inch horizontally and 1 inch vertically of the location indicated. Manipulation of piles to force them into position will not be permitted. Check all piles for heave. Redrive all heaved piles to the required tip elevation.
 - ii. Provide temporary wales, templates, or guide structures to ensure that the pilings are placed and driven to the correct alignment. Use a system of structural framing sufficiently rigid to resist lateral and driving forces and to adequately support the sheet piling until design tip elevation is achieved. Use two templates, at least, when placing each piling not less than 20 feet apart. Templates shall not move when supporting sheet piling. Fit templates with wood blocking to bear against the web of each alternate sheet pile and hold the sheet pile at the design location alignment. Provide outer template straps or other restraints as necessary to prevent the sheets from warping or wandering from the alignment. Mark template for the location of the leading edge of each alternate sheet pile. If in view, also mark the second level to assure that the piles are vertical and in position. If two guide marks cannot be seen, other means shall be used to keep the sheet pile vertical along its leading edge.

3.2.2.2 Driving

- a. Submit records of the completed sheet piling driving operations, including a system of identification which shows the disposition of approved piling in the work, driving equipment performance data, piling penetration rate data, piling dimensions and top and bottom elevations of installed piling. Prior to driving pilings in water, paint a horizontal line on both sides of each piling at a fixed distance from the bottom so that it will be visible above the water line after installation. This line shall indicate the profile of the bottom elevation of

installed pilings and potential problem areas can be identified by abrupt changes in its elevation. Drive pilings with the proper size hammer and by approved methods so as not to subject the pilings to damage and to ensure proper interlocking throughout their lengths.

- i. Maintain driving hammers in proper alignment during driving operations by use of leads or guides attached to the hammer.
- ii. Employ a protecting cap in driving when using impact hammers to prevent damage to the tops of pilings. Use cast steel shoe to prevent damage to the tip of the sheet piling. Remove and replace pilings damaged during driving or driven out of interlock at the Contractor's expense.
- iii. Drive pilings without the aid of a water jet unless otherwise authorized. Perform authorized jetting on both sides of the pilings simultaneously; discontinue it when the pile tip is approximately 5 feet above the indicated pile tip elevation and make the final 5 feet of penetration by driving. Before commencing the driving of the final 5 feet, firmly seat the pile in place by the application of a number of reduced energy hammer blows.
- iv. If at any time the forward or leading edge of the piling wall is found to be out-of-plumb in the plane of the wall the piling being driven shall be driven to the required depth and tapered pilings shall be provided and driven to interlock with the out-of-plumb leading edge or other approved corrective measures shall be taken to insure the plumbness of succeeding pilings. The maximum permissible taper for any tapered piling shall be 1/8 inch per foot of length.
- v. Pilings in each run or continuous length of piling wall shall be driven alternately in increments of depth to the required depth or elevation. No piling shall be driven to a lower elevation than those behind it in the same run except when the pilings behind it cannot be driven deeper. Incrementally sequence driving of individual piles such that the tip of any sheet pile shall not be more than 4 feet below that of any adjacent sheet pile. When the penetration resistance exceeds five blows per inch, the tip of any sheet pile shall not be more than 2 feet below any adjacent sheet pile. If the piling next to the one being driven tends to follow below final elevation it may be pinned to the next adjacent piling.
- vi. If obstructions restrict driving a piling to the specified penetration, the obstructions shall be removed or penetrated with a chisel beam. If the Contractor demonstrates that removal or penetration is impractical, make changes in the design alignment of the piling structure as directed to ensure the adequacy and stability of the structure. Pilings shall be driven to depths shown and shall extend up to the elevation indicated for the top of pilings. Pilings shall not be driven within 50 feet of concrete less than 72 hours old.

3.2.3 Cutting-Off and Splicing

- a. Pilings driven to refusal or to the point where additional penetration cannot be attained and are extending above the required top elevation in excess of the specified tolerance shall be cut off to the required elevation. Pilings driven below the required top elevation and pilings

damaged by driving and cut off to permit further driving shall be extended as required to reach the top elevation by splicing when directed at no additional cost to the Owner. If directed, pilings shall be spliced as required to drive them to depths greater than shown and extend them up to the required top elevation.

- a. Pilings adjoining spliced pilings shall be full length unless otherwise approved. Splicing of pilings shall be as indicated. Ends of pilings to be spliced shall be squared before splicing to eliminate dips or camber. Pilings shall be spliced together with concentric alignment of the interlocks so that there are no discontinuities, dips or camber at the abutting interlocks. Spliced pilings shall be free sliding and able to obtain the maximum swing with contiguous pilings. Welding of splices shall conform to the requirements of Section 05 12 00 STRUCTURAL STEEL and 05 05 23 WELDING, STRUCTURAL. Shop and field welding, qualification of welding procedures, welders, and welding operators shall be in accordance with AWS D1.1/D1.1M.
- b. The tops of pilings excessively battered during driving shall be trimmed when directed, at no cost to the Owner. Piling cut-offs shall become the property of the Contractor and shall be removed from the site.
- c. Cut holes in pilings for bolts, rods, drains or utilities in a neat and workmanlike manner, as shown or as directed. Use a straight edge in cuts made by burning to avoid abrupt nicks. Bolt holes in steel piling shall be drilled or may be burned and reamed by approved methods which will not damage the surrounding metal. Holes other than bolt holes shall be reasonably smooth and the proper size for rods and other items to be inserted. Do not use explosives for cutting. Holes shall be field coated with epoxy paint.

3.2.4 Inspection of Driven Piling

- a. Perform continuous inspection during pile driving. Inspect all piles for compliance with tolerance requirements. Bring any unusual problems which may occur to the attention of the Engineer. Inspect the interlocked joints of driven pilings extending above ground. Pilings found to be out of interlock shall be removed and replaced at the Contractor's expense.

3.2.5 Pulling and Redriving

- a. Submit the proposed method of pulling sheet piling, prior to pulling any piling. Pull, as directed, selected pilings after driving to determine the condition of the underground portions of pilings. Any piling so pulled and found to be damaged, to the extent that its usefulness in the structure is impaired, shall be removed and replaced at the Contractor's expense. Pilings pulled and found to be in satisfactory condition shall be redriven when directed.

3.3 REMOVAL

- a. The removal of sheet pilings shall consist of pulling, sorting, cleaning the interlocks, inventorying and storing previously installed sheet pilings as shown and directed.

3.3.1 Pulling

- a. The method of pulling piling shall be approved. Provide pulling holes in pilings, as required. Extractors shall be of suitable type and size. Care shall be exercised during pulling of pilings to avoid damaging piling interlocks and adjacent construction. If the Engineer determines that adjacent permanent construction has been damaged during pulling, the Contractor will be required to repair this construction at no cost to the Owner. Pull pilings one sheet at a time. Pilings fused together shall be separated prior to pulling, unless the Contractor demonstrates, to the satisfaction of the Engineer, that the pilings cannot be separated. The Contractor will not be paid for the removal of pilings damaged beyond structural use due to proper care not being exercised during pulling.

3.3.2 Sorting, Cleaning, Inventorying and Storing

- a. Pulled pilings shall be sorted, cleaned, inventoried and stored by type into groups as:
 - i. Piling usable without reconditioning.
 - ii. Piling requiring reconditioning.
 - iii. Piling damaged beyond structural use.

3.4 INSTALLATION RECORDS

- a. Maintain a pile driving record for each sheet pile driven. Indicate on the installation record: installation dates and times, type and size of hammer, rate of operation, total driving time, dimensions of driving helmet and cap used, blows required per foot for each foot of penetration (or time required per each 5-feet of penetration for vibratory hammers), final driving resistance in blows for final 6 inches, pile locations, tip elevations, ground elevations, cut-off elevations, and any reheading or cutting of piles. Record any unusual pile driving problems during driving. Submit complete records to the Engineer and Owner.

3.5 COATING REPAIR

- a. Repair of damaged coating shall be in accordance with 09 97 13 EPOXY COATING.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- a. NORTH WALL SHEET PILE REPAIR shall be measured per lump sum installed in place to the lines and elevations as shown on the drawings, as specified herein, and as measured by the Engineer.
- b. SOUTH WALL SHEET PILE REPAIR shall be measured per lump sum installed in place to the lines and elevations as shown on the drawings, as specified herein, and as measured by the Engineer.
- c. No separate measurement shall be made for excavation, pile spudding, stockpiling, relocation of obstructions to facilitate pile driving operations, cutoff lengths, or for overdriving that is not approved by the Engineer.

4.2 PAYMENT

- a. NORTH WALL SHEET PILE REPAIR shall be paid for under Contract Item 314116-1 as lump sum, which price shall include the installation of steel sheet piling, steel wale, tieback extensions, corner ties, fastenings, steel cap, connections to adjacent bulkheads, survey, falsework, closures, and all other material, equipment, labor, and incidental or appurtenant work required to install the steel sheet piles as shown on the drawings and as specified herein.
- b. SOUTH WALL SHEET PILE REPAIR shall be paid for under Contract item 314116-2 as lump sum, which price shall include the installation of steel sheet piling, steel wale, tieback extensions, fastenings, connections to adjacent bulkheads, survey, falsework, closures, steel cap, concrete cap, steel float guides, and all other material, equipment, labor, and incidental or appurtenant work required to install and repair the steel sheet piles as shown on the drawings and as specified herein.
- c. Payment Items

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>
314116-1	NORTH WALL SHEET PILE REPAIRS	LUMP SUM
314116-2	SOUTH WALL SHEET PILE REPAIRS	LUMP SUM

-- End of Section --

SECTION 31 62 16

STEEL PIPE PILES

01/2021

PART 1 GENERAL

Work under this section covers steel pipe piles as required for the Mooring Bollards. When hardware is specified in another section that differs from this section, that section shall govern.

1.1 REFERENCES

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM A 252 Welded and Seamless Steel Pipe Piles

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1/D1.1M Structural Welding Code - Steel

1.2 SUBMITTALS

The following shall be submitted in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Pile Placement Plan
- Steel Pipe Pile Product Data
- Pile Driving Equipment
 - Submit descriptions of pile driving equipment at least 30 days prior to commencement of work. This shall include details of the vibratory and impact pile hammers, power plant, leads, pile cushion, cap block, and helmet.
- Delivery, Storage, And Handling
- Pile Installation Records
 - Sizes, lengths, and locations of piles.
 - Final tip and head elevations.

1.3 DELIVERY, STORAGE, AND HANDLING

- a. Delivery, storage, and handling of materials shall conform to the requirements specified herein. Plans for the delivery, storage, and handling of piles shall be developed and submitted in accordance with paragraph "Submittals."

1.3.1 Delivery and Storage

- a. Piles shall be stacked during delivery and storage so that each pile is maintained in a straight position and is supported every 10 feet or less along its length (ends inclusive) to prevent exceeding the maximum camber or sweep. Piles shall not be stacked more than 5 feet high.

1.3.2 Handling

- a. Piles shall be lifted using a cradle or multiple points pick-up to ensure that the maximum permissible camber is not exceeded due to insufficient support, except that a one-point pick-up may be used for lifting piles that are not extremely long. Point pick-up devices shall be approved. Holes may be burned in the pile above the cutoff length for lifting. Piles shall not be dragged across the ground. The Contractor shall inspect piles for excessive camber and for damage before transporting them from the storage area and immediately prior to placement. Camber shall be measured at the mid-length of the pile. The maximum permissible camber shall be 2 inches over the length of the pile. Piles having excessive camber will be rejected.

1.4 QUALIFICATIONS

- a. The work shall be performed by a general contractor or a specialty subcontractor specializing in the specified foundation system and having experience installing the specified foundation system under similar subsurface conditions.

1.5 PILE DRIVING EQUIPMENT

1.5.1 Pile Hammers

- a. The hammer used shall have a delivered energy suitable for the total weight of the pile, the character of subsurface material to be encountered, and the pile capacity to be developed.

1.5.2 Driving Helmets and Pile Cushions

- a. A driving helmet, cap block, and pile cushion shall be used between the top of the pile and the ram to prevent impact damage to the pile. The driving helmet, cap block and pile cushion combination shall be capable of protecting the head of the pile, minimizing energy absorption and dissipation, and transmitting hammer energy uniformly over the top of the pile. The driving helmet shall fit loosely around the top of the pile so that the pile is not restrained if the pile tends to rotate during driving. The pile cushion and cap block may be of solid wood or of laminated construction using plywood, softwood, or hardwood boards or other cushion material as approved by the Engineer. The pile cushion shall completely cover the top surface of the pile and shall be retained by the driving helmet. The minimum thickness of the pile cushion and of the cap block shall be 3 inches each and the thickness shall be increased so as to be suitable for the size and length of pile, character of subsurface material encountered, hammer characteristics, and required driving resistance.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Steel Pipe Piles

- a. Minimum 45 ksi yield strength, conforming to the requirements of the ASTM A 252, Grade 3, seamless or straight seam. Spiral welded pipe is not permitted.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Inspection

- a. Inspect piles when delivered and immediately before installing.

3.1.2 Pile Installation Records

- a. Develop a form for compiling pile installation records as approved.

3.1.3 Driving Piles

3.1.3.1 Pile Placement

- a. Submit pile placement plan prior to driving indicating locations of piles to be driven. General locations are shown on the contract drawings.

3.1.3.2 Driving Procedure

- a. Piles shall be driven without interruption to the "calculated" tip elevation. Diesel powered hammers shall be operated at the rate recommended by the manufacturer throughout the entire driving period. Sufficient pressure shall be maintained at the steam hammer so that:
 - i. For a double-acting hammer, the number of blows per minute during and at the completion of driving of a pile is equal approximately to that at which the hammer is rated.
 - ii. For a single-acting hammer, there is a full upward stroke of the ram.
 - iii. For a differential-type hammer, there is a slight rise of the hammer base during each upward stroke.
- b. A new pile cushion shall be used at the start of driving for each pile and the cushion shall be replaced whenever it has become highly compressed, charred, burned, or deteriorated in any manner during driving.

3.1.3.3 Tolerance in Driving

- a. Piles shall be driven with a variation of not more than 0.25 inch per foot of pile length from the vertical. Butts shall be within 6 inches of the location indicated.

3.1.3.4 Jetting of Pipe Piles

- a. Jetting of steel pipe piles will not be permitted.

3.1.4 Welding

- a. Shop and field welding, qualification of welders, and inspection of welds shall be in accordance with AWS D1.1/D1.1M.

3.1.5 Splicing

- a. Pile splices are not permitted, unless approved by the Engineer.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- a. MOORING BOLLARDS shall be measured per lump sum installed in place to the lines and elevations as shown on the drawings, as specified herein, and as measured by the Engineer.
- b. SAFETY BOLLARDS shall be measured per lump sum installed in place to the lines and elevations as shown on the drawings, as specified herein, and as measured by the Engineer.

4.2 PAYMENT

- a. MOORING BOLLARDS shall be paid for under Contract Item 316116-1 which price shall include the installation of steel mooring bollards including concrete fill and all other material, equipment, labor, and incidental or appurtenant work required to install the mooring bollards and shown on the drawings and as indicated herein.
- b. SAFETY BOLLARDS shall be paid for under Contract Item 316166-2 which price shall include the installation of steel safety bollards including coating and all other material, equipment, labor, and incidental work required to install the safety bollards as shown on the drawings and as specified herein.

c. Payment Items

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>
316116-1	MOORING BOLLARDS	LUMP SUM
316116-2	SAFETY BOLLARDS	LUMP SUM

-- End of Section --

SECTION 31 62 19

TIMBER PILES **01/2021**

PART 1 GENERAL

1.1 REFERENCES

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WOOD PROTECTION ASSOCIATION (AWPA)

AWPA A2	Standard Methods for Analysis of Waterborne Preservatives and Fire-Retardant Formulations
AWPA M1	Standard for the Purchase of Treated Wood Products
AWPA M2	Standard for Inspection of Treated Wood Products
AWPA M3	Standard Quality Control Procedures for Wood Preserving Plants
AWPA M4	Standard for the Care of Preservative-Treated Wood Products
AWPA M6	Brands Used on Preservative Treated Materials
AWPA P5	Standard for Waterborne Preservatives
AWPA T1	Use Category System: Processing and Treatment Standard
AWPA U1	Use Category System: User Specification for Treated Wood

ASTM INTERNATIONAL (ASTM)

ASTM D25	Round Timber Piles
----------	--------------------

1.2 SUBMITTALS

Submit the following in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Installation Drawings
- Driving equipment
- Cap or Cushion Block
- Timber pile certificates
- Pile driving records

1.3 QUALITY ASSURANCE

- a. The producer must brand each treated pile, in accordance with AWP A M1, AWP A M2, AWP A M6, AWP A T1 and AWP A U1. Submit the inspection report of an independent inspection agency, approved by the Engineer, stating that offered products comply with applicable AWP A Standards, and that the plant conforms to AWP A M3.

1.4 PLANT INSPECTION

- a. The Owner, at its discretion, reserves the right to inspect the treating process. Notify the Engineer at least 3 weeks prior to beginning the treatment, stating where preservative treatment will be done. Allow Engineer or Owner access to all parts of the plant. Allow inspection of all facets of the treating process.

1.5 SUBSURFACE DATA AND INSTALLATION DRAWINGS

- a. Subsurface soil data logs are provided as an Appendix to these Specifications.
- b. Drawings must indicate pile locations with GPS coordinates, and be fully coordinated with the pile driving record as work progresses. Final Record Drawings must be submitted to the Engineer 15 calendar days prior to project closeout.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Piles

- a. Provide pressure treated southern pine clean-peeled piles conforming to ASTM D25 Class B.
- b. Minimum butt circumference measured at 3 feet from the butt must be 38 inches.
- c. Piles must be in one piece. Splicing is not permitted.

2.1.2 Preservative Treatment

- a. Provide piles conforming to ASTM D25 and treated in accordance with AWP A A2 and AWP A P5 for saltwater (Category UC5A), confirmed by the report of an approved independent inspection agency.

2.1.3 Capblocks

- a. Provide capblocks used between the cap and the hammer ram made of solid hardwood with grain parallel to the pile axis and enclosed in a close fitting housing of steel.
- b. If the capblock is other than that specified above, submit to the Engineer at least two weeks prior to the commencement of test pile driving, detailed drawings and records of previous successful use.
- c. Replacement of a wood capblock during the final driving of any pile is not allowed. The use of small wood blocks, wood chips, rope, or any other material permitting excessive loss of hammer energy is not permitted.

PART 3 EXECUTION

3.1 EXAMINATION

- a. Examine piles when delivered and when in the leads immediately before driving.

3.2 PREPARATION

- a. Where the protective shell of treated wood is impaired at a point which after installation will be not less than 10 feet below the ground, make repairs in accordance with AWPA M4 unless the pile is damaged to such extent that it is rejected.

3.3 INSTALLATION

- a. Cut piles a minimum of 3 feet from the top at cut-off grade with pneumatic tools, sawing, or other approved method. Size bolt holes to ensure a driving fit.

3.3.1 Driving Piles

- a. Drive without interruption to the indicated tip elevation. If a pile fails to reach the indicated pile tip elevation, notify the Engineer who will determine the procedure to be followed.

3.3.2 Driving Equipment

- a. Select and use a pile hammer of sufficient weight and energy to suitably install the specified pile without damage into the soils expected to be encountered. Place driving helmet or a cap and cushion block combination capable of protecting the head of the pile between the top of the pile and the ram to prevent impact damage to the pile. If block is damaged, split, highly compressed, charred or burned or has become spongy or deteriorated in any manner, replace with a new block. The helmet or block must uniformly transmit energy to the pile and minimum loss of energy.

3.4 JETTING OF PILES

- a. No jetting will be permitted, except as required to remove obstructions. Any jetting shall be approved by the Engineer.

3.5 TREATMENT

- a. Treat cut, bored, dappled, and damaged surfaces as specified in AWWA M4.

3.6 TOLERANCES IN DRIVING

- a. A variation of not more than 0.25 inch per foot of pile length from the vertical for plumb piles or more than 0.50 inch per foot of pile length from the required angle for batter piles is permitted. The center of butts must be within 3 inches of the location indicated. Manipulation of piles is not permitted. Any redesign of supported elements or additional work required due to improper location of piles is the responsibility of the Contractor and must be approved by the Engineer. Re-drive heaved piles to the required tip elevation. Remove and replace with new piles those damaged, mislocated, or driven out of alignment or provide additional piles, driven as directed.

3.7 PILE DRIVING RECORDS

- a. Keep a complete and accurate record of each pile driven. Indicate the pile location, butt diameter, original length, ground elevation, tip elevation, cutoff elevation, penetration in blows per foot for the entire length of penetration for test piles, penetration in blows per foot for the last 10 feet for job piles, hammer data including make and size, and any unusual pile behavior or circumstances experienced during driving such as re-driving, heaving, weaving, obstructions, jetting, spudding, and unanticipated interruptions which may occur. The following log is a preprinted form for recording pile driving data.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- a. DOLPHIN CLUSTERS shall be measured per lump sum installed in place to the lines and elevations as shown on the drawings, as specified herein, and as measured by the Engineer.
- b. No separate measurement or payment shall be made for excavation, pile spudding, stockpiling, relocation of obstructions to facilitate pile driving operations, or for overdriving that is not approved by the Engineer.
- c. No separate measurement or payment shall be made for timber piles for the timber fender system. Include costs for new timber fender piles under Contract Item 061333-1.

4.2 PAYMENT

- a. DOLPHINC CLUSTERS shall be paid for under Contract Item 316219-1, which price shall include the installation of timber piles, hardware, fastenings, and all other material, equipment, labor, and incidental or appurtenant work required to install the timber dolphin clusters as shown on the drawings and as specified herein.
- b. Payment Items

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>
316219-1	DOLPHIN CLUSTERS	LUMP SUM

-- End of Section --

SECTION 32 12 17

HOT MIX BITUMINOUS PAVEMENT

04/08

PART 1 GENERAL

- a. Unless otherwise modified in these Specifications or the drawings; all work, materials, submittals, and certifications shall conform to the requirements of the pertinent NHDOT Standard Specifications for Road and Bridge Construction (latest edition), herein referred to as "Standard Specifications". Any materials required for the completion of all work and not addressed in these specifications, drawings, or Standard Specifications shall be in accordance with best industry standards and practices.
- b. Where applicable, all materials shall be selected from the NHDOT Qualified Products List (latest edition) unless specifically noted on the contract drawings or specifications.

1.1 REFERENCES

The publications (latest edition) listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

**AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
(AASHTO)**

AASHTO M 156	Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
--------------	---

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION (NHDOT)

NHDOT	NHDOT Standard Specifications for Road and Bridge Construction
-------	---

1.2 SUBMITTALS

The following shall be submitted in accordance with Section 01 00 00, subsection SUBMITTAL PROCEDURES:

- Job-mix formula
- Test reports for hot mix asphalt in accordance with Section 401 and 403 of the Standard Specifications.

1.3 QUALITY ASSURANCE

1.3.1 Guarantee

- a. All pavement furnished under this section shall carry a 1-year guarantee against loss of design grades and slopes due to settling. This includes depressions that result from settling for any reason, including but not limited to defective or improper material, equipment, workmanship and compaction. Contractor shall add like material, in accordance with these specifications and as required to fill depressions and/or restore design cross slopes. This work shall be by and at the expense of the Contractor, including repairs to all other damage done to areas, materials, and other systems resulting from this failure or correction thereof.

1.4 DELIVERY, STORAGE, AND HANDLING

- a. Inspect materials delivered to the site for damage and store with a minimum of handling. Store aggregates in such a manner as to prevent segregation, contamination, or intermixing of the different aggregate sizes.

1.5 ENVIRONMENTAL CONDITIONS

- a. Place bituminous mixture only during dry weather and on dry surfaces. Place courses only when the surface temperature of the underlying course is greater than 45 degrees F for course thicknesses greater than one inch and 55 degrees F for course thicknesses one inch or less.

PART 2 PRODUCTS

2.1 HOT MIX ASPHALT

- a. Hot-mix asphalt for the surface and intermediate pavement course shall conform to the relevant provisions of Sections 401 and 403 of the Standard Specifications unless otherwise amended by these specifications or contract drawings.
- b. Asphalt mixes shall meet the following requirements:
 - i. 2-inch binder course: 3/4" nominal gradation binder mix, PG 64-28 binder
 - ii. 1.5-inch wearing course: 3/8" nominal gradation wearing mix, PG 64-28 binder

2.2 CRUSHED GRAVEL

- a. Materials under this item shall conform to the relevant provisions of Section 304 of the Standard Specifications unless otherwise amended by these specifications or the contract drawings.

PART 3 EXECUTION

3.1 GENERAL

- a. Subbase material shall be prepared in accordance with Section 31 23 00.00 20 EXCAVATION AND FILL.
- b. Equipment used to perform the work under this Section shall be of suitable size and capacity for the work involved.

3.2 HOT MIX ASPHALT PAVING

- a. This work shall consist of the construction of hot mix asphalt pavement to the lines, grades and dimensions as shown on the Contract Drawings or as directed by the Engineer.
- b. Work under this item shall conform to the relevant provisions of Section 403 of the Standard Specifications unless otherwise amended by these Technical Specifications or the Contract Drawings.
- c. Paving work shall not begin until the prepared subbase has been inspected and approved by the Engineer. Deficient subbase areas shall be corrected and brought to the required line, grade and compaction levels as necessary before placing the base and/or intermediate pavement courses. Subbase material shall be prepared in accordance with this Section and Section 31 23 00.00 20 EXCAVATION AND FILL.
- d. Hot mix asphalt courses shall be placed as shown on the Contract Drawings. After first strip has been placed and rolled, the Contractor shall place succeeding strips and extend rolling to overlap previous strips.
- e. No vehicular traffic or loads shall be permitted on each newly completed pavement layer until adequate stability has been attained and the internal mat temperature of the pavement reaches 130 degrees Fahrenheit.
- f. The edges of existing pavement to remain shall be sawcut.
- g. The tickets delivered with each load shall be signed by a certified weigher that clearly show the total, tare and net weights. These slips shall be provided to the Engineer.
- h. Paving shall not begin until the surface temperature is reading 40 degrees and rising.
- i. At the completion of the paving work, secure the site as needed to restrict vehicular traffic until the pavement has a full seven days to cure. Damage to the pavement resulting from the Contractor's activities shall be repaired to the satisfaction of the Engineer at no additional expense to the Owner.

3.3 FINE GRADING

- a. The shaping, trimming, compacting and finishing of the surface of the subbase and base coarse shall conform to the relevant provisions of Section 214 of the Standard Specifications. When fine grading to specific slopes indicated on the plans prior to paving, the slope tolerance will be +/- 0.2% from those shown on the plans. The Contractor at no expense to the Owner shall regrade depressions or low points that occur due to natural settling or any reason for the duration of construction.
- b. Sand, gravel, and crushed gravel for use as pavement base/subbase shall be compacted in accordance with Section 304 of the Standard Specifications.

3.4 FIELD QUALITY CONTROL

- a. The Contractor shall test in-place asphalt for compliance with tolerance requirements. The testing shall be supervised and inspected by the Engineer for review and approval.
- b. The Contractor shall conduct compaction testing of the base material in accordance with the applicable provisions of the Standard Specifications. The testing results shall be provided to the Engineer for review and approval. If any portions are found to be unacceptable by the Engineer, such portions shall be reprocessed, regraded and recompacted until the required smoothness and accuracy are obtained, at no additional cost to the Owner.
- c. Guarantee: During the one year guarantee period, the Contractor shall maintain all paving and shall promptly fill with similar material in compliance with the above specifications, any depressions and holes that may occur for any reason so as to keep the surfacing in a safe and satisfactory condition for traffic, and to ensure positive drainage.
- d. Any pavement markings impacted by pavement repairs shall be redone at the Contractor's expense and shall be coordinated with the Owner.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- a. HMA PAVEMENT shall be measured per square yard complete, as measured by the Engineer.

4.2 PAYMENT

- a. NORTH WALL HMA PAVEMENT shall be paid for under Contract Item 321217-1, which price shall include full compensation for grading, survey, pavement base, wearing coarse, finish coarse, pavement markings, and all other material, equipment, labor, and incidental or appurtenant work as required and as specified herein for the north wall repair work.
- b. SOUTH WALL HMA PAVEMENT shall be paid for under Contract Item 321217-2, which price shall include full compensation for grading, survey, pavement base, wearing coarse, finish coarse, pavement markings, and all other material, equipment, labor, and incidental or appurtenant work as required and as specified herein for the south wall repair work.
- c. Payment Items

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT PRICE</u>
321217-1	NORTH WALL HMA PAVEMENT	SQUARE YARD
321217-2	SOUTH WALL HMA PAVEMENT	SQUARE YARD

-- End of Section --

APPENDIX A

SEABROOK SEAWALL REPAIR SEABROOK, NH

Geotechnical Boring Logs



Notes:

1. Test borings were performed on July 7, 2020 under the direction of JTC.
2. Test boring locations should be considered approximate.
3. Refer to the Test Boring Logs for the subsurface conditions encountered at each boring location.
4. Not to scale.

Collins Engineers, Inc.
650 Islington Street, Suite 1
Portsmouth, New Hampshire 03801

Seawall Repair
Ocean Boulevard
Seabrook, New Hampshire



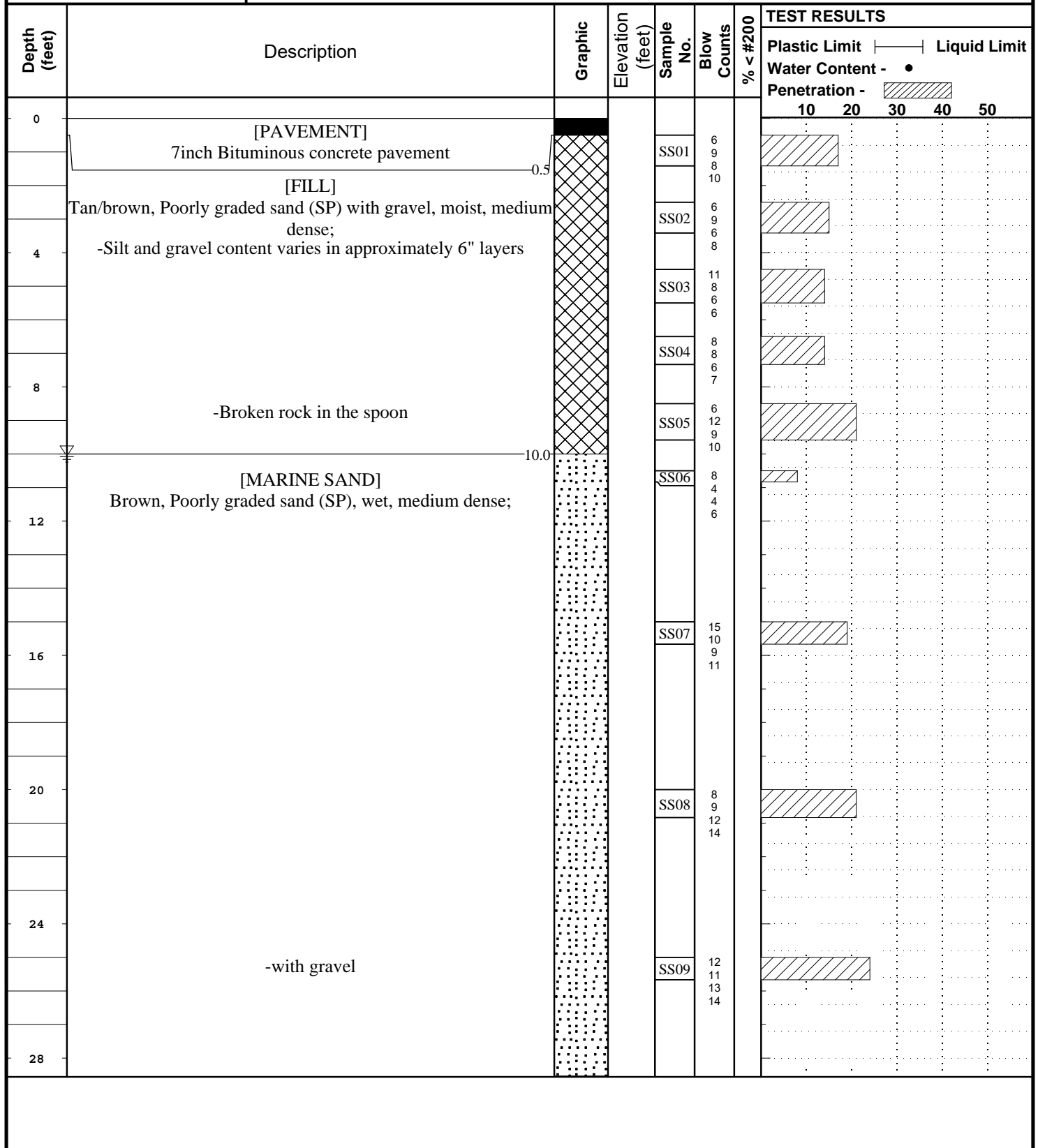
TEST BORING LOCATION PLAN



LOG OF BORING No. B-1

PROJECT: Seawall Repair **PROJECT NO.:** 20-04-063
CLIENT: Collins Engineers, Inc.
PROJECT LOCATION: Seabrook, NH
LOCATION: See Test Boring Location Plan **ELEVATION:**
DRILLER: Soil Exploration Corp **LOGGED BY:** MC
DRILLING METHOD: Rotary Wash **DATE:** 7/7/2020
DEPTH TO - WATER> INITIAL: 10 feet **AFTER 24 HOURS:** NA

This information pertains only to this boring and should not be interpreted as being indicative of the site.


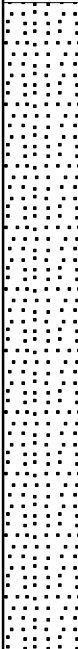

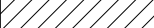
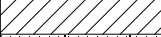




LOG OF BORING No. B-1

PROJECT: Seawall Repair **PROJECT NO.:** 20-04-063
CLIENT: Collins Engineers, Inc.
PROJECT LOCATION: Seabrook, NH
LOCATION: See Test Boring Location Plan **ELEVATION:** _____
DRILLER: Soil Exploration Corp **LOGGED BY:** MC
DRILLING METHOD: Rotary Wash **DATE:** 7/7/2020
DEPTH TO - WATER> INITIAL: 10 feet **AFTER 24 HOURS:** NA

This information pertains only to this boring and should not be interpreted as being indicative of the site.

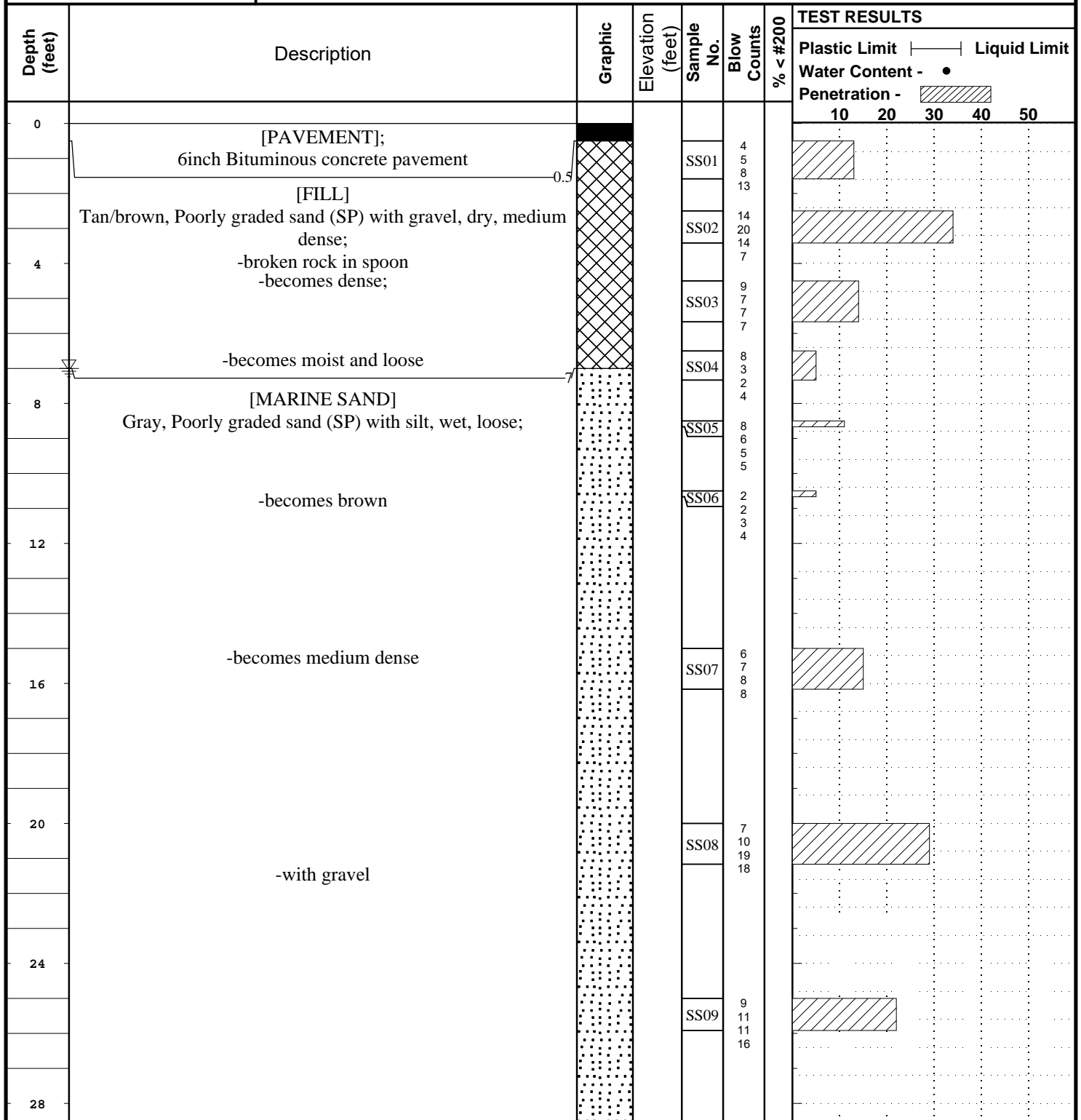
Depth (feet)	Description	Graphic	Elevation (feet)	Sample No.	Blow Counts	% < #200	TEST RESULTS
							Plastic Limit —— Liquid Limit Water Content - ● Penetration - 
							10 20 30 40 50
32	-becomes gray and finer graded			SS10	13 16 17 19		
36				SS11	10 11 13 14		
40				SS12	9 10 15 22		
44	Boring terminated at 42 ft.						
48							
52							
56							



LOG OF BORING No. B-2

PROJECT: Seawall Repair **PROJECT NO.:** 20-04-063
CLIENT: Collins Engineers, Inc.
PROJECT LOCATION: Seabrook, NH
LOCATION: See Test Boring Location Plan **ELEVATION:**
DRILLER: Soil Exploration Corp **LOGGED BY:** MC
DRILLING METHOD: Rotary Wash **DATE:** 7/6/2020
DEPTH TO - WATER> INITIAL: 7 feet **AFTER 24 HOURS:** NA

This information pertains only to this boring and should not be interpreted as being indicative of the site.





LOG OF BORING No. B-2

PROJECT: Seawall Repair **PROJECT NO.:** 20-04-063
CLIENT: Collins Engineers, Inc.
PROJECT LOCATION: Seabrook, NH
LOCATION: See Test Boring Location Plan **ELEVATION:** _____
DRILLER: Soil Exploration Corp **LOGGED BY:** MC
DRILLING METHOD: Rotary Wash **DATE:** 7/6/2020
DEPTH TO - WATER> INITIAL: 7 feet **AFTER 24 HOURS:** NA

This information pertains only to this boring and should not be interpreted as being indicative of the site.

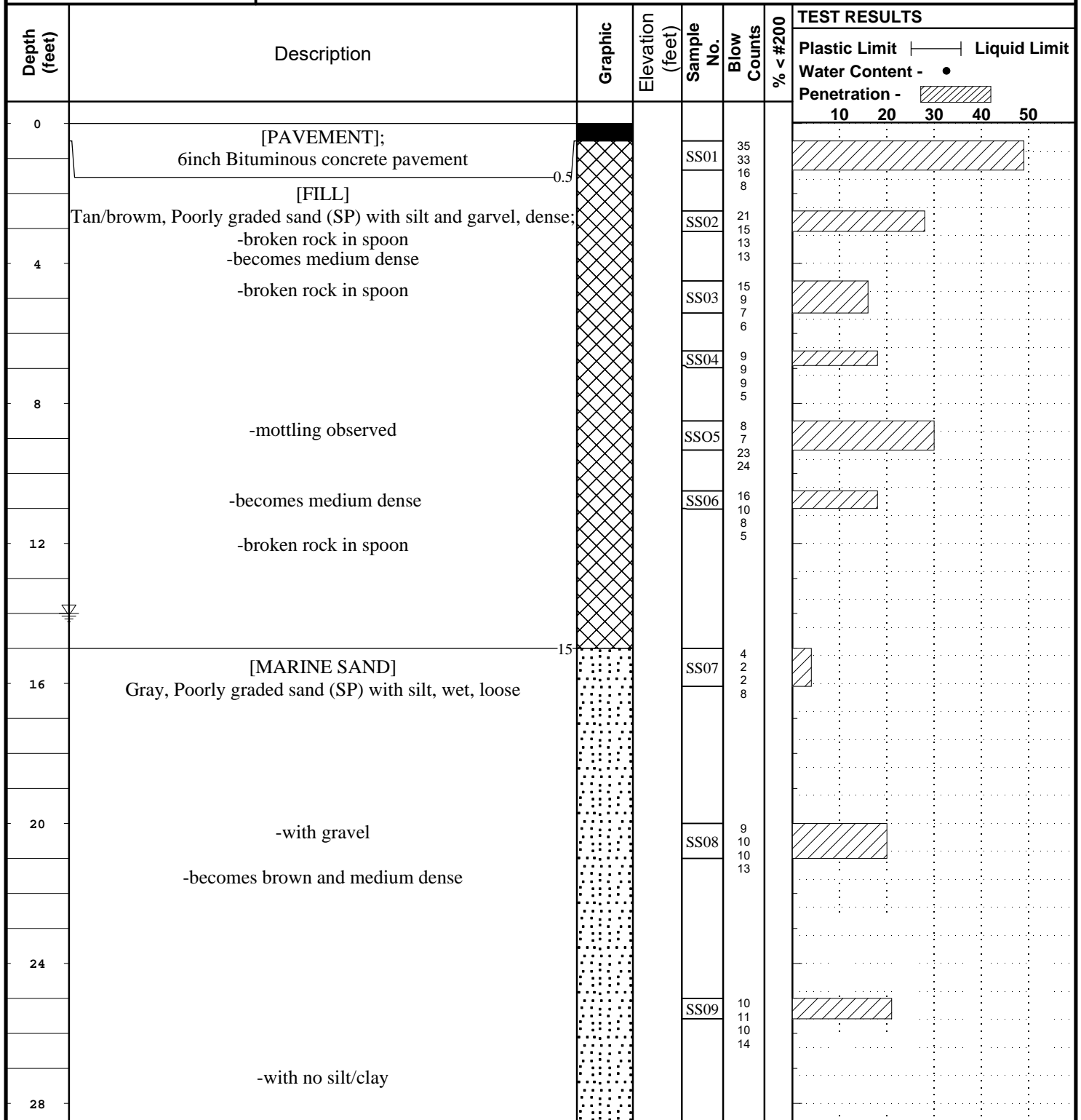
Depth (feet)	Description	Graphic	Elevation (feet)	Sample No.	Blow Counts	% < #200	TEST RESULTS
							Plastic Limit —— Liquid Limit Water Content - ● Penetration -
							10 20 30 40 50
32	-becomes tan			SS11	8 11 16 16		
36	-becomes gray						
40	Boring terminated at 40 ft. Split spoon refusal at 40 feet						
44							
48							
52							
56							



LOG OF BORING No. B-3

PROJECT: Seawall Repair **PROJECT NO.:** 20-04-063
CLIENT: Collins Engineers, Inc.
PROJECT LOCATION: Seabrook, NH
LOCATION: See Test Boring Location Plan **ELEVATION:**
DRILLER: Soil Exploration Corp **LOGGED BY:** MC
DRILLING METHOD: Rotary Wash **DATE:** 7/7/2020
DEPTH TO - WATER> INITIAL: 14 feet **AFTER 24 HOURS:** NA

This information pertains only to this boring and should not be interpreted as being indicative of the site.


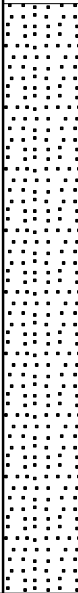
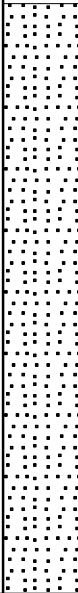
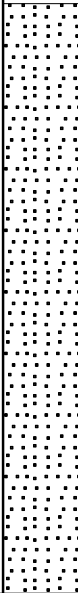




LOG OF BORING No. B-3

PROJECT: Seawall Repair **PROJECT NO.:** 20-04-063
CLIENT: Collins Engineers, Inc.
PROJECT LOCATION: Seabrook, NH
LOCATION: See Test Boring Location Plan **ELEVATION:** _____
DRILLER: Soil Exploration Corp **LOGGED BY:** MC
DRILLING METHOD: Rotary Wash **DATE:** 7/7/2020
DEPTH TO - WATER> INITIAL: 14 feet **AFTER 24 HOURS:** NA

This information pertains only to this boring and should not be interpreted as being indicative of the site.

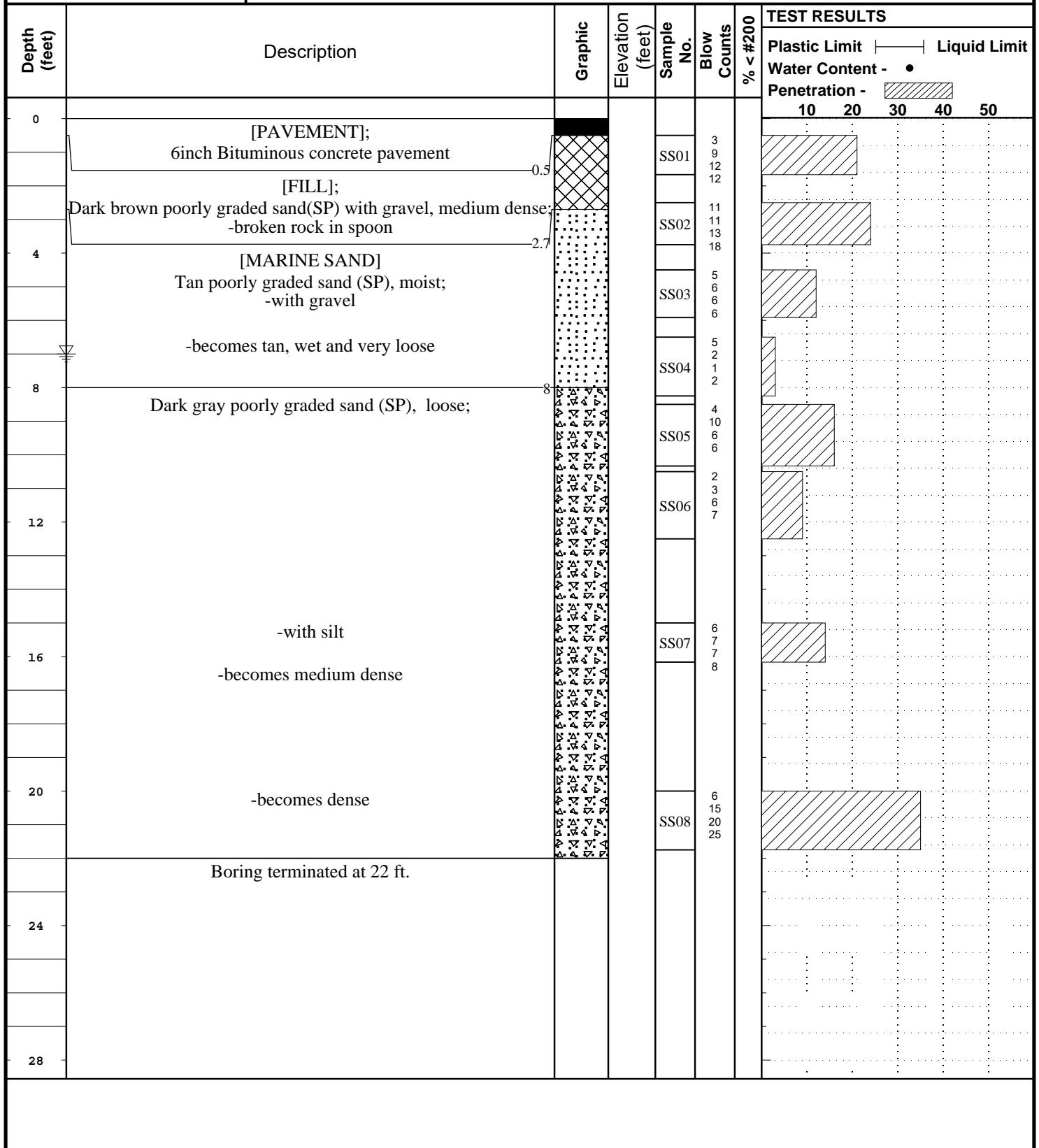
Depth (feet)	Description	Graphic	Elevation (feet)	Sample No.	Blow Counts	% < #200	TEST RESULTS				
							Plastic Limit	—	Liquid Limit	Water Content - •	Penetration - 
							10	20	30	40	50
32	-becomes dense			SS10	12 16 18 22						
36	-becomes gray and finer graded			SS11	11 12 13 14						
40				SS12							
	Boring terminated at 40.8 ft. -split spoon refusal at 40.8 feet										
44											
48											
52											
56											



LOG OF BORING No. B-4

PROJECT: Seawall Repair **PROJECT NO.:** 20-04-063
CLIENT: Collins Engineers, Inc.
PROJECT LOCATION: Seabrook, NH
LOCATION: See Test Boring Location Plan **ELEVATION:**
DRILLER: Soil Exploration Corp **LOGGED BY:** MC
DRILLING METHOD: Rotary Wash **DATE:** 7/7/2020
DEPTH TO - WATER> INITIAL: 7 feet **AFTER 24 HOURS:** NA

This information pertains only to this boring and should not be interpreted as being indicative of the site.

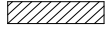




LOG OF BORING No. B-5

PROJECT: Seawall Repair **PROJECT NO.:** 20-04-063
CLIENT: Collins Engineers, Inc.
PROJECT LOCATION: Seabrook, NH
LOCATION: See Test Boring Location Plan **ELEVATION:**
DRILLER: Soil Exploration Corp **LOGGED BY:** MC
DRILLING METHOD: Rotary Wash **DATE:** 7/7/2020
DEPTH TO - WATER> INITIAL: 8 feet **AFTER 24 HOURS:** NA

This information pertains only to this boring and should not be interpreted as being indicative of the site.

Depth (feet)	Description	Graphic	Elevation (feet)	Sample No.	Blow Counts	% < #200	TEST RESULTS				
							Plastic Limit	—	Liquid Limit	Water Content - •	Penetration - 
0	[PAVEMENT]; 3inch Bituminous concrete pavement										
0.25				SS01	15 12 17 17						
	[FILL] Tan, poorly graded sand (SP) with gravel, medium dense; -becomes very dense			SS02	31 35 24 21						
4	-Shattered rock in spoon throughout			SS03	10 13 10 7						
4.25	Dark brown poorly graded sand (SP) with gravel, moist, medium dense; - augered through obstruction from 7 to 8 feet			SS04	8 8 50+						
8	[MARINE SAND] Tan/brown poorly graded sand (SP) with silt and gravel, wet, medium dense;			SS05	4 5 7 6						
				SS06	4 8 5 3						
12											
16				SS07	6 7 9 9						
20				SS08	8 11 14 14						
24											
	-becomes dense			SS09	14 17 13 46						
28											



LOG OF BORING No. B-5

PROJECT: Seawall Repair PROJECT NO.: 20-04-063
CLIENT: Collins Engineers, Inc.
PROJECT LOCATION: Seabrook, NH
LOCATION: See Test Boring Location Plan ELEVATION: _____
DRILLER: Soil Exploration Corp LOGGED BY: MC
DRILLING METHOD: Rotary Wash DATE: 7/7/2020
DEPTH TO - WATER> INITIAL: 8 feet AFTER 24 HOURS: NA

This information pertains only to this boring and should not be interpreted as being indicative of the site.

Depth (feet)	Description	Graphic	Elevation (feet)	Sample No.	Blow Counts	% < #200	TEST RESULTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
							Plastic Limit		Liquid Limit		Water Content		Penetration																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
							-----		-----		-		-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
							10	20	30	40	50	10	20	30	40	50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
				SS10	12 17 17 24																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

APPENDIX B

SEABROOK SEAWALL REPAIR SEABROOK, NH

NHDES Permit #2020-03249



The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner



AMENDED WETLANDS AND NON-SITE SPECIFIC PERMIT 2020-03249

NOTE CONDITIONS

PERMITTEE: TOWN OF SEABROOK
C/O WILLIAM MANZI, TOWN MANAGER
PO BOX 456
SEABROOK NH 03874

PROJECT LOCATION: 725 OCEAN BOULEVARD, SEABROOK
TAX MAP #19, LOT #26-98

WATERBODY: SEABROOK HARBOR, BLACKWATER RIVER

AMENDMENT DATE: MAY 03, 2022

ORIGINAL APPROVAL DATE: MARCH 28, 2022

EXPIRATION DATE: MARCH 28, 2027

Based upon review of permit application 2020-03249 in accordance with RSA 482-A and RSA 485-A:17, the New Hampshire Department of Environmental Services (NHDES) hereby issues this Wetlands and Non-Site Specific Permit. To validate this Permit, signatures of the Permittee and the Principal Contractor are required.

AMENDED PERMIT DESCRIPTION:

Impact a total of 4,080 square feet of jurisdictional area to include 1,540 square feet within tidal waters along 560 linear feet and 2,535 square feet of previously-developed 100-foot tidal buffer zone for the replacement of the existing steel sheetpile bulkhead by installing a new sheetpile bulkhead 3-feet seaward of the existing steel sheetpile bulkhead, back fill with gravel, and install a new timber fender system along the bulkhead. Compensatory mitigation involves a one-time payment of \$18,324.41 to the NHDES Aquatic Resource Mitigation (ARM) Fund for the permanent impacts within tidal waters per Env-Wt 803.07 and RSA 482-A.

THIS PERMIT IS SUBJECT TO THE FOLLOWING AMENDED PROJECT-SPECIFIC CONDITIONS:

1. All work shall be done in accordance with the approved plans by Collins Engineers Inc., dated April 2021, revised April 8, 2021, and received by the NH Department of Environmental Services (NHDES) on May 10, 2021, in accordance with Env-Wt 307.16.
2. The permit is contingent on submittal of the one-time payment in the amount of \$18,324.41 to the Aquatic Resource Mitigation (ARM) Fund by the applicant as calculated per Env-Wt 803.07 and RSA 482-A:30.
3. In accordance with Env-Wt 807.01(b), the payment shall be received by NHDES within 120 days from the approval decision or NHDES will deny the application.
4. This permit shall not be effective until the permittee records this permit at the Rockingham County Registry of Deeds. Any limitations or conditions in the permit so recorded shall run with the land beyond the expiration of the permit. The permittee shall provide the NHDES with a copy of the permit stamped by the registry with the book and page and date of receipt, in accordance with New Hampshire Administrative Rule Env-Wt 314.02(b) and (c).
5. Heavy equipment shall not be operated in any jurisdictional area unless specifically authorized by this permit, in accordance with Env-Wt 307.15(a).
6. In accordance with Env-Wt 307.03(h), equipment shall be staged and refueled outside of jurisdictional areas and in accordance with Env-Wt 307.15.

www.des.nh.gov

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095

NHDES Main Line: (603) 271-3503 • Subsurface Fax: (603) 271-6683 • Wetlands Fax: (603) 271-6588

TDD Access: Relay NH 1 (800) 735-2964

7. In accordance with Env-Wt 307.03(g)(1), the person in charge of construction equipment shall inspect such equipment for leaking fuel, oil, and hydraulic fluid each day prior to entering surface waters or wetlands or operating in an area where such fluids could reach groundwater, surface waters, or wetlands.
8. In accordance with Env-Wt 307.03(g)(2), the person in charge of construction equipment shall repair any leaks prior to using the equipment in an area where such fluids could reach groundwater, surface waters, or wetlands.
9. In accordance with Env-Wt 307.03(g)(3) and (4), the person in charge of construction equipment shall maintain oil spill kits and diesel fuel spill kits, as applicable to the type(s) and amount(s) of oil and diesel fuel used, on site so as to be readily accessible at all times during construction; and train each equipment operator in the use of the spill kits.
10. In accordance with Env-Wt 307.03(a), no activity shall be conducted in such a way as to cause or contribute to any violation of surface water quality standards specified in RSA 485-A:8 or Env-Wq 1700; ambient groundwater quality standards established under RSA 485-C; limitations on activities in a sanitary protective area established under Env-Dw 302.10 or Env-Dw 305.10; or any provision of RSA 485-A, Env-Wq 1000, RSA 483-B, or Env-Wq 1400 that protects water quality.
11. In accordance with Env-Wt 307.03(f)(1), turbidity controls shall be used to enclose the project conducted in tidal waters.
12. In accordance with Env-Wt 307.03(f)(2), the turbidity controls shall be removed after work the turbidity control is completed, the contained water has returned to background clarity, and when removing the structure will not cause or contribute to a violation of Env-Wt 307.03(c)(6).
13. In accordance with Env-Wt 307.03(c)(4), water quality control measures shall be capable of minimizing erosion; collecting sediment and suspended and floating materials; and filtering fine sediment.
14. In accordance with Env-Wt 307.03(c)(3), water quality control measures shall be installed prior to start of work and in accordance with the manufacturer's recommended specifications or, if none, the applicable requirements of Env-Wq 1506 or Env-Wq 1508.
15. In accordance with Env-Wt 307.03(c)(5), water quality control measures shall be maintained so as to ensure continued effectiveness in minimizing erosion and retaining sediment on-site during and after construction.
16. In accordance with Env-Wt 307.03(c)(6), water quality control measures shall remain in place until all disturbed surfaces are stabilized to a condition in which soils on the site will not experience accelerated or unnatural erosion by achieving and maintaining a minimum of 85% vegetative cover using an erosion control seed mix, whether applied in a blanket or otherwise, that is certified by its manufacturer as not containing any invasive species; or placing and maintaining a minimum of 3 inches of non-erosive material such as stone.
17. All sheet pile installation along the north wall occurring in September and October shall be done at low tide, in the dry, when the work area is fully exposed, in accordance with Env-Wt 609.10(b)(4).
18. In accordance with Env-Wt 307.10(i), any in-water sheet pile installation shall take place during the dredge window between October 1 and March 15.
19. Sheetpile installation shall be done by barge or upland to prevent the driving of construction equipment in or through tidal waters/wetlands or on the bottom of the inter-tidal zone, in accordance with Env-Wt 606.05(b).
20. Tidal construction shall be done in accordance with the standard conditions in Env-Wt 307.
21. In accordance with Env-Wt 307.11(a), fill shall be clean sand, gravel, rock, or other material that meets the project's specifications for its use; and does not contain any material that could contaminate surface or groundwater or otherwise adversely affect the ecosystem in which it is used.
22. All temporary and permanent filling activities shall meet all of the conditions listed in Rule Env-Wt 307.11(a) through (l).

THIS PERMIT IS SUBJECT TO THE FOLLOWING GENERAL CONDITIONS:

1. Pursuant to RSA 482-A:12, a copy of this permit shall be posted in a secure manner in a prominent place at the site of the approved project.
2. In accordance with Env-Wt 313.01(a)(5), and as required by RSA 482-A:11, II, work shall not infringe on the property rights or unreasonably affect the value or enjoyment of property of abutting owners.

3. In accordance with Env-Wt 314.01, a standard permit shall be signed by the permittee, and the principal contractor who will build or install the project prior to start of construction, and will not be valid until signed.
4. In accordance with Env-Wt 314.03(a), the permittee shall notify the department in writing at least one week prior to commencing any work under this permit.
5. In accordance with Env-Wt 314.08(a), the permittee shall file a completed notice of completion of work and certificate of compliance with the department within 10 working days of completing the work authorized by this permit.
6. In accordance with Env-Wt 314.06, transfer of this permit to a new owner shall require notification to, and approval of, the NHDES.
7. The permit holder shall ensure that work is done in a way that protects water quality per Env-Wt 307.03; protects fisheries and breeding areas per Env-Wt 307.04; protects against invasive species per Env-Wt 307.05; meets dredging activity conditions in Env-Wt 307.10; and meets filling activity conditions in Env-Wt 307.11.
8. This project has been screened for potential impact to known occurrences of protected species and exemplary natural communities in the immediate area. Since many areas have never been surveyed, or only cursory surveys have been performed, unidentified sensitive species or communities may be present. This permit does not absolve the permittee from due diligence in regard to state, local or federal laws regarding such communities or species. This permit does not authorize in any way the take of threatened or endangered species, as defined by RSA 212-A:2, or of any protected species or exemplary natural communities, as defined in RSA 217-A:3.
9. In accordance with Env-Wt 307.06(a) through (c), no activity shall jeopardize the continued existence of a threatened or endangered species, a species proposed for listing as threatened or endangered, or a designated or proposed critical habitat under the Federal Endangered Species Act, 16 U.S.C. §1531 et seq.; State Endangered Species Conservation Act, RSA 212-A; or New Hampshire Native Plant Protection Act, RSA 217-A.
10. In accordance with Env-Wt 307.02, and in accordance with federal requirements, all work in areas under the jurisdiction of the U.S. Army Corps of Engineers (USACE) shall comply with all conditions of the applicable state general permit.

APPROVED:



Eben M. Lewis
Southeast Region Supervisor, Wetlands Bureau
Land Resources Management, Water Division

THE SIGNATURES BELOW ARE REQUIRED TO VALIDATE THIS PERMIT (Env-Wt 314.01).

PERMITTEE SIGNATURE (required)

PRINCIPAL CONTRACTOR SIGNATURE (required)

***NEW HAMPSHIRE
DEPARTMENT OF STATE***



I, David M. Scanlan, Secretary Of State, of the State of New Hampshire, do hereby certify that the Governor and Executive Council, at their meeting on June 1, 2022 approved ITEM #96 to authorize the Town of Seabrook's request to perform work on Hampton Harbor Inlet in Seabrook.



In Testimony Whereof, I hereto set my hand and cause to be affixed the Seal of the State of New Hampshire, this first day of June, in the year of Our Lord, two thousand and twenty-two.

A handwritten signature in black ink, appearing to read "David M. Scanlan", written over a horizontal line.

Secretary of State

APPENDIX B

SEABROOK SEAWALL REPAIR
SEABROOK, NH

USACE Permit # NAE-2022-00035



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

May 9, 2022

Regulatory Division
CENAE-R-PEC
Permit Number: **NAE-2022-00035**

Town of Seabrook
C/O William Manzi, Town Manager
P.O. Box 456
Seabrook, NH 03874
wmanzi@seabrooknh.org
ccheney@collinsengr.com

Dear Applicant:

This is in response to a recent request dated 5/5/2022 to modify your Department of the Army permit number NAE-2022-00035, that authorized seawall and dolphin pile maintenance in Hampton River off of 745 Ocean Boulevard, Seabrook, New Hampshire. This work is to be performed as described on the attached New Hampshire Approval Letter No. 2020-03249, dated 03/28/2022

In accordance with your recent request, special condition 1 of your Department of the Army permit number NAE-2022-00035, issued on April 29, 2022 is modified to read as written below:

All work performed below Mean Low Water shall be performed between October 1 and March 15 of any year.

Additionally, a second special condition shall be adhered to:

All piles shall be non-steel and ≤ 12 " in diameter

All other terms and conditions of the original permit remain in full force and effect.

We continually strive to improve our customer service. In order for us to better serve you, please complete our Customer Service Survey located at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

If you have any questions, please contact Richard Kristoff of my staff at (978) 318-8171.

Sincerely,

FRANK J. DEL GIUDICE
Chief, Permits & Enforcement Branch
Regulatory Division



DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD MA 01742-2751

April 29, 2022

Regulatory Division
CENAE-R-PEC
Permit Number: NAE-2022-00035

Town of Seabrook
C/O William Manzi, Town Manager
P.O. Box 456
Seabrook, NH 03874

Dear Mr. Manzi:

This is to inform you that we have reviewed your application to conduct activities as described on the attached New Hampshire Approval Letter No. 2020-03249, dated 03/28/2022.

Based on the information you provided to the New Hampshire Wetlands Bureau, we have determined that your project, which may include a discharge of dredged or fill material into waters or wetlands, will have only minimal individual or cumulative environmental impacts on waters of the United States, including wetlands. Therefore, this work is authorized under General Permit No(s). 2 of the referenced Federal permit known as the Department of the Army General Permits for the State of New Hampshire (GPs). This work must be performed in accordance with the terms and conditions of the GPs and the following Special condition(s):

Special Condition 1: All work shall be performed above low tide, in the dry and between October 1 through March 15 of any year.

You are responsible for complying with all of the GP's requirements. Please review the referenced GPs carefully to familiarize yourself with its contents. You should ensure that whoever does the work fully understands the requirements and that a copy of the permit document is at the project site throughout the time the work is underway. Also, see a copy of the GPs at:

<http://www.nae.usace.army.mil/Missions/Regulatory/StateGeneralPermits/NewHampshireGeneralPermit.aspx>

This authorization expires August 18, 2022, unless the GPs are modified, suspended, or revoked before that. You must complete the work authorized herein by that date. If you do not, you must contact this office to determine the need for further authorization before continuing the activity. We recommend that you contact us *before* this authorization expires to discuss a time extension or reissuance of the authorization.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

This authorization requires you to complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to this office.

This permit does not obviate the need to obtain other Federal, state or local authorizations required by law, including those listed in the GPs. Performing work not specifically authorized by this determination or failing to comply with all the terms and conditions of the GPs may subject you to the enforcement provisions of Corps regulations.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at http://www.nae.usace.army.mil/reg/Customer_Service_Survey.pdf.

If you have questions concerning this, please contact Michael Hicks of my staff at (978) 318-8157, (978) 318-8335/8338, (800) 343-4789, or, if calling from within Massachusetts, (800) 362-4367.

Sincerely,

Frank J. DelGiudice
Chief, Permits & Enforcement Branch
Regulatory Division

Enclosures

Copies Furnished:

D. Forst, NH DES; DARLENE.C.FORST@des.nh.gov

Holmes, Brandy: Brandy.L.Holmes@des.nh.gov

Richos, Sarah: Sarah.B.Richos@des.nh.gov

Danielle Goudreau; Collins Engineers, Inc.; dgoudreau@collinsengr.com

COMPLIANCE CERTIFICATION FORM

Permit Number: NAE-2022-00035

Project Manager Michael Hicks

Name of Permittee: Town of Seabrook

Permit Issuance Date: 04/29/2022

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

* MAIL TO: U.S. Army Corps of Engineers, New England District *
* Permits and Enforcement Branch C *
* Regulatory Division *
* 696 Virginia Road *
* Concord, Massachusetts 01742-2751 *

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

Signature of Permittee

Date

Printed Name

Date of Work Completion

() _____
Telephone Number

() _____
Telephone Number



The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner



March 28, 2022

TOWN OF SEABROOK
C/O WILLIAM MANZI, TOWN MANAGER
PO BOX 456
SEABROOK NH 03874

Re: Approved Standard Dredge and Fill Wetlands Permit Application (RSA 482-A)
NHDES File Number: 2020-03249
Subject Property: 725 Ocean Boulevard, Seabrook, Tax Map #19, Lot #26-98

Dear Owner:

On March 28, 2022, the New Hampshire Department of Environmental Services (NHDES) Wetlands Bureau approved the above-referenced application to impact a total of 4,080 square feet of jurisdictional area to include 1,540 square feet within tidal waters along 560 linear feet and 2,535 square feet of previously-developed 100-foot tidal buffer zone for the replacement of the existing steel sheetpile bulkhead by installing a new sheetpile bulkhead 3-feet seaward of the existing steel sheetpile, back fill with gravel, and install a new timber fender system along the bulkhead. Compensatory mitigation involves a one-time payment of \$18,324.41 to the NHDES Aquatic Resource Mitigation (ARM) Fund for the 1,540 square feet of permanent impacts within tidal waters per Env-Wt 803.07 and RSA 482-A.

In accordance with RSA 482-A:10, RSA 21-O:14, and Rules Env-WtC 100-200, **any person aggrieved by this decision may file a Notice of Appeal directly with the NH Wetlands Council (Council) within 30 days of the decision date, March 28, 2022.** Every ground claiming the decision is unlawful or unreasonable must be fully set forth in the Notice of Appeal. Only the grounds set forth in the Notice of Appeal are considered by the Council. Information about the Council, including Council Rules, is available at <http://nhec.nh.gov/wetlands/index.htm>. For appeal related issues, contact the Council Appeals Clerk at (603) 271-6072.

In accordance with RSA 482-A:3, II(a) and Env-Wt 313.02(b), as your project is a major project located in a great pond or in public waters of the state, your application must also be approved by the Governor and the Executive Council. Upon expiration of the appeal period, a redacted copy of the file is submitted to the Governor and the Executive Council for their consideration. Information about the Governor and the Executive Council is available at <https://www.nh.gov/council/>.

Sincerely,

Philip Trowbridge, P.E., Manager
Land Resources Management, Water Division

Enclosure: Copy of Decision

cc: Agent
Municipal Clerk/Conservation Commission
Abutters
ec: Assistant Administrator, Wetlands Bureau

www.des.nh.gov

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095
NHDES Main Line: (603) 271-3503 • Subsurface Fax: (603) 271-6683 • Wetlands Fax: (603) 271-6588
TDD Access: Relay NH 1 (800) 735-2964

DECISION DATE:
March 28, 2022

DECISION:

Impact a total of 4,080 square feet of jurisdictional area to include 1,540 square feet within tidal waters along 560 linear feet and 2,535 square feet of previously-developed 100-foot tidal buffer zone for the replacement of the existing steel sheetpile bulkhead by installing a new sheetpile bulkhead 3-feet seaward of the existing steel sheetpile, back fill with gravel, and install a new timber fender system along the bulkhead. Compensatory mitigation involves a one-time payment of \$18,324.41 to the NHDES Aquatic Resource Mitigation (ARM) Fund for the 1,540 square feet of permanent impacts within tidal waters per Env-Wt 803.07 and RSA 482-A.

CONDITIONS:

1. All work shall be done in accordance with the approved plans by Collins Engineers Inc., dated April 2021, revised April 8, 2021, and received by the NH Department of Environmental Services (NHDES) on May 10, 2021, in accordance with Env-Wt 307.16.
2. The permit is contingent on submittal of the one-time payment in the amount of \$18,324.41 to the Aquatic Resource Mitigation (ARM) Fund by the applicant as calculated per Env-Wt 803.07 and RSA 482-A:30.
3. In accordance with Env-Wt 807.01(b), the payment shall be received by NHDES within 120 days from the approval decision or NHDES will deny the application.
4. This permit shall not be effective until the permittee records this permit at the Rockingham County Registry of Deeds. Any limitations or conditions in the permit so recorded shall run with the land beyond the expiration of the permit. The permittee shall provide the NHDES with a copy of the permit stamped by the registry with the book and page and date of receipt, in accordance with New Hampshire Administrative Rule Env-Wt 314.02(b) and (c).
5. Heavy equipment shall not be operated in any jurisdictional area unless specifically authorized by this permit, in accordance with Env-Wt 307.15(a). In accordance with Env-Wt 307.03(h), equipment shall be staged and refueled outside of jurisdictional areas and in accordance with Env-Wt 307.15.
6. In accordance with Env-Wt 307.03(g)(1), the person in charge of construction equipment shall inspect such equipment for leaking fuel, oil, and hydraulic fluid each day prior to entering surface waters or wetlands or operating in an area where such fluids could reach groundwater, surface waters, or wetlands.
7. In accordance with Env-Wt 307.03(g)(2), the person in charge of construction equipment shall repair any leaks prior to using the equipment in an area where such fluids could reach groundwater, surface waters, or wetlands.
8. In accordance with Env-Wt 307.03(g)(3) and (4), the person in charge of construction equipment shall maintain oil spill kits and diesel fuel spill kits, as applicable to the type(s) and amount(s) of oil and diesel fuel used, on site so as to be readily accessible at all times during construction; and train each equipment operator in the use of the spill kits.
9. In accordance with Env-Wt 307.03(a), no activity shall be conducted in such a way as to cause or contribute to any violation of surface water quality standards specified in RSA 485-A:8 or Env-Wq 1700; ambient groundwater quality standards established under RSA 485-C; limitations on activities in a sanitary protective area established under Env-Dw 302.10 or Env-Dw 305.10; or any provision of RSA 485-A, Env-Wq 1000, RSA 483-B, or Env-Wq 1400 that protects water quality.
10. In accordance with Env-Wt 307.03(f)(1), turbidity controls shall be used to enclose the project conducted in tidal waters.
11. In accordance with Env-Wt 307.03(f)(2), the turbidity controls shall be removed after work the turbidity control is completed, the contained water has returned to background clarity, and when removing the structure will not cause or contribute to a violation of Env-Wt 307.03(c)(6).

12. In accordance with Env-Wt 307.03(c)(4), water quality control measures shall be capable of minimizing erosion; collecting sediment and suspended and floating materials; and filtering fine sediment.
13. In accordance with Env-Wt 307.03(c)(3), water quality control measures shall be installed prior to start of work and in accordance with the manufacturer's recommended specifications or, if none, the applicable requirements of Env-Wq 1506 or Env-Wq 1508.
14. In accordance with Env-Wt 307.03(c)(5), water quality control measures shall be maintained so as to ensure continued effectiveness in minimizing erosion and retaining sediment on-site during and after construction.
15. In accordance with Env-Wt 307.03(c)(6), water quality control measures shall remain in place until all disturbed surfaces are stabilized to a condition in which soils on the site will not experience accelerated or unnatural erosion by achieving and maintaining a minimum of 85% vegetative cover using an erosion control seed mix, whether applied in a blanket or otherwise, that is certified by its manufacturer as not containing any invasive species; or placing and maintaining a minimum of 3 inches of non-erosive material such as stone.
16. All sheetpile installation along the north wall occurring in September and October shall be done at low tide, in the dry, when the work area is fully exposed, in accordance with Env-Wt 609.10(b)(4).
17. In accordance with Env-Wt 307.10(i), any in-water sheetpile installation shall take place during the dredge window between November 15 and March 15.
18. Sheetpile installation shall be done by barge or upland to prevent the driving of construction equipment in or through tidal waters/wetlands or on the bottom of the inter-tidal zone, in accordance with Env-Wt 606.05(b).
19. Tidal construction shall be done in accordance with the standard conditions in Env-Wt 307.
20. In accordance with Env-Wt 307.11(a), fill shall be clean sand, gravel, rock, or other material that meets the project's specifications for its use; and does not contain any material that could contaminate surface or groundwater or otherwise adversely affect the ecosystem in which it is used.
21. All temporary and permanent filling activities shall meet all of the conditions listed in Rule Env-Wt 307.11(a) through (l).

FINDINGS:

1. This is classified as a major project per Rule Env-Wt 606.17(a)(1), for all new overwater structure construction in tidal waters and Rule Env-Wt 408.02(a), as fill will be placed in public waters for the purpose of making land.
2. A public hearing was held at the NHDES offices located at 222 International Drive, Suite 175, Portsmouth on February 10, 2022 in accordance with RSA 482-A:17.
3. Per Rule Env-Wt 306.05, the applicant has addressed all of the required planning items that are used to determine the appropriate impact classification of a project and the type of approval required.
4. Per Rule Env-Wt 311.01(b), the applicant coordinated with the NH Fish and Game Department and the Natural Heritage Bureau to determine how to avoid and minimize project-related impacts on rare or protected animal species and habitat.
5. Per Rule Env-Wt 311.06(h), the Seabrook Conservation Commission did not provide comments on the proposed project.
6. Per Rule Env-Wt 313.01(a)(2), all applicable conditions specified in Env-Wt 307 have been met.
7. Per Rule Env-Wt 313.01(a)(3), all resource and project-specific criteria established in Env-Wt 600 have been met.
8. Per Rule Env-Wt 313.01(a)(5), and as required by RSA 482-A:11, II, this permit for work to dredge or fill will not 'infringe on the property rights or unreasonably affect the value or enjoyment of property of abutting owners'.
9. Per Rule Env-Wt 313.03(a) and (b), the applicant has demonstrated that potential impacts to jurisdictional areas have been avoided to the maximum extent practicable and that any unavoidable impacts have been minimized.

10. Per Rule Env-Wt 603.09, the applicant obtained a statement from the Pease Development Authority, Division of Ports and Harbors dated January 12, 2021, regarding the projects impact on navigation and passage states, "[w]e examined the proposed site and found that the structure will have no negative effect on safe navigation in the channel."
11. Per Rule Env-Wt 604.01(a), the project in a tidal shoreline has been evaluated by the applicant and meets all of the criteria listed in Env-Wt 604.01(a)(1) through (7).
12. Per Rule Env-Wt 604.03(b), the project to impact tidal wetlands and tidal waters has been evaluated by the applicant and meets all of the criteria listed in Env-Wt 604.03(b)(1) through (7).
13. Per Rule Env-Wt 604.03(c), the project in tidal surface waters optimizes the natural function of the tidal wetland, including protection or restoration of habitat, water quality, and self-sustaining stability to storm surge; is designed with a preference for living shorelines over hardened stabilization practices; and is limited to public infrastructure or restoration projects that are in the interest of the general public, including a road, a bridge, energy infrastructure, or a project that addresses predicted sea level rise and coastal flood risk.
14. Per Rule Env-Wt 605.01, for projects in coastal areas, the applicant has demonstrated that the avoidance and minimization requirements in Env-Wt 307, Env-Wt 311.07, Env-Wt 313, and Env-Wt 603.04 have been met, and has demonstrated that all of the requirements listed in Env-Wt 605.01(a) through (c) have been met.
15. Per Env-Wt 605.02, the applicant for a permit for work in or adjacent to tidal waters/wetlands or the tidal buffer zone has demonstrated that adverse impacts listed in (a) through (d) have been avoided or minimized as required by Env-Wt 313.04.
16. Per Env-Wt 605.03(a), compensatory mitigation is required as the project impacts tidal surface waters, tidal wetlands, the tidal buffer zone, sand dunes, or any combination thereof, that are intended to remain when the proposed project is completed.
17. The payment into the ARM fund shall be deposited in the NHDES fund for the Salmon Falls and Piscataqua Rivers watershed per RSA 482-A:29.
18. Per Rule Env-Wt 803.10(e), the department has accepted the proposal for an in-lieu mitigation payment as the proposal meets the requirements of Env-Wt 803.10(b), and of Env-Wt 803.10(c), and the mitigation type or combination of mitigation types listed in Rule Env-Wt 803.08(a) Table 800-1 that are available in the same watershed as the impacts for compensating jurisdictional area losses are not practicable.
19. The Department decision is issued in letter form and upon receipt of the ARM fund payment, the Department shall issue a posting permit in accordance with Env-Wt 803.11(c).

Curtis Cheney

From: Kristoff, Richard C Jr CIV USARMY CENAE (USA) <Richard.C.Kristoff@usace.army.mil>
Sent: Tuesday, May 10, 2022 10:40 AM
To: Curtis Cheney; Harmon, Arthur B CIV USARMY CENAE (USA)
Cc: Hicks, Michael C CIV USARMY CENAE (USA); Danielle Goudreau
Subject: RE: Permit MOD NAE-2022-00035

Hello,
Per our conversation, yes you are still allowed to install the steel sheeting. Only the condition is only for actual round pilings. Not sheeting.
Thanks,
Rick

From: Curtis Cheney <ccheney@collinsengr.com>
Sent: Tuesday, May 10, 2022 10:19 AM
To: Harmon, Arthur B CIV USARMY CENAE (USA) <Arthur.B.Harmon@usace.army.mil>
Cc: Hicks, Michael C CIV USARMY CENAE (USA) <Michael.C.Hicks@usace.army.mil>; Kristoff, Richard C Jr CIV USARMY CENAE (USA) <Richard.C.Kristoff@usace.army.mil>; Danielle Goudreau <dgoudreau@collinsengr.com>
Subject: [URL Verdict: Unknown][Non-DoD Source] RE: Permit MOD NAE-2022-00035

Hi Arthur/Mike,

Just to clarify, the second special condition regarding the 12" diameter timber piles is only for the circular timber fender/dolphin piles correct?

This project is largely a replacement project for the steel sheet pile seawall, so I want to verify that steel sheet pile installation is allowed under this permit.

Thank you,

Curtis Cheney, P.E.
COLLINS ENGINEERS, INC.
603.554.1285 (direct office)
617.694.5129 (cell)
ccheney@collinsengr.com

From: Harmon, Arthur B CIV USARMY CENAE (USA) <Arthur.B.Harmon@usace.army.mil>
Sent: Monday, May 9, 2022 11:42 AM
To: Kristoff, Richard C Jr CIV USARMY CENAE (USA) <Richard.C.Kristoff@usace.army.mil>
Cc: wmanzi@seabrooknh.org; Curtis Cheney <ccheney@collinsengr.com>; Hicks, Michael C CIV USARMY CENAE (USA) <Michael.C.Hicks@usace.army.mil>; Forst, Darlene <DARLENE.C.FORST@des.nh.gov>; Holmes, Brandy <Brandy.L.Holmes@des.nh.gov>; Shrestha, Rumi <Rumi.Shrestha@des.nh.gov>; Danielle Goudreau <dgoudreau@collinsengr.com>
Subject: Permit MOD NAE-2022-00035

Arthur Harmon
Regulatory Division
U.S. Army Corps of Engineers
New England District
696 Virginia Road

Concord, MA 01742
Office: (978) 318-8382

In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at <https://regulatory.ops.usace.army.mil/customer-service-survey/>

Curtis Cheney

From: Hicks, Michael C CIV USARMY CENAE (USA) <Michael.C.Hicks@usace.army.mil>
Sent: Thursday, May 5, 2022 12:35 PM
To: Curtis Cheney; Harmon, Arthur B CIV USARMY CENAE (USA)
Cc: DARLENE.C.FORST@des.nh.gov; Brandy.L.Holmes@des.nh.gov; Rumi.Shrestha@des.nh.gov; Danielle Goudreau
Subject: RE: [URL Verdict: Unknown][Non-DoD Source] Permit NAE-2022-00035 (NH-2020-03249)

Mr. Curtis,

You have a 1 yr. extension from the date the Corps issued your permit. If you require more time than that you will need to request an extension after the NHSPGP is renewed on 8/18/2022.

What work are you proposing in the water, other than sheet pile installation?

Thanks,
Mike
Michael Hicks, SR. Project Manager
USACE, REG DIV., BR. C
978-318-8157

From: Curtis Cheney <ccheney@collinsengr.com>
Sent: Thursday, May 5, 2022 11:44 AM
To: Harmon, Arthur B CIV USARMY CENAE (USA) <Arthur.B.Harmon@usace.army.mil>
Cc: Hicks, Michael C CIV USARMY CENAE (USA) <Michael.C.Hicks@usace.army.mil>; DARLENE.C.FORST@des.nh.gov; Brandy.L.Holmes@des.nh.gov; Rumi.Shrestha@des.nh.gov; Danielle Goudreau <dgoudreau@collinsengr.com>
Subject: [URL Verdict: Unknown][Non-DoD Source] Permit NAE-2022-00035 (NH-2020-03249)

Hello,

In reviewing the conditions for this permit, I'd like to request a modification to the Special Condition as it is very restrictive as currently written. I request the following to match the NHDES conditions:

Special Condition 1: Any in-water sheet pile installation shall take place during the dredge window between October 1 and March 15.

We are currently working with NHDES to amend their 3/28/2022 approval letter to reflect this condition as the 10/1-3/15 window was agreed to by NH Fish and Game.

Lastly, this project is receiving federal funding and due to the bid requirements, we do not anticipate having a contract awarded until September 2022, with construction likely completing in 2023. For this reason, **can we proactively request a one year extension for this permit to coincide with the anticipated construction schedule?**

Please feel free to give me a call if you have any questions or concerns.

Thank you,



www.collinsengr.com

Curtis Cheney, P.E.*

Project Manager / ADCI Diver

Direct: 603.554.1285 | Mobile: 617.694.5129

ccheney@collinsengr.com

134 Pleasant Street
Portsmouth, NH 03801

*Licensed in MA

CONFIDENTIALITY WARNING: This email may contain privileged or confidential information and is for the sole use of the intended recipient(s). Any unauthorized use or disclosure of this communication is prohibited. If you believe that you have received this email in error, please notify the sender immediately and delete it from your system.

APPENDIX C

SEABROOK SEAWALL REPAIR SEABROOK, NH

Sample Submittal Cover Form

CONTRACT ITEM ACCEPTANCE REQUEST

Contract Number:

DO/TO:

Contract Specialist:

Project Number:

Contractor Name:

URGENT YES NO

(if yes) CONTRACTOR FAX #: _____

Submittal # _____

Job Location: _____

NOTE: Contractor must mark Deviation column if submittal deviates from contract requirements

Item No.	Spec Section and Paragraph	Description of Material Include Type, Model #, Manufacturer, Etc.	Deviation	Status

STATUS ABBREVIATION GUIDE:

AC - Accepted

AC w/ CMT - Accepted with Comment

R-Resubmit

Comments:

Typed Name & Title	Signature	Date
--------------------	-----------	------

NOTE: Review and acceptance of submittals by the Owner is intended to verify general conformance with the design intent as shown on the contract drawings and in the specifications. Acceptance by the Engineer does not relieve the Contractor of responsibility for any errors and/or omissions in the submittals, nor from the responsibility for complying with the requirements of the contract.

APPENDIX D

SEABROOK SEAWALL REPAIR SEABROOK, NH

Sample Pile Driving Log

PILE DRIVING LOG

CONTRACT NO. _____ CONTRACT NAME _____
 CONTRACTOR _____ TYPE OF PILE _____
 PILE LOCATION _____ PILE SIZE: BUTT/TIP: _____ LENGTH _____
 GROUND ELEVATION _____ CUT OFF
 ELEVATION _____
 PILE TIP ELEVATION _____ VERTICAL (____) BATTER 1 ON (____)
 SPLICES ELEVATION _____ COMPANY _____

HAMMER: MAKE & MODEL _____ WT. RAM _____
 STROKE _____ RAM RATED ENERGY _____
 DESCRIPTION & DIMENSIONS OF DRIVING CAP _____
 CUSHION MATERIALS & THICKNESS _____

INSPECTOR _____

"DEPTH" COLUMN OF PILE DRIVING RECORD REFERENCED TO:

_____ CUT-OFF ELEVATION
 _____ FINISH FLOOR ELEVATION

TIME: START DRIVING _____ FINISH DRIVING _____ DRIVING TIME _____
 INTERRUPTIONS (TIME, TIP ELEV. & REASON) _____
 JET PRESSURE & ELEVATIONS _____

DRIVING RESISTANCE

DEPTH (FT.)	NO. OF BLOWS	DEPTH (FT.)	NO. OF BLOWS	DEPTH (FT.)	NO. OF BLOWS
0		11		22	
1		12		23	
2		13		24	
3		14		25	
4		15		26	
5		16		27	
6		17		28	
7		18		29	
8		19		30	
9		20		31	
10		21		32	

CONTINUED FROM SHEET 1

DEPTH (FT.)	NO. OF BLOWS	DEPTH (FT.)	NO. OF BLOWS	DEPTH (FT.)	NO. OF BLOWS
33		44		55	
34		45		56	
35		46		57	
36		47		58	
37		48		59	
38		49		60	
39		50		61	
40		51		62	
41		52		63	
42		53		64	
43		54		65	

DRIVING RESISTANCE IN BLOWS PER INCH FOR LAST FOOT OF PENETRATION:

DEPTH _____ DEPTH _____

1" ___ 2" ___ 3" ___ 4" ___ 5" ___ 6" ___ 7" ___ 8" ___ 9" ___ 10" ___ 11" ___ 12" ___

ELEV. _____ ELEV. _____

REMARKS _____

CUT OFF ELEVATION: FROM DRAWING _____

TIP ELEVATION = GROUND ELEVATION - DRIVEN DEPTH = _____

DRIVEN LENGTH = CUT OFF ELEVATION - TIP ELEVATION = _____

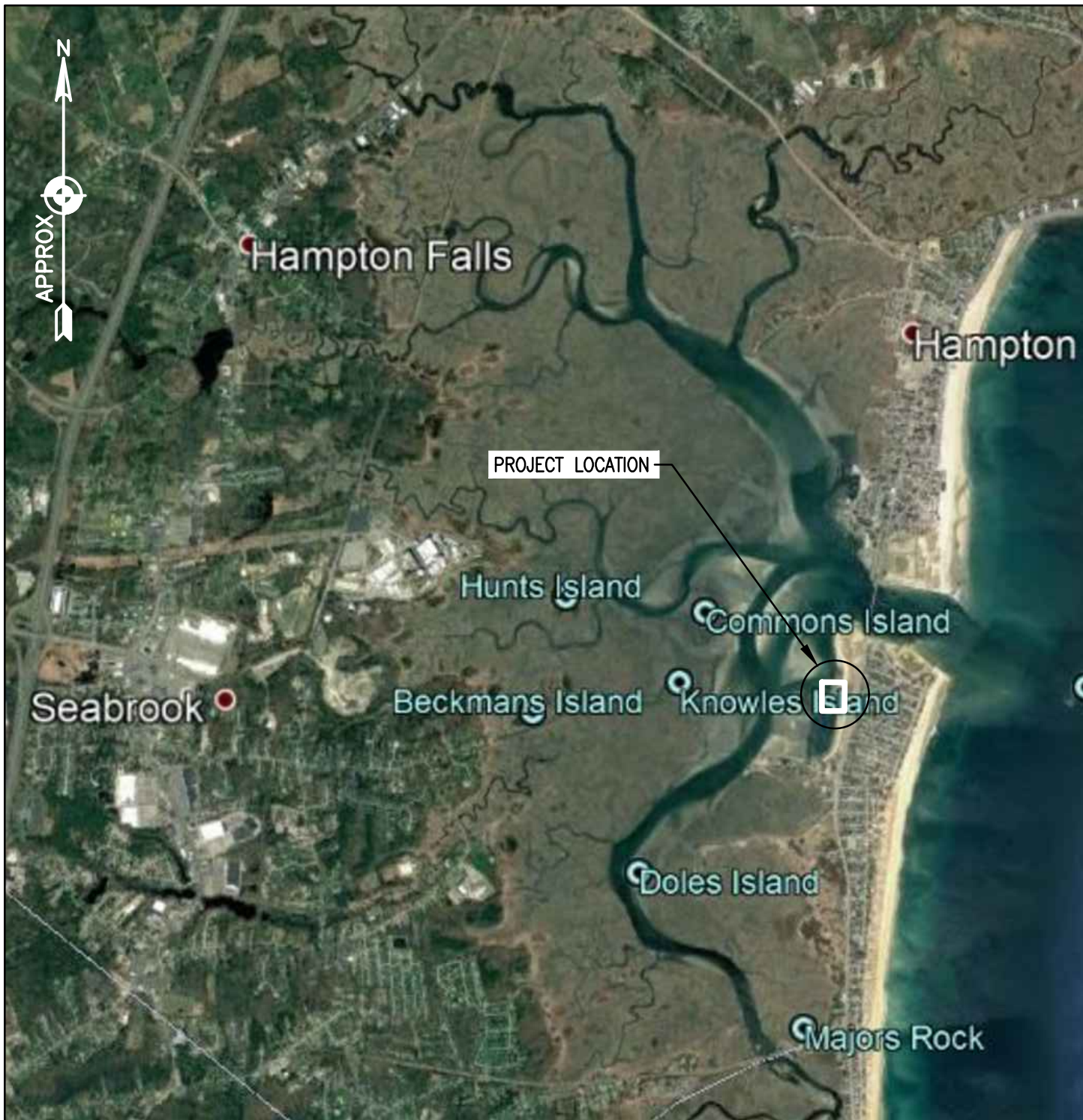
CUT OFF LENGTH = PILE LENGTH - DRIVEN LENGTH = _____

Attachment N: Drawings

DESIGN OF REPAIRS
SEABROOK SEAWALL
JUNE 2022

SEABROOK, NEW HAMPSHIRE

EDA AWARD NUMBER: 01-01-14894

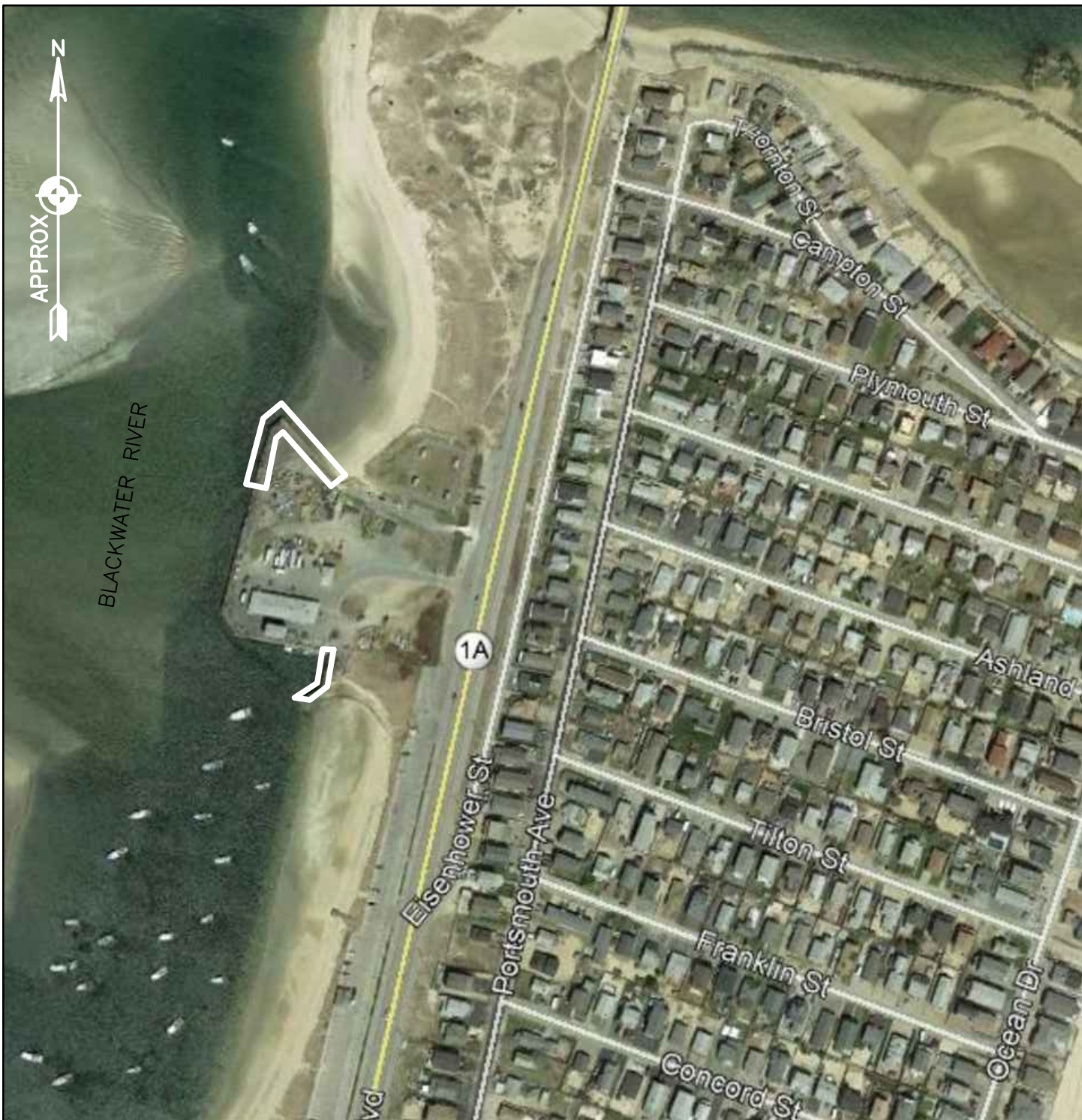


VICINITY MAP

LIST OF DRAWINGS		
DRAWING NO.	SHEET NO.	DRAWING TITLE
GENERAL		
G-01	1 OF 13	TITLE SHEET
G-02	2 OF 13	GENERAL NOTES
CIVIL		
C-01	3 OF 13	EXISTING CONDITIONS PHOTOGRAPHS
C-02	4 OF 13	EXISTING CONDITIONS AND LAYDOWN PLAN
STRUCTURAL		
SD-01	5 OF 13	REMOVALS PLAN
SD-02	6 OF 13	REMOVALS SECTIONS – NORTH WALL
SD-03	7 OF 13	REMOVALS SECTIONS – SOUTH WALL
S-01	8 OF 13	REPAIR PLAN
S-02	9 OF 13	REPAIR SECTIONS – NORTH WALL
S-03	10 OF 13	REPAIR SECTIONS – SOUTH WALL
S-04	11 OF 13	WALE AND TIEBACK DETAILS
S-05	12 OF 13	FENDER AND MOORING DETAILS
S-06	13 OF 13	MISCELLANEOUS DETAILS



TOWN OF SEABROOK
SEABROOK, NH 03874



LOCUS MAP



660 Islington Street, Suite 1
Portsmouth, NH 03801
Tel: (603) 334-7745
Fax: (603) 334-7745
web: collinsengr.com

COLLINS ENGINEERS

REV. NO.		DATE	REVISIONS DESCRIPTION
1	2		
3	4		
5	6		
7			

TITLE SHEET

DESIGN OF REPAIRS
SEABROOK SEAWALL

SEABROOK, NEW HAMPSHIRE

2021

designed by: DTG

checked by: DG

approved by: CTC

QA/QC by: ZDJ

project no.: 15-12415

drawing no.: D01

date: JUNE 2022

G-01
1 OF 13

GENERAL NOTES:

1. THE CONTRACTOR IS ADVISED THAT THE DRAWINGS AND SPECIFICATIONS FORM A PART OF THE CONTRACT DOCUMENTS. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL KEEP A COPY OF THE DRAWINGS AND SPECIFICATIONS ONSITE AT ALL TIMES DURING THE PROJECT.
2. ALL DIMENSIONS, ELEVATIONS AND CONDITIONS SHALL BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ORDERING MATERIALS AND PROCEEDING WITH THE AFFECTED PART OF THE WORK.
3. ELEVATIONS ARE IN FEET BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88).
4. EXISTING CONDITIONS ARE INTENDED TO PROVIDE GENERAL OVERVIEW OF STRUCTURES BUT DO NOT INCLUDE ALL APPURTENANCES AND CONDITIONS. ALL DIMENSIONS AND DETAILS OF THE EXISTING CONSTRUCTION SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ORDERING MATERIALS AND PROCEEDING WITH THE AFFECTED PART OF THE WORK.
5. THE EXACT SIZE & LOCATION OF ALL EXISTING UTILITIES IMPACTED BY THE WORK SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL TAKE CARE TO PROTECT ALL UTILITIES IN THE WORK AREA AND ALL CONSTRUCTION SHALL BE COORDINATED WITH THE TOWN. THE CONTRACTOR SHALL NOTIFY DIG SAFE (811 OR 888-DIG-SAFE) AT LEAST 14 CALENDAR DAYS PRIOR TO COMMENCEMENT OF THE EXCAVATION OR GROUND PENETRATING ACTIVITY.
6. METHODS OF DEMOLITION, CONSTRUCTION, AND ERECTION ARE THE CONTRACTOR'S RESPONSIBILITY UNLESS OTHERWISE SPECIFIED.
7. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE AND MUNICIPAL REGULATIONS AND PERMITS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT NOT BE LIMITED TO TURBIDITY AND DUST.
8. THE CONTRACTOR SHALL FOLLOW ALL APPLICABLE FEDERAL, STATE AND MUNICIPAL REGULATIONS, INCLUDING THE FEDERAL DEPARTMENT OF LABOR, SAFETY, OCCUPATIONAL SAFETY, HEALTH ACT, U.S. ARMY CORPS OF ENGINEERS, STATE/LOCAL WETLANDS CONTROL, AND PERMITS.
9. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE ALL WORK, INCLUDING ALLOWABLE WORK WINDOWS, WITH THE TOWN AND ENGINEER AND SHALL MAINTAIN THE WORK SITE TO THE SATISFACTION OF THE TOWN.
10. STORAGE, FUELING AND LUBRICATION OF EQUIPMENT AND MOTOR VEHICLES SHALL BE CONDUCTED IN A MANNER THAT AFFORDS THE MAXIMUM PROTECTION AGAINST SPILL AND EVAPORATION. FUEL, LUBRICANTS AND OIL SHALL BE MANAGED AND STORED IN ACCORDANCE WITH ALL FEDERAL, STATE, REGIONAL, AND LOCAL LAWS AND REGULATIONS. THERE SHALL BE NO STORAGE OF FUEL ON THE PROJECT SITE. FUEL MUST BE BROUGHT TO THE PROJECT SITE AS NEEDED.
11. EQUIPMENT OPERATION, ACTIVITIES, OR PROCESSES PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH ALL FEDERAL AND STATE AIR EMISSION AND PERFORMANCE LAWS AND STANDARDS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL COST OF REINSPECTION OR RETEST WHEN PRIOR REJECTION MAKES REINSPECTION OR RETEST NECESSARY.

DEMOLITION:

1. ALL COMPONENTS CALLED OUT TO BE REMOVED, SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. ALL MATERIAL DEMOLISHED AND NOT REUSED OR SALVAGED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF-SITE. REMOVED MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
2. CONTRACTOR SHALL REMOVE ALL COMPONENTS IDENTIFIED FOR REMOVAL OR DEMOLITION IN THIS DRAWING SET, INCLUDING BUT NOT LIMITED TO: SELECT PORTIONS OF STEEL SHEET PILING AND WALES, TIMBER PILING, TIMBER DOLPHINS, AND BOLLARDS. PILES TO BE REMOVED SHALL BE ENTIRELY PULLED OUT OF THE GROUND. IN THE EVENT THE COMPLETE REMOVAL OF THE PILES IS NOT VIABLE, THE CONTRACTOR SHALL CUT THE PILES AT THE MUDLINE, AS APPROVED BY THE ENGINEER.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SHORING AS REQUIRED TO MAINTAIN THE ALIGNMENT AND STABILITY OF THE EXISTING STRUCTURE UNTIL CONSTRUCTION OF THE REPLACEMENT BULKHEAD AND ANCHOR SYSTEM IS COMPLETED. SUBMIT ALL SHORING PLANS WITH THE DEMOLITION AND DECONSTRUCTION PLAN IN ACCORDANCE WITH THE SPECIFICATIONS.
4. CONTRACTOR SHALL PREVENT THE SPREAD OF DUST AND DEBRIS AND AVOID THE CREATION OF A NUISANCE OR HAZARD IN THE SURROUNDING AREA. DO NOT USE WATER IF IT RESULTS IN HAZARDOUS OR OBJECTIONABLE CONDITIONS SUCH AS, BUT NOT LIMITED TO, FLOODING OR POLLUTION.
5. THE CONTRACTOR IS ADVISED THAT EXISTING TIMBER MAY CONTAIN PRESERVATIVE MATERIALS.
6. THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE SEABROOK FIRE DEPARTMENT FOR WELDING OR TORCH CUTTING WORK PERFORMED AT THE SITE.
7. WHERE PEDESTRIAN AND DRIVER SAFETY IS ENDANGERED IN THE AREA OF REMOVAL WORK, USE TRAFFIC BARRICADES WITH FLASHING LIGHTS. ANCHOR BARRICADES IN A MANNER TO PREVENT DISPLACEMENT BY WIND. NOTIFY ENGINEER AND THE TOWN PRIOR TO BEGINNING SUCH WORK.
8. CONTRACTOR IS ADVISED THAT THERE MAY BE REMNANT PILES AND SCATTERED DEBRIS LOCATED ALONG THE BULKHEAD FACE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL DEBRIS ALONG THE MUDLINE AS REQUIRED FOR SHEET PILE INSTALLATION. ANY OBSTRUCTIONS ENCOUNTERED BELOW THE MUDLINE SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER AND TOWN FOR FURTHER DIRECTION.

TIMBER PILE NOTES:

1. TIMBER PILES SHALL BE SOUTHERN PINE, WITH MINIMUM BUTT DIAMETERS IN ACCORDANCE WITH ASTM D25.
2. CONTRACTOR SHALL INSPECT EACH PILE BEFORE DRIVING, AND SHALL NOTIFY THE ENGINEER DEFECTS THAT MAY PROHIBIT COMPLETE INSTALLATION BEFORE ADVANCING THE WORK. PILES APPROVED FOR INSTALLATION ARE THE RESPONSIBILITY OF THE CONTRACTOR.
3. TIMBER PILES SHALL BE DRIVEN TO THE MINIMUM TIP ELEVATION INDICATED ON THE DRAWINGS.
4. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO THE PILES DURING HANDLING AND DRIVING. DAMAGED PILES SHALL BE REPLACED AT NO ADDITIONAL COST TO THE TOWN.
5. SPLICING OF PILES WILL NOT BE PERMITTED.
6. JETTING WILL NOT BE PERMITTED, EXCEPT AS MAY BE NEEDED TO REMOVE OBSTRUCTIONS. ANY JETTING SHALL BE APPROVED BY THE ENGINEER.
7. ALL PILE, CHECK AND WALE CONNECTIONS SHALL BE MADE WITH EPOXY COATED OR HDG STEEL THRU-BOLTS AND OGEE WASHERS AS INDICATED.

TIMBER NOTES:

1. TIMBER SHALL BE PRESSURE TREATED NO. 2 SOUTHERN PINE, AND SHALL BE PRESSURE TREATED IN ACCORDANCE WITH THE LATEST AWWA STANDARDS FOR EXPOSURE TO SALTWATER IN COASTAL WATERS NORTH OF NEW JERSEY. ALL TIMBER SIZES SHOWN ARE NOMINAL.
2. ALL TIMBER CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE NDS.
3. ALL BOLTED CONNECTIONS SHALL BE MADE WITH ASTM A307. GRADE A BOLTS. TIMBER CONNECTIONS SHALL BE EPOXY COATED OR HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153. ALL BOLTS SHALL BE SNUG TIGHT.
4. FIELD TREAT ALL CUT AND DRILLED TIMBER SURFACES WITH TWO COATS OF PRESERVATIVE CONTAINING COPPER NAPHTHANATE SOLUTION (MIN 2% METALLIC SOLUTION) PER AWWA. ALLOW SUFFICIENT TIME AFTER FIRST TREATMENT FOR PRESERVATIVE TO SOAK IN (DRY APPEARANCE) BEFORE SECOND TREATMENT IS APPLIED. WOOD PRESERVATIVES ARE RESTRICTED-USE PESTICIDES AND SHALL BE APPLIED ACCORDING TO APPLICABLE STANDARDS. FIELD TREATMENT SHALL NOT BE APPLIED OVER WATER.

STEEL SHEET PILE NOTES:

1. ALL STEEL SHEET PILING SHALL BE COLD-ROLLED STEEL AND CONFORM TO ASTM A690, GRADE 50 KSI STEEL IN ACCORDANCE WITH THE SPECIFICATIONS.
2. THE CONTRACTOR SHALL PROVIDE DETAILS OF PILE DRIVING EQUIPMENT. THE DRIVING EQUIPMENT AND METHOD SHALL BE APPROVED BY THE ENGINEER. NO JETTING WILL BE PERMITTED, EXCEPT AS MAY BE NEEDED TO REMOVE OBSTRUCTIONS. ANY JETTING SHALL BE APPROVED BY THE ENGINEER.
3. ALL STEEL SHEET PILINGS SHALL BE MARKED AT A GIVEN DISTANCE FROM THE BOTTOM, WHICH WILL SHOW ABOVE THE WATERLINE AFTER DRIVING, SO THAT THE BOTTOM ELEVATION OF EACH PILE AND ITS RELATION WITH ADJACENT PILES CAN BE RECORDED.
4. SPLICES WILL NOT BE PERMITTED WITHOUT SPECIAL AUTHORIZATION FROM THE ENGINEER.
5. DO NOT DRIVE STEEL SHEET PILING WITHIN 50 FEET OF CONCRETE LESS THAN 72 HOURS OLD.
6. CUT OFF PORTIONS OF STEEL SHEET PILINGS SHALL BE REMOVED AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.
7. DRIVE STEEL SHEET PILING TO THE MINIMUM ELEVATIONS AS SHOWN ON THE DRAWINGS. MAXIMUM TOLERANCE IN ELEVATION SHALL BE 1-INCH.
8. STEEL SHEET PILING SHALL BE DRIVEN PLUMB AND TRUE TO LINE. MAXIMUM HORIZONTAL DEVIATION FROM THE INTENDED WALL LINE SHALL BE A 1/8-IN. BATTER PER VERTICAL FOOT, BUT SHALL NOT EXCEED 5-IN. HORIZONTALLY OVER THE ENTIRE LENGTH OF THE PILE.
9. CUT OFF, OR BURN OFF SQUARE, THE TOPS OF STEEL SHEET PILINGS AT THE TOP ELEVATION SHOWN ON THE CONTRACTOR'S APPROVED SHOP DRAWINGS, ONLY AFTER TOE ELEVATION OF PILES HAS BEEN DETERMINED AND RECORDED.
10. STEEL SHEET PILINGS WHICH ARE DAMAGED, MISLOCATED, OR DRIVEN OUT OF VERTICAL ALIGNMENT SHALL BE WITHDRAWN AND REPLACED BY NEW PILINGS AT NO ADDITIONAL COST TO THE TOWN.
11. STEEL SHEET PILINGS SHALL BE DRIVEN WITHIN APPROVED FALSE WORK OR APPROVED TEMPLATES.
12. CONTRACTOR SHALL INSTALL EPOXY COATED COVER PLATES OVER ANY LIFTING/HANDLING HOLES. COVER PLATES SHALL BE WELDED AND COMPLETELY COVER THE HOLES.

STRUCTURAL STEEL:

1. ALL STRUCTURAL STEEL SHAPES SHALL BE ASTM A572, GRADE 50. ALL STEEL PLATES SHALL BE ASTM A36. ALL STEEL PLATES AND SHAPES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
2. ALL STRUCTURAL STEEL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC STEEL CONSTRUCTION MANUAL.
3. ALL ABOVE WATER WELDING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STRUCTURAL WELDING CODE D1.1 OF THE AMERICAN WELDING SOCIETY (AWS). ELECTRODES SHALL BE E70XX LOW HYDROGEN IN ACCORDANCE WITH AWS SPECIFICATIONS.
4. ALL STEEL-TO-STEEL BOLTED CONNECTIONS SHALL BE MADE WITH ASTM A449 TYPE 1 HIGH STRENGTH BOLTS. NUTS SHALL BE ASTM A563, GRADE A, HEX STYLE AND THE WASHERS SHALL BE ASTM F436.
5. ALL BOLTS, THREADED RODS, NUTS AND WASHERS FOR THE STEEL SHEET PILE SYSTEM SHALL BE EPOXY COATED IN ACCORDANCE WITH THE SPECIFICATIONS. CONNECTION HARDWARE TO BE HOT-DIP GALVANIZED SHALL BE IN ACCORDANCE WITH ASTM A153.
6. TIE-RODS AND THRU-RODS SHALL BE 75 KSI ALL-THREAD ROD IN ACCORDANCE WITH ASTM A615, AND SHALL BE EPOXY COATED. COUPLERS MAY BE USED AS REQUIRED TO ACHIEVE TIE-ROD DESIGN LENGTHS. COUPLERS SHALL DEVELOP THE FULL CAPACITY OF THE TIE-ROD.

CONCRETE NOTES:

1. ALL CONCRETE PLACEMENT AND DETAILING SHALL CONFORM TO THE SPECIFICATIONS, AND ALL CONCRETE CONSTRUCTION AND DETAILING SHALL CONFORM TO THE LATEST EDITION OF ACI 318.
2. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI IN ACCORDANCE WITH THE SPECIFICATIONS.
3. MAINTAIN 3" CLEAR COVER TO ALL REINFORCING STEEL, UNLESS OTHERWISE NOTED.
4. EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER, UNLESS OTHERWISE INDICATED.
5. CONCRETE SURFACES SHALL BE COVERED AND MOIST CURED FOR A PERIOD OF NOT LESS THAN SEVEN (7) FULL DAYS AFTER CONCRETE PLACEMENTS.
6. ALL WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH ASTM A185.
7. ALL REINFORCING SHALL BE FULLY SUPPORTED ON METAL, CONCRETE, OR PLASTIC CHAIRS.

UTILITY NOTES:

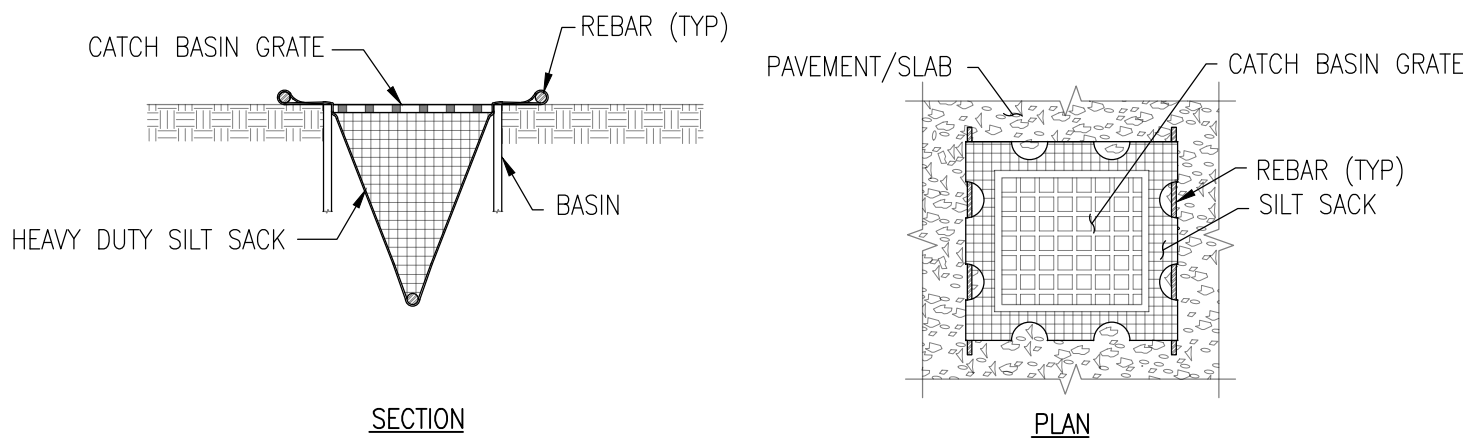
1. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY, TO THE SATISFACTION OF THE TOWN AT THE CONTRACTORS EXPENSE.
2. ALL UTILITIES WITHIN THE LIMITS OF THE WORK SHALL BE EITHER PROTECTED AND SUPPORTED DURING CONSTRUCTION, OR DISCONNECTED AND REINSTALLED, AS REQUIRED TO COMPLETE THE WORK. ANY UTILITY COMPONENTS NOT SUITABLE FOR REINSTALLATION SHALL BE REPLACED IN-KIND, AT NO ADDITIONAL COST TO THE TOWN.
3. NOTIFY THE TOWN A MINIMUM OF 5 WORKING DAYS IN ADVANCE OF ANY OUTAGES.

CONSTRUCTION SEQUENCING:

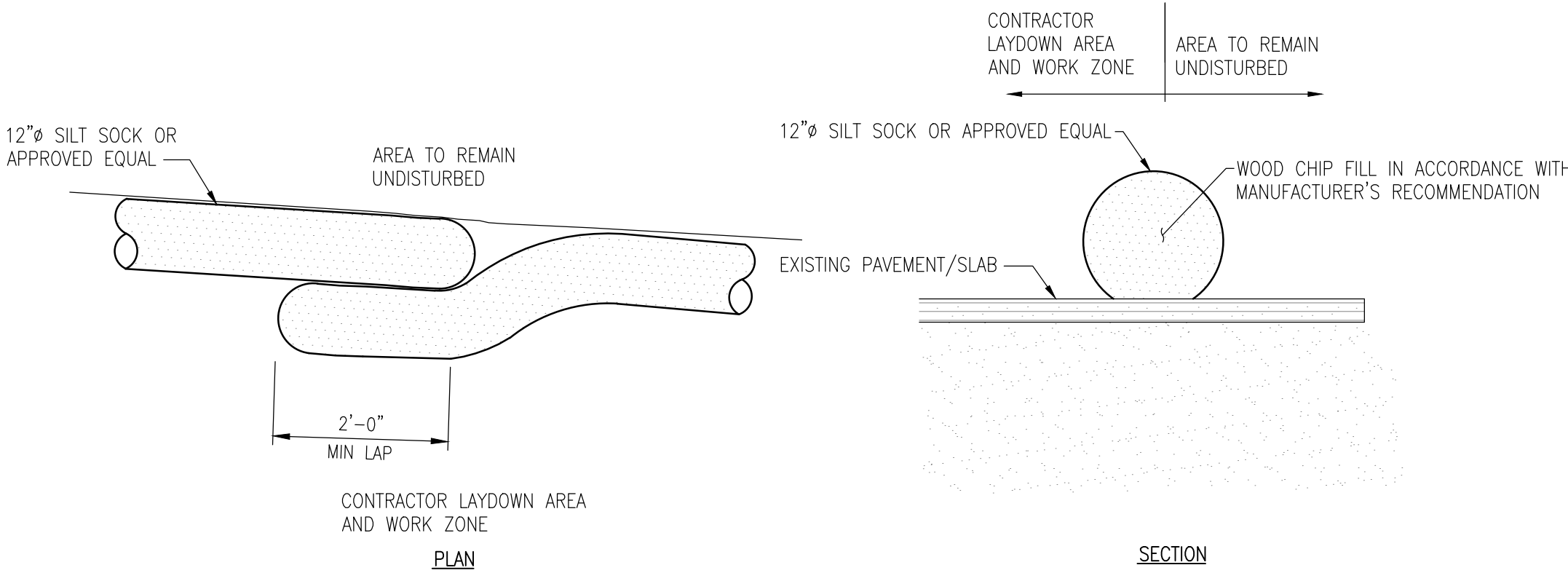
1. CONTRACTOR IS ADVISED THAT ALL UNIFORM LIVE LOADS AND CONSTRUCTION LOADS ARE LIMITED TO 50 PSF WITHIN 20 FEET OF THE EXISTING BULKHEAD FACE DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THESE LIMITS ARE NOT EXCEEDED.
2. CONTRACTOR IS ADVISED THAT APPROXIMATE SIZE AND DIMENSIONS OF THE EXISTING DEADMAN ARE SHOWN SCHEMATICALLY BASED ON LIMITED SUBSURFACE INVESTIGATIONS.
3. CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND FALSEWORK AS NECESSARY TO THE EXISTING AND PROPOSED BULKHEAD(S) TO ENSURE A STABLE AND SAFE STRUCTURE THROUGHOUT THE DURATION OF THE PROJECT. AFTER SEQUENCED EXCAVATION AND CUTTING OF THE SHEET PILE AND TIE-ROD(S) IS PERFORMED, DEFLECTIONS OF THE EXISTING STEEL SHEET PILE SHALL BE LIMITED SO AS TO NOT INTERFERE WITH THE INSTALLATION OF THE NEW BULKHEAD SYSTEM. CONTRACTOR IS ADVISED THAT THE EXISTING STEEL SHEET PILES, WALE, AND TIE RODS ENDS ARE DETERIORATED; THEREFORE, THE EXISTING BULKHEAD HAS REDUCED CAPACITY.
4. SEQUENCING OF ALL EXCAVATION, DEMOLITION, AND INSTALLATION OF THE REPLACEMENT BULKHEAD SYSTEM IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A DETAILED SEQUENCING PLAN WHICH SHALL INCLUDE BUT NOT BE LIMITED TO:
 - a. DETAILED PROCESS FOR EXCAVATION DEPTH AND LIMITS;
 - b. DISCRETE WALL LENGTH DEMOLITION AND TIE ROD REMOVAL PHASING;
 - c. SHORING PLAN FOR THE EXISTING AND PROPOSED RETAINING SYSTEMS, AS NECESSARY;
 - d. PROPOSED DEMOLITION AND EXCAVATION EQUIPMENT STAGING PLAN.
5. CONTRACTOR SHALL PROTECT THE OPEN CUT OF EXCAVATIONS AT ALL TIMES TO MAINTAIN STABILITY AND PREVENT EXCESSIVE EROSION OR LOSS OF FILL. ADEQUATE DRAINAGE SHALL BE PROVIDED AS NECESSARY TO PREVENT HYDROSTATIC FORCES FROM DEVELOPING BEHIND THE EXISTING SHEET PILE WALL.

ENVIRONMENTAL CONTROL NOTES:

1. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ENVIRONMENTAL CONTROLS AS REQUIRED BY FEDERAL, STATE AND MUNICIPAL REGULATIONS AND PERMITS. ENVIRONMENTAL CONTROLS SHALL INCLUDE BUT NOT BE LIMITED TO TURBIDITY AND DUST.
2. DURING ALL WORK, CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION, CONTAINMENT, AND REMOVAL OF DEBRIS AND WASTE WITHIN THE WORK AREA.
3. THE CONTRACTOR SHALL PROVIDE CONTROL MEASURES AS REQUIRED BY ENVIRONMENTAL REGULATIONS AND AS REQUIRED TO PREVENT DEBRIS, CONTAMINANTS (SOLID, LIQUID OR DISSOLVED), AND WASTE FROM ENTERING THE STORM WATER DRAINS AND WATERWAY.
4. CONTRACTOR SHALL PREVENT THE SPREAD OF DUST AND DEBRIS AND AVOID THE CREATION OF A NUISANCE OR HAZARD IN THE SURROUNDING AREA. DO NOT USE WATER IF IT RESULTS IN HAZARDOUS OR OBJECTIONABLE CONDITIONS SUCH AS, BUT NOT LIMITED TO, FLOODING OR POLLUTION.
5. STORAGE, FUELING AND LUBRICATION OF EQUIPMENT AND MOTOR VEHICLES SHALL BE CONDUCTED IN A MANNER THAT AFFORDS THE MAXIMUM PROTECTION AGAINST SPILL AND EVAPORATION. FUEL, LUBRICANTS AND OIL SHALL BE MANAGED AND STORED IN ACCORDANCE WITH ALL FEDERAL, STATE, REGIONAL, AND LOCAL LAWS AND REGULATIONS. THERE SHALL BE NO STORAGE OF FUEL ON THE PROJECT SITE. FUEL MUST BE BROUGHT TO THE PROJECT SITE AS NEEDED. EQUIPMENT OPERATION, ACTIVITIES, OR PROCESSES PERFORMED BY THE CONTRACTOR SHALL BE IN ACCORDANCE WITH ALL FEDERAL AND STATE AIR EMISSION AND PERFORMANCE LAWS AND STANDARDS.
6. THE USE OF HEAVY EQUIPMENT IN WETLANDS SHALL INCLUDE THE USE OF TIMBER MATS AND BE IN ACCORDANCE WITH ENV-WT 307, ENV-WT 500 AND ENV-WT 600.
7. ALL WORK, INCLUDING MANAGEMENT OF STOCKPILES, SHALL BE CONDUCTED SO AS TO MINIMIZE EROSION, MINIMIZE SEDIMENT TRANSFER TO SURFACE WATERS OR WETLANDS, AND MINIMIZE TURBIDITY IN SURFACE WATERS AND WETLANDS USING TECHNIQUES IN ACCORDANCE WITH ENV-WT 307 AND ENV-WQ 1500.



A1 CATCH BASIN INLET PROTECTION
SCALE: 3/4"=1'-0"



A2 SILT SOCK DETAILS
NTS

WATER DATUMS	
FEMA FLOOD EL. (ZONE AE)	9.00'
APPROXIMATE HIGH TIDE LINE (HTL)	6.37'
MEAN HIGHER HIGH WATER (MHHW)	4.39'
MEAN HIGH WATER (MHW)	3.97'
NORTH AMERICAN VERTICAL DATUM OF 1988 (NAV88)	0.00'
MEAN LOW WATER (MLW)	-4.66'
MEAN LOWER-LOW WATER (MLLW)	-5.00'
REFERENCE: NOAA STATION: 8423898 FORT POINT, NH	
NOTE: ELEVATIONS REFERENCE TO NAVD88 UNLESS OTHERWISE NOTED	

660 Islington Street, Suite 1
Portsmouth, NH 03801
Phone: (603) 334-7142
Fax: (603) 334-7145
web: collinsengr.com

COLLINS
ENGINEERS^{PC}

REV.	NO.	DATE	DESCRIPTION
1	1		
2	2		
3	3		
4	4		
5	5		
6	6		
7	7		

2021

GENERAL NOTES

DESIGN OF REPAIRS
SEABROOK SEAWALL

SEABROOK, NEW HAMPSHIRE

designed by: DTG
checked by: DG
approved by: ZDJ
QA/QC by: ZDJ
project no.: 15-12415
drawing no.: D01
date: JUNE 2022



1 – NORTH BULKHEAD EXTENTS, LOOKING SOUTH



2 – NORTHWEST BULKHEAD EXTENTS, LOOKING
SOUTHEAST



3 – TYPICAL SINKHOLE ALONG NW BULKHEAD,
LOOKING DOWN



4 – CORROSION HOLES NEAR MLW, LOOKING
NORTHEAST



5 – TYPICAL WALE CONDITION ALONG NORTH
BULKHEAD, LOOKING WEST



6 – PREVIOUS BULKHEAD REPAIR TRANSITION,
LOOKING SOUTHEAST



7 – SOUTH BULKHEAD EXTENTS, LOOKING SOUTH



8 – SOUTH BULKHEAD BACKSIDE, LOOKING
NORTHWEST



9 – EXPOSED TIEBACK SYSTEM AT SOUTH
BULKHEAD, LOOKING NORTH

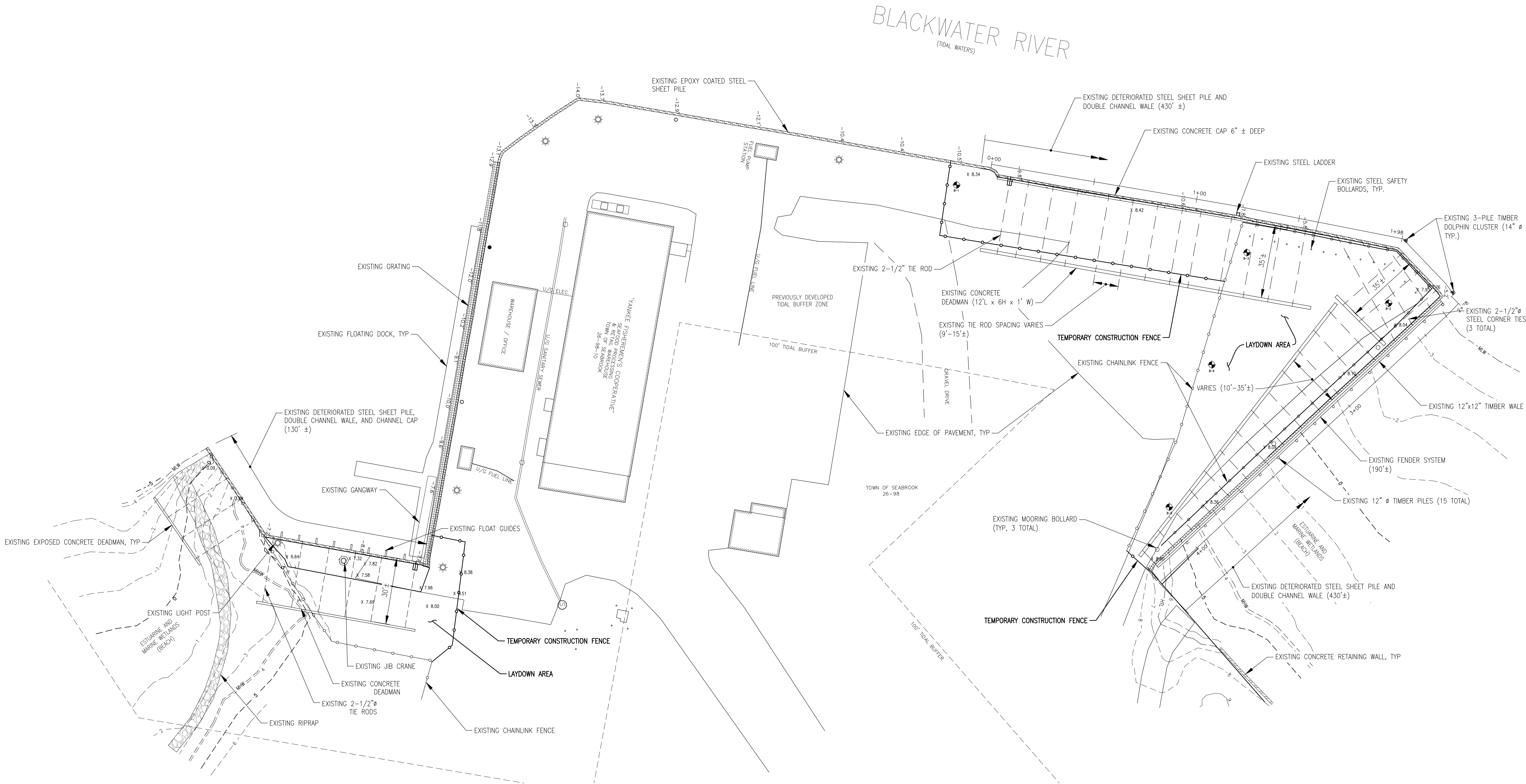
660 Islington Street, Suite 1
Portsmouth, NH 03801
Phone: (603) 334-7745
Fax: (603) 334-7745
web: collinsengr.com

**COLLINS
ENGINEERS^{PC}**

EXISTING CONDITION PHOTOGRAPHS		DESIGN OF REPAIRS		SEABROOK, NEW HAMPSHIRE	
REV. NO.	DATE	REVISIONS DESCRIPTION	2021	2021	
1					
2					
3					
4					
5					
6					
7					

designed by: DTG
checked by: DG
approved by: CTC
QA/QC by: ZDJ
project no.: 15-12415
drawing no.: D01
date: JUNE 2022

C-01
3 OF 13



LEGEND:

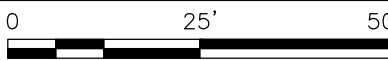
- 3 --- MINOR CONTOUR ELEVATION
- 5 --- MAJOR CONTOUR ELEVATION
- MHW --- MEAN HIGH WATER
- MLW --- MEAN LOW WATER
- HTL --- APPROXIMATE HIGH TIDE LINE
- 8.5 MUDLINE ELEVATION (AT BULKHEAD FACE)
- X 8.0 SPOT GRADES
- SOIL BORING LOCATION
- LIGHT POST
- SEWER MANHOLE

NOTES:

1. THE BASE PLAN WAS DEVELOPED BASED ON DRAWING ENTITLED "SITE PLAN OF WHARF AREAS, #725 OCEAN BLVD., TOWN OF SEABROOK, NH" BY NORTH-EAST SURVEY OF SALEM, MA, DATED AUGUST 14, 2020 AND CONDITIONS OBSERVED DURING THE SITE INVESTIGATION PERFORMED BY COLLINS ENGINEERS, INC. OF PORTSMOUTH, NH AND NDT CORPORATION OF STERLING, MA, IN JULY 2020.
2. APPROXIMATE LOCATION AND SPACING OF EXISTING DEADMAN AND TIE-BACK SYSTEM SHOWN SCHEMATICALLY BASED ON LIMITED SUBSURFACE INVESTIGATIONS.
3. ENTIRE SITE LOCATED WITHIN FEMA FLOOD EL. 9 (ZONE AE).
4. BORINGS REFERENCE BORING LOCATION PLAN AND LOGS COMPLETED IN JULY 2020 BY SOIL EXPLORATION CORP. AND JOHN TURNER CONSULTING.
5. CONTRACTOR SHALL RESTORE THE STAGING AREA TO PRE-CONSTRUCTION CONDITIONS AT COMPLETION OF WORK, INCLUDING BUT NOT LIMITED TO REPAVING AND LINE STRIPPING.

EXISTING CONDITIONS AND LAYDOWN PLAN

SCALE: 1"=25'



EXISTING CONDITIONS AND LAYDOWN PLAN

DESIGN OF REPAIRS
SEABROOK SEAWALL

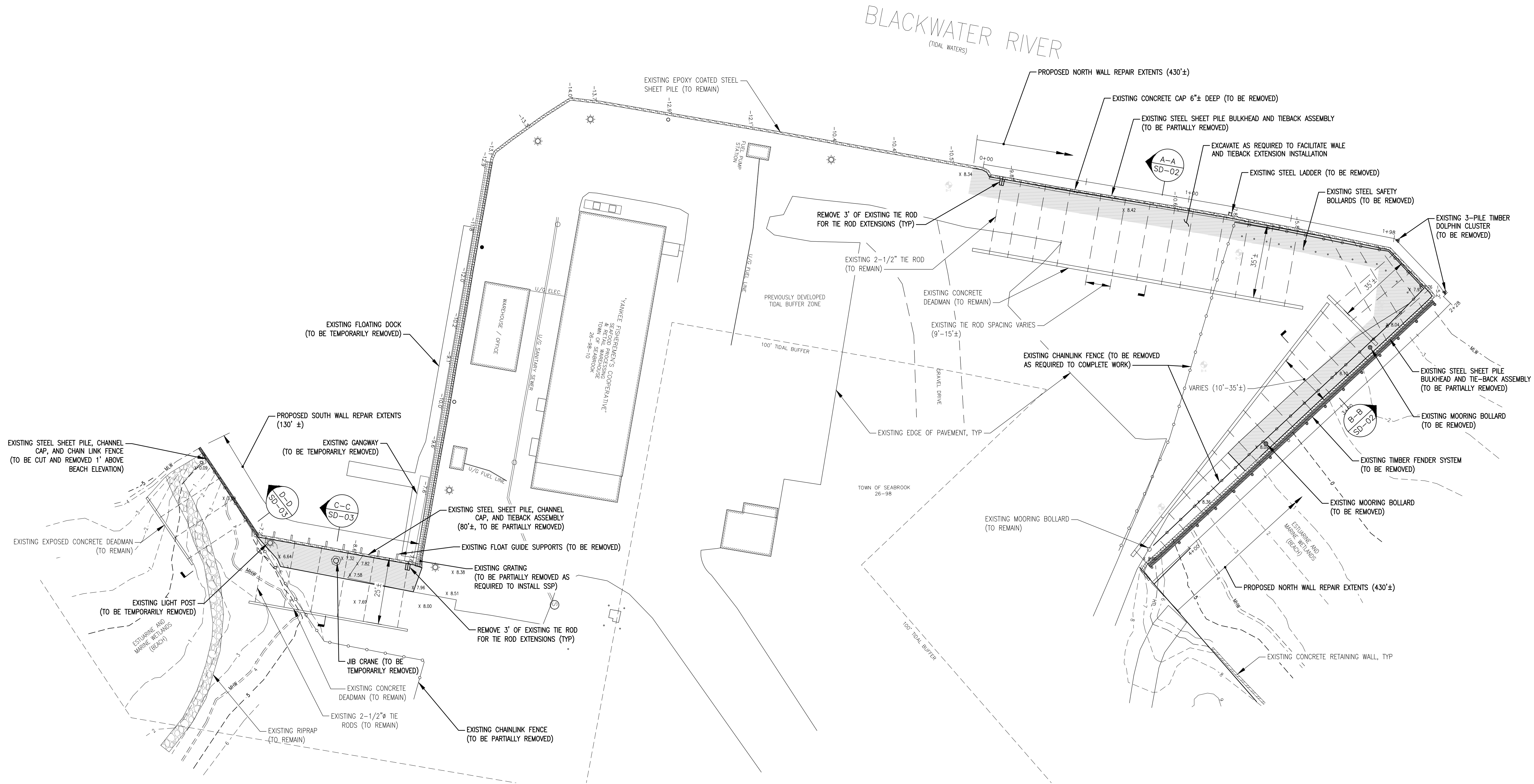
SEABROOK, NEW HAMPSHIRE

REVISIONS

REV. NO.	DATE	REVISIONS DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

2021

designed by: DTG
checked by: DG
approved by: CTC
QA/QC by: ZDJ
project no.: 15-12415
drawing no.: D01
date: JUNE 2022

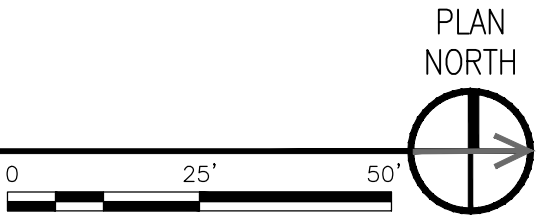


GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE TEMPORARY REMOVAL OF EXISTING ALUMINUM GANGWAY, TIMBER FLOATS, AND GRATING AT THE SOUTH WALL REPAIR WITH THE TOWN.

REMOVALS PLAN

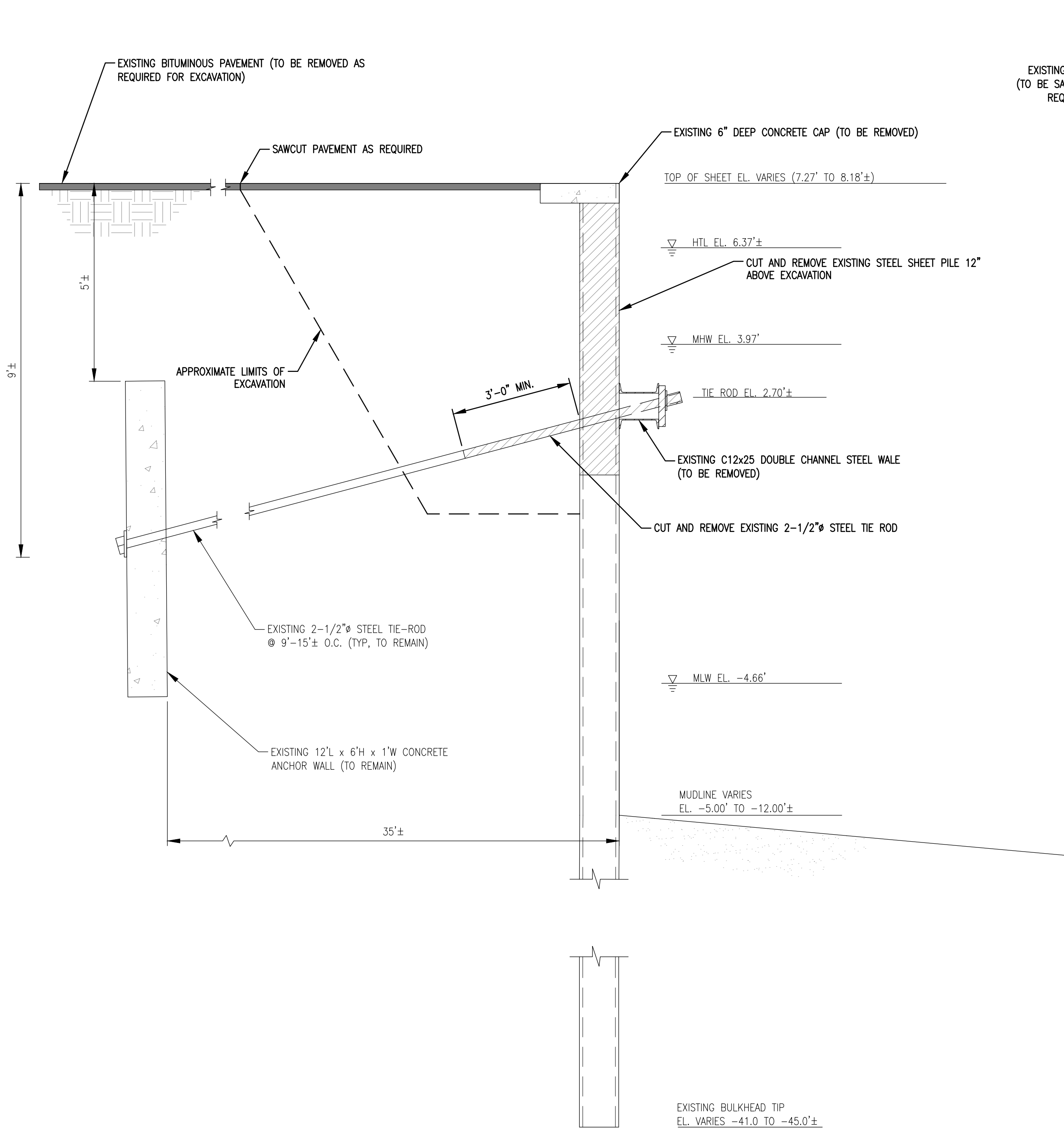
SCALE: 1"=25'



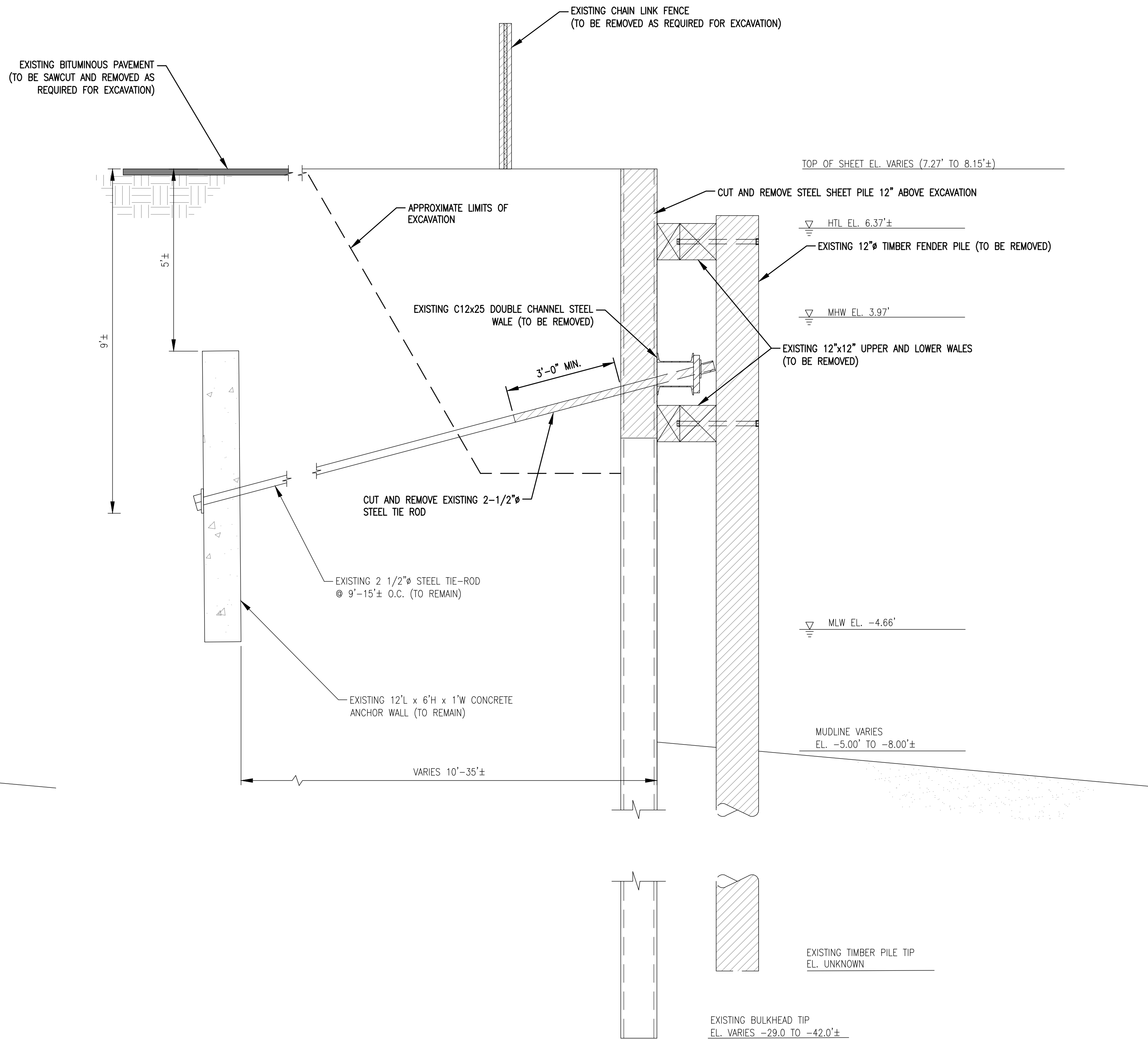
REV.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

REMOVALS PLAN	DESIGN OF REPAIRS SEABROOK SEAWALL	2021
SEABROOK, NEW HAMPSHIRE		

designed by: DTG
checked by: DG
approved by: CTC
QA/QC by: ZDJ
project no.: 15-12415
drawing no.: D01
date: JUNE 2022



REMOVALS SECTION AT NORTHWEST WALL
SCALE: 1/2"=1'-0"

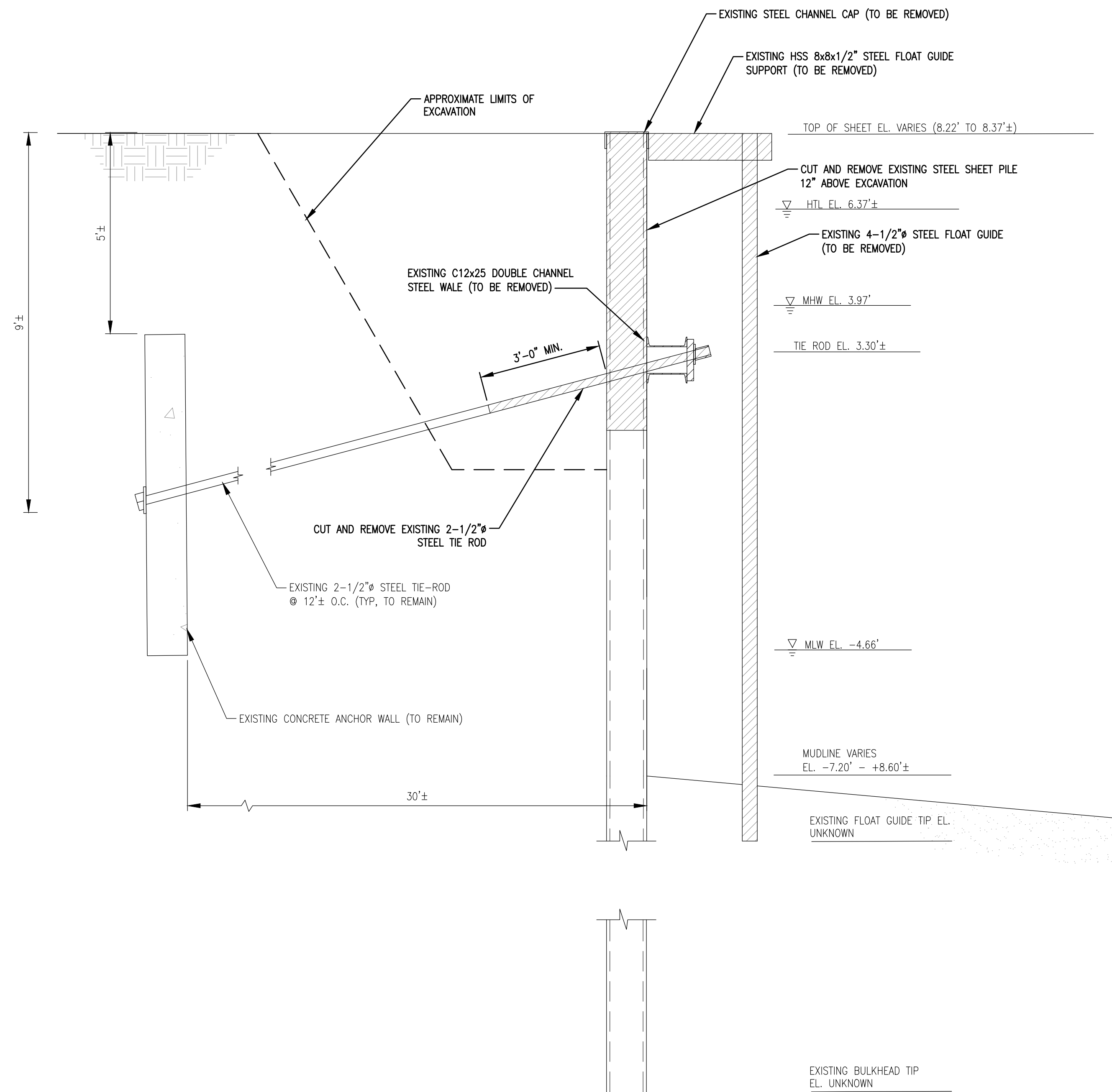


REMOVALS SECTION AT NORTH WALL
SCALE: 1/2"=1'-0"

REVISIONS	
REV. NO.	DESCRIPTION
1	
2	
3	
4	
5	
6	
7	

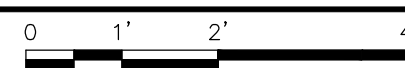
REMOVALS SECTIONS - NORTH WALL	DESIGN OF REPAIRS SEABROOK SEAWALL	2021
SEABROOK, NEW HAMPSHIRE		

designed by: DTG
checked by: DG
approved by: CTC
QA/QC by: ZDJ
project no.: 15-12415
drawing no.: D01
date: JUNE 2022



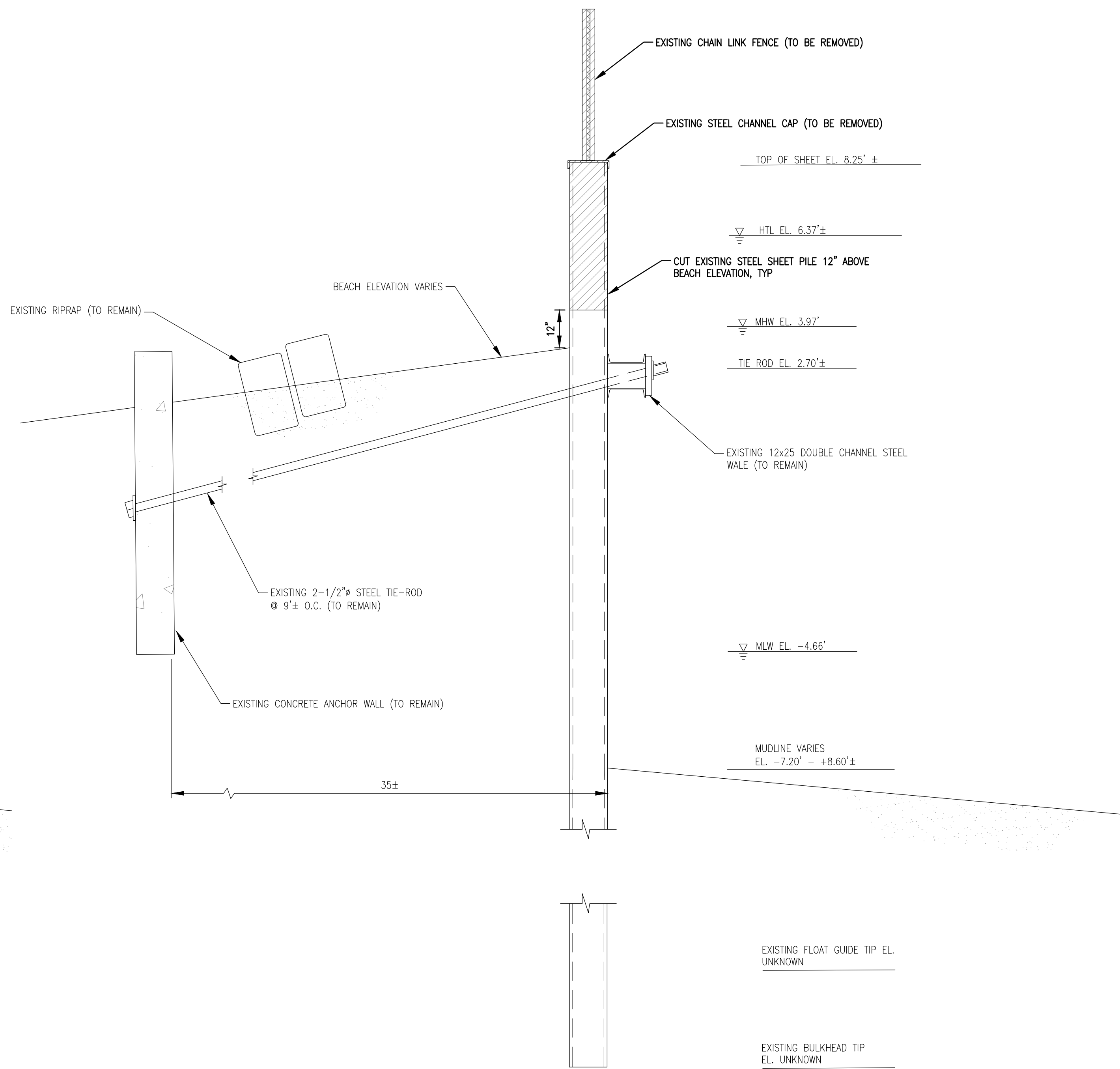
NOTE:
EXISTING JIB CRANE NOT SHOWN FOR CLARITY.

REMOVALS SECTION AT SOUTH WALL
SCALE: 1/2"=1'-0"

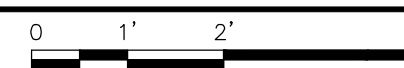


SD-01

C-C



REMOVALS SECTION AT SOUTH WALL
SCALE: 1/2"=1'-0"



SD-01

D-D

600 Islington Street, Suite 1
Portsmouth, NH 03801
Tel: (603) 334-7745
Fax: (603) 334-7745
Web: collinsengr.com

COLLINS ENGINEERS

REMOVALS SECTIONS - SOUTH WALL

DESIGN OF REPAIRS
SEABROOK SEAWALL

SEABROOK, NEW HAMPSHIRE

2021

REVISIONS

REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

designed by: _____ DTG

checked by: _____ DG

approved by: _____ CTC

QA/QC by: _____ ZDJ

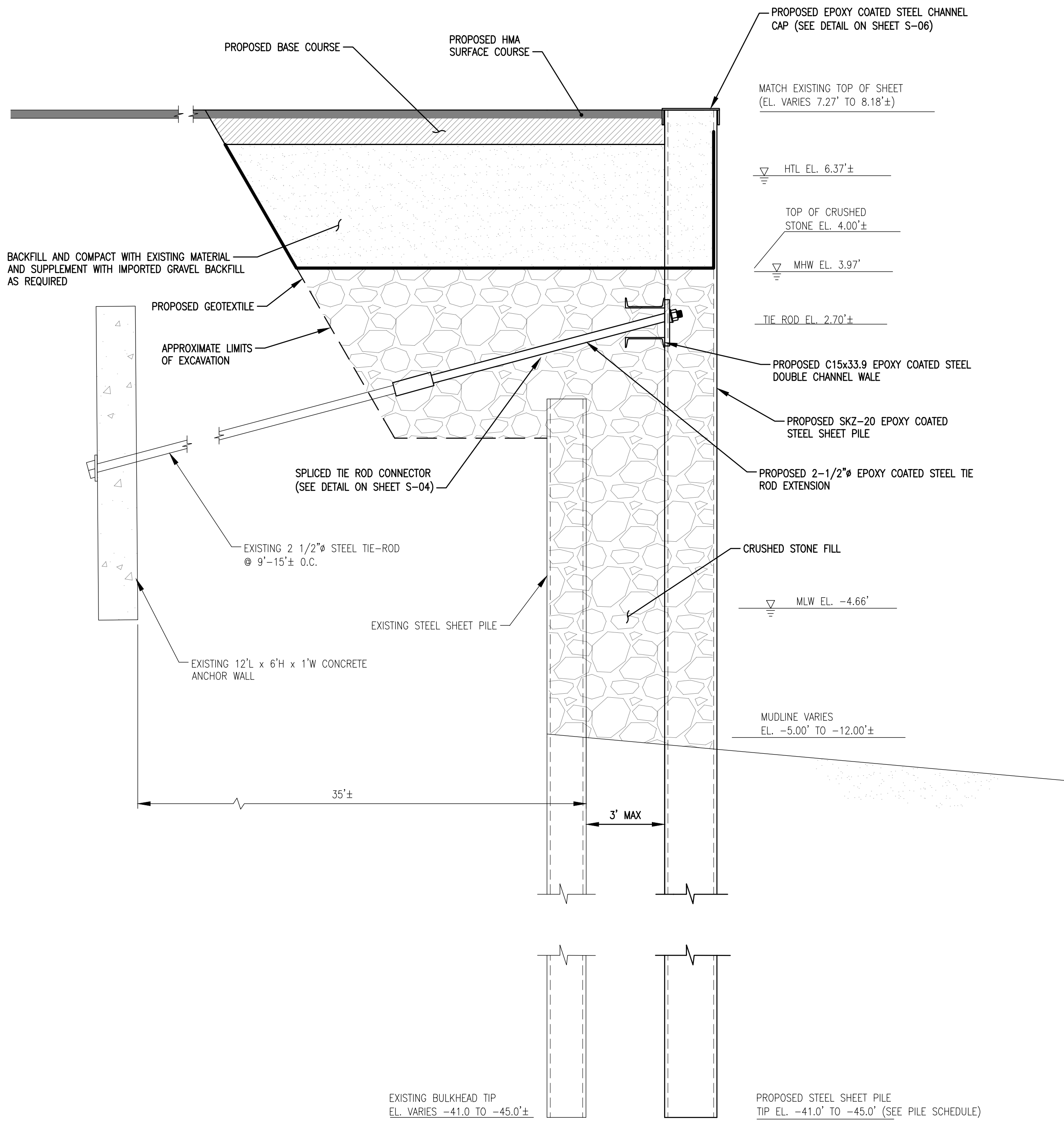
project no.: 15-12415

drawing no.: D01

date: JUNE 2022

SD-03

7 OF 13



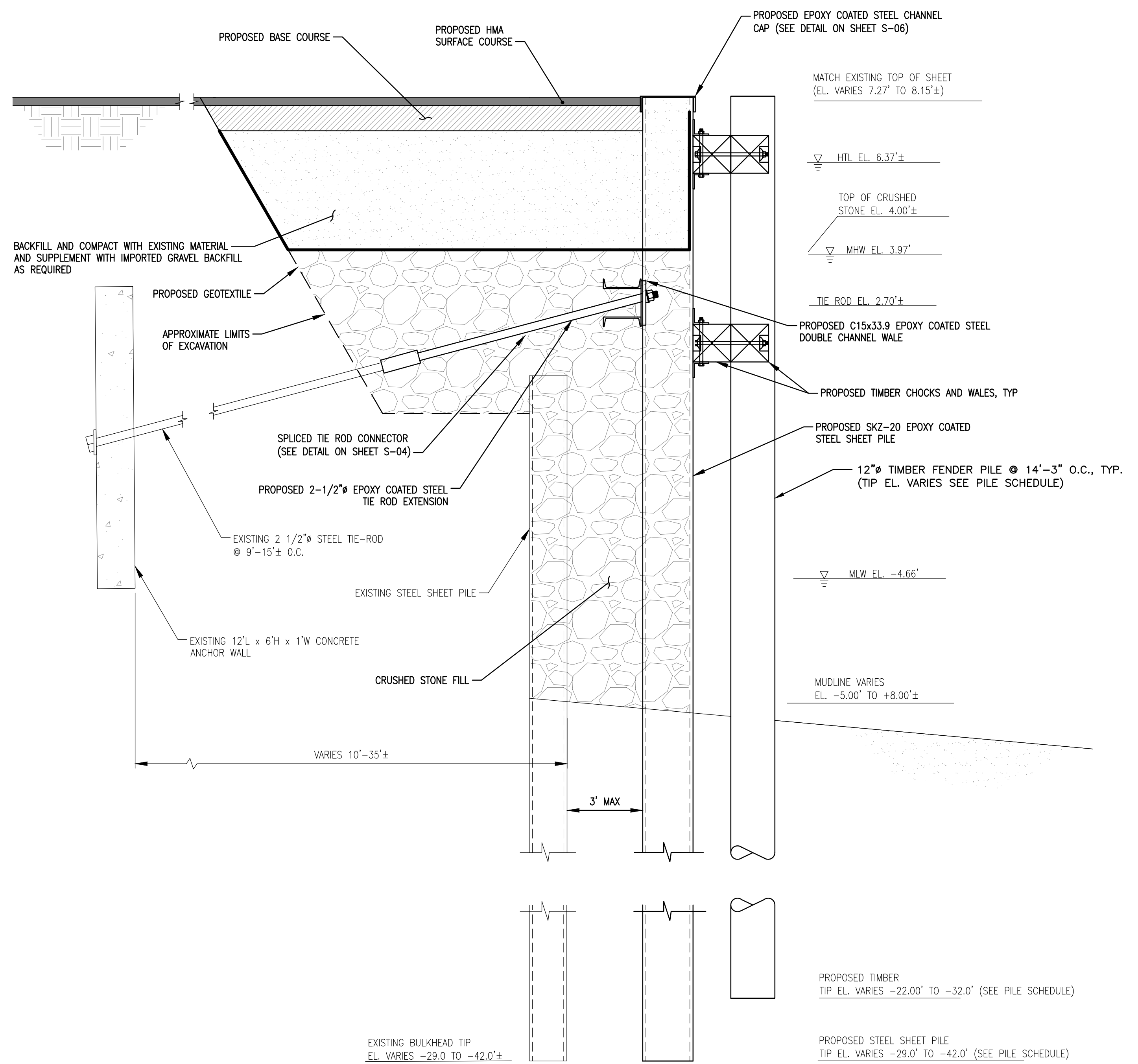
PROPOSED SECTION AT NORTHWEST WALL

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



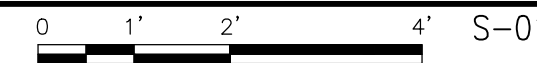
S-01

A-A



PROPOSED SECTION AT NORTH WALL

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



S-01

B-B

REVISIONS DESCRIPTION

REV. NO. DATE

REPAIR SECTIONS - NORTH WALL

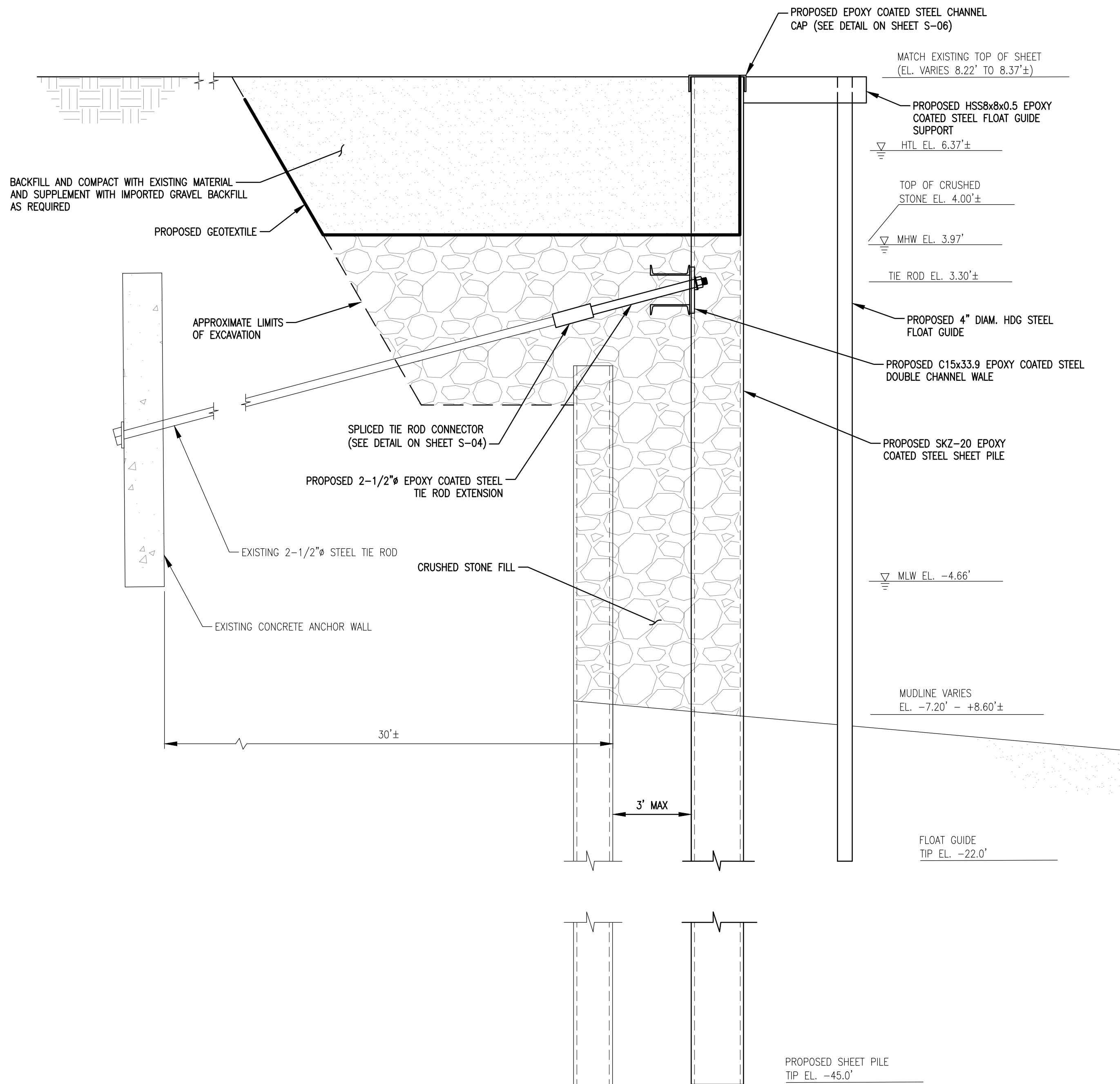
DESIGN OF REPAIRS
SEABROOK SEAWALL

SEABROOK, NEW HAMPSHIRE

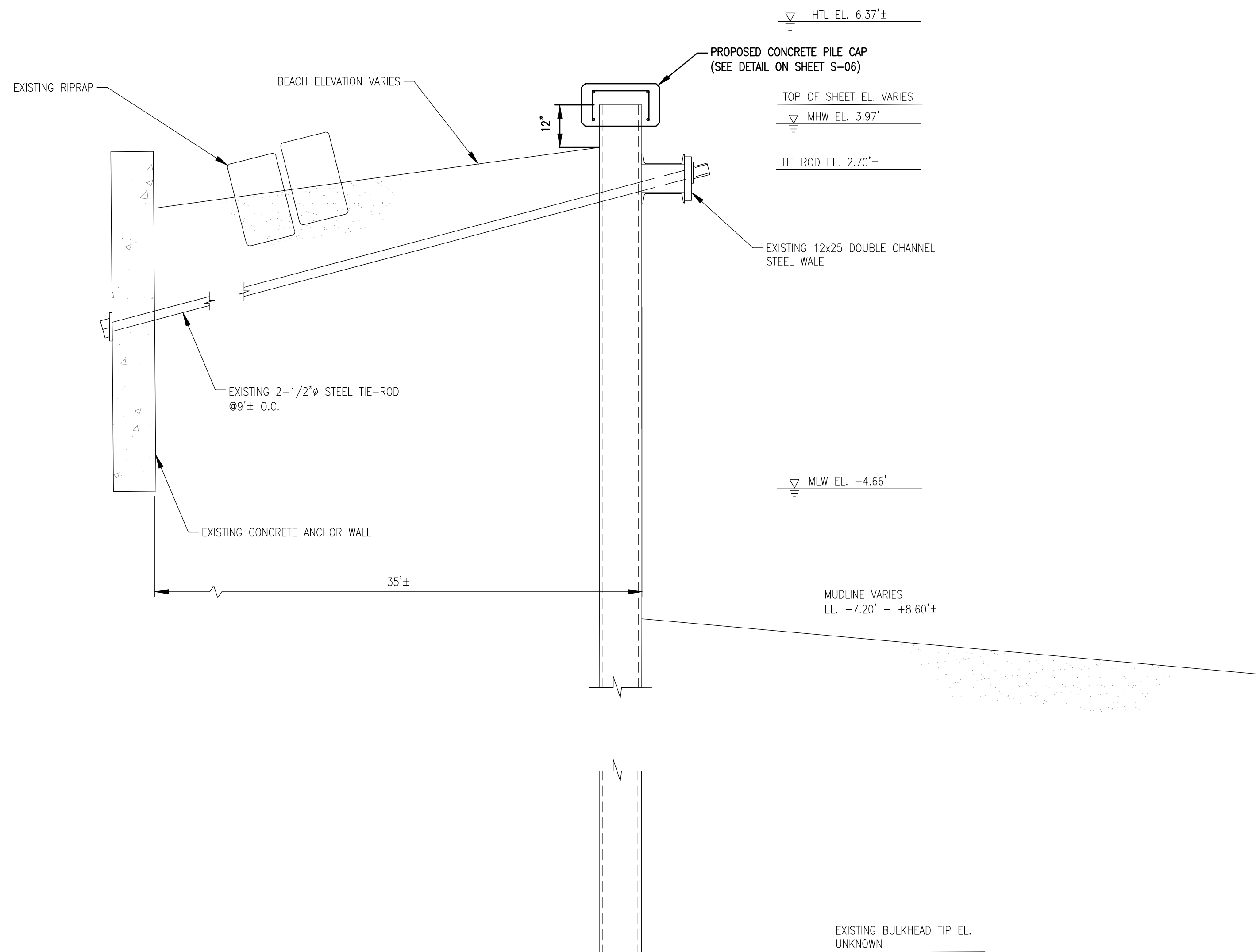
REVISIONS

2021

designed by: DTG
checked by: DG
approved by: CTC
QA/QC by: ZDJ
project no.: 15-12415
drawing no.: D01
date: JUNE 2022



PROPOSED SECTION AT SOUTH WALL C-C
SCALE: 1/2"=1'-0" S-01



PROPOSED SECTION AT SOUTH WALL D-D
SCALE: 1/2"=1'-0" S-01

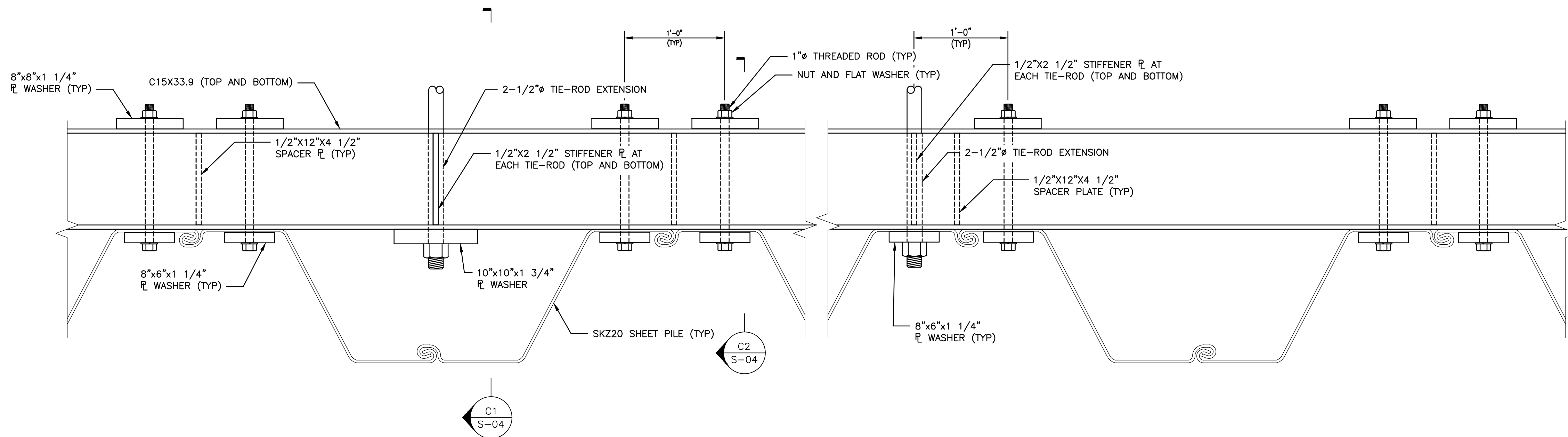
600 Islington Street, Suite 1
Portsmouth, NH 03801
Tel: (603) 334-7745
Fax: (603) 334-7745
web: collinsengr.com

COLLINS
ENGINEERS

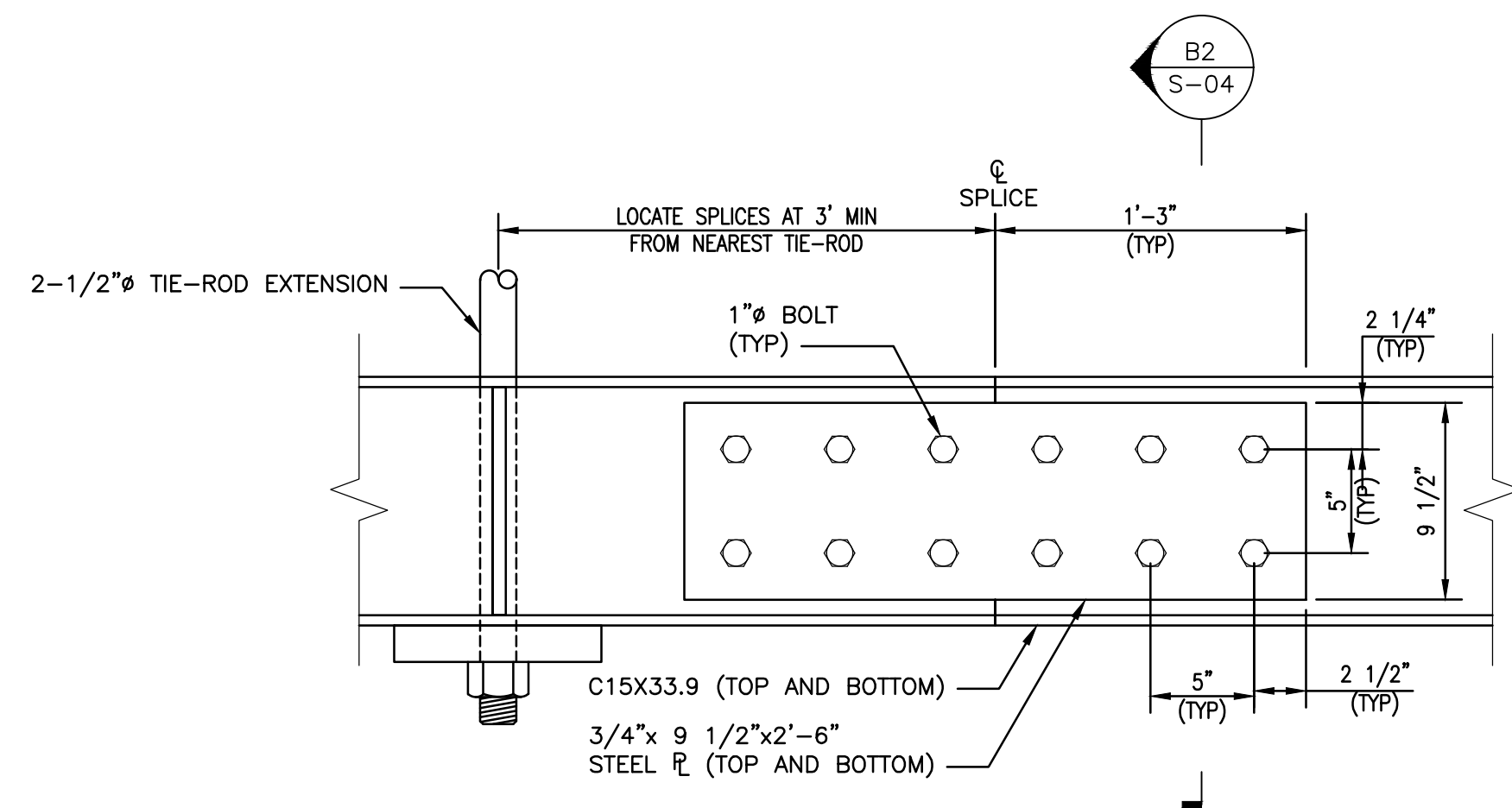
REPAIR SECTIONS - SOUTH WALL		DESIGN OF REPAIRS		SEABROOK, NEW HAMPSHIRE	
REV.	NO.	DATE	REVISIONS DESCRIPTION	2021	REVISIONS
1	1				
2	2				
3	3				
4	4				
5	5				
6	6				
7	7				

designed by: DTG
checked by: DG
approved by: CTC
QA/QC by: ZDJ
project no.: 15-12415
drawing no.: D01
date: JUNE 2022

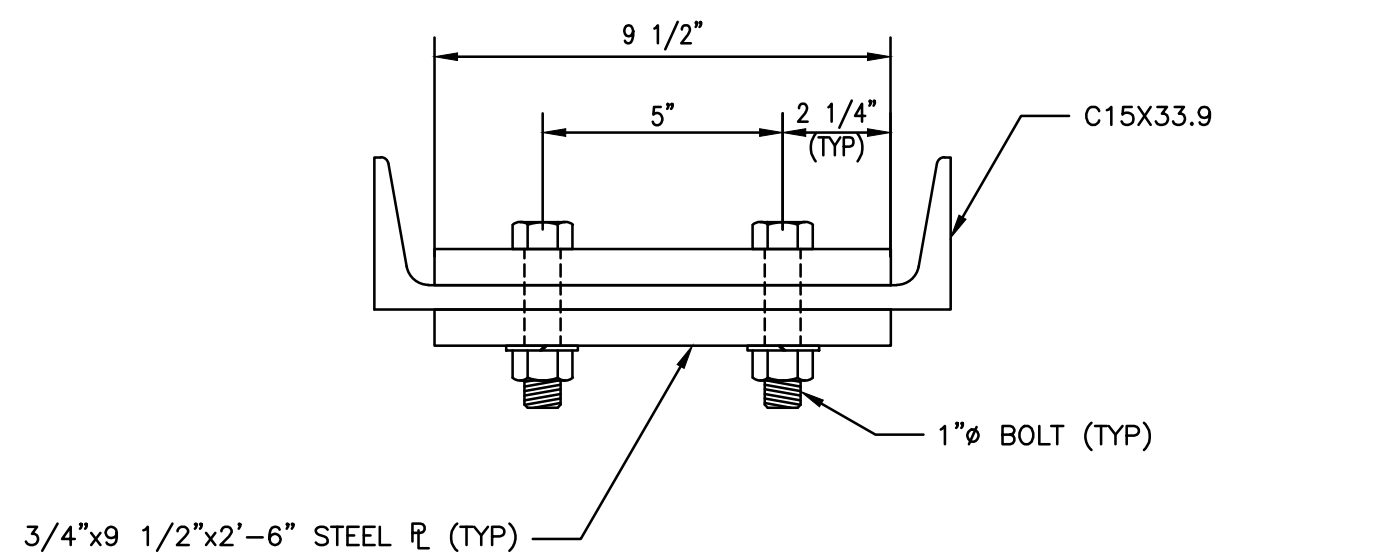
S-03
10 OF 13



A1 WALE DETAIL AND TIE-ROD CONNECTION
SCALE: 1 1/2"=1'-0"



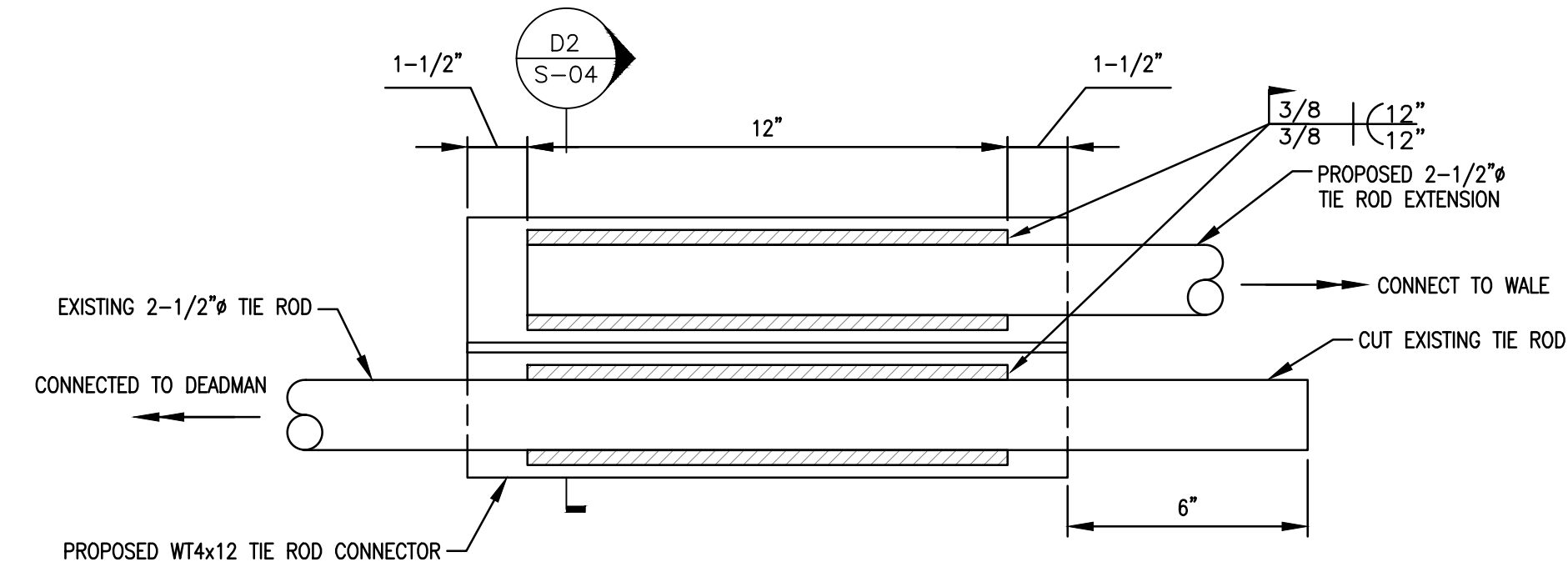
B1 TYPICAL WALE SPLICE DETAIL
SCALE: 1 1/2"=1'-0"



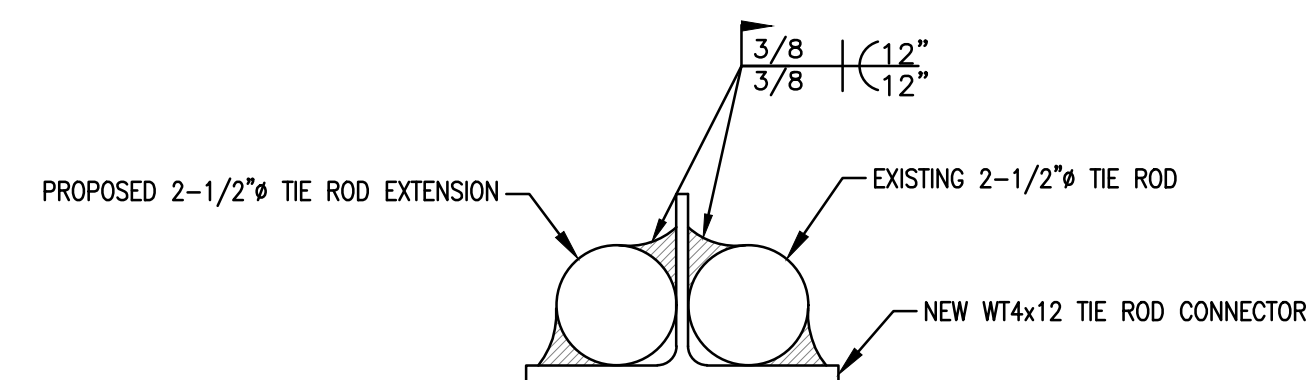
B2 TYPICAL WALE SPLICE SECTION
SCALE: 3"=1'-0"

NOTES:

- ALL WALE AND TIEBACK ASSEMBLY HARDWARE SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.
- THREADED PORTIONS OF FIXING HARDWARE AND WELDED PORTIONS OF TIE BACK EXTENSION ARE PERMITTED TO BE FIELD COATED.



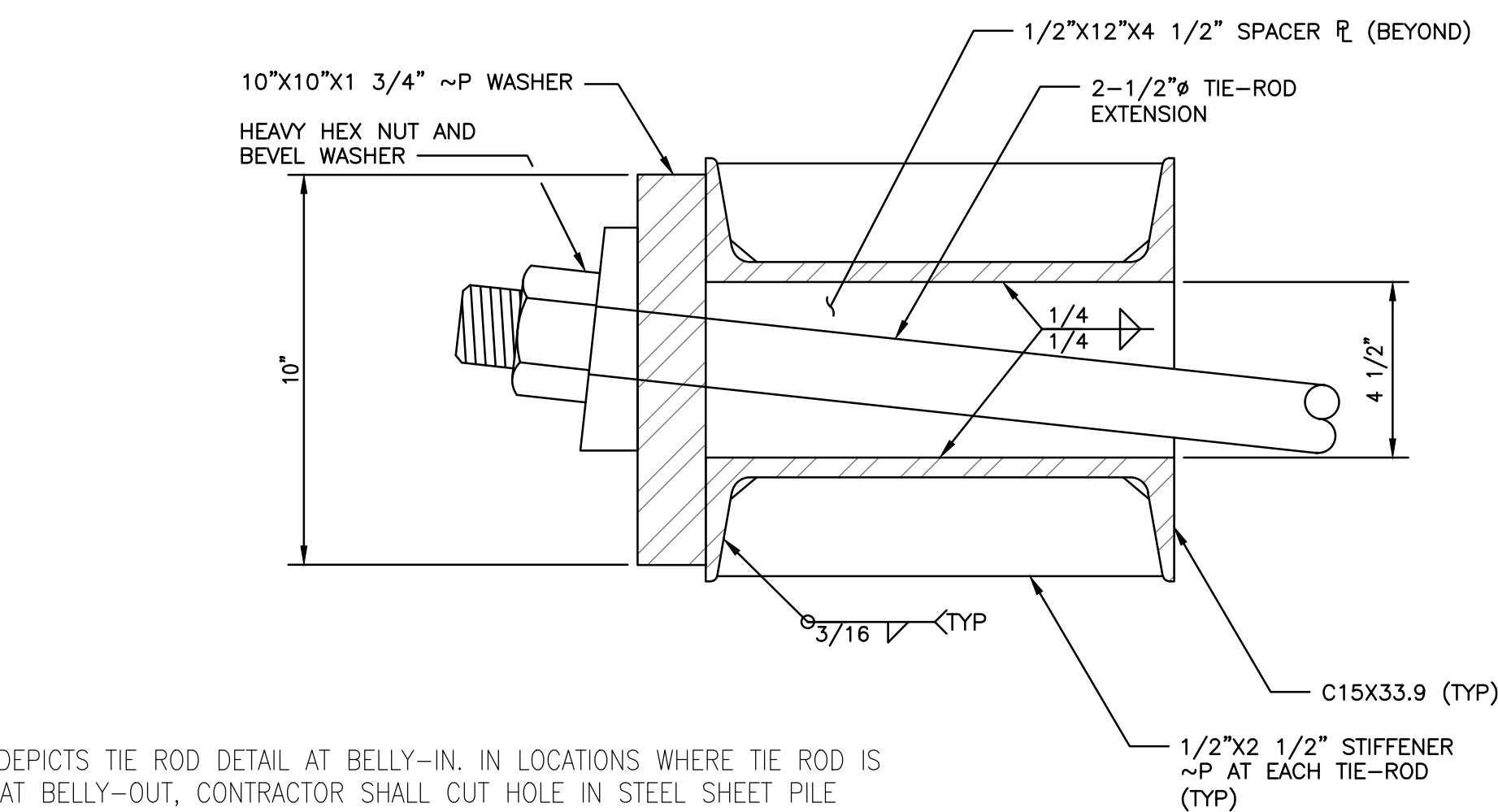
D1 TIE ROD SPLICE DETAIL
SCALE: 3"=1'-0"



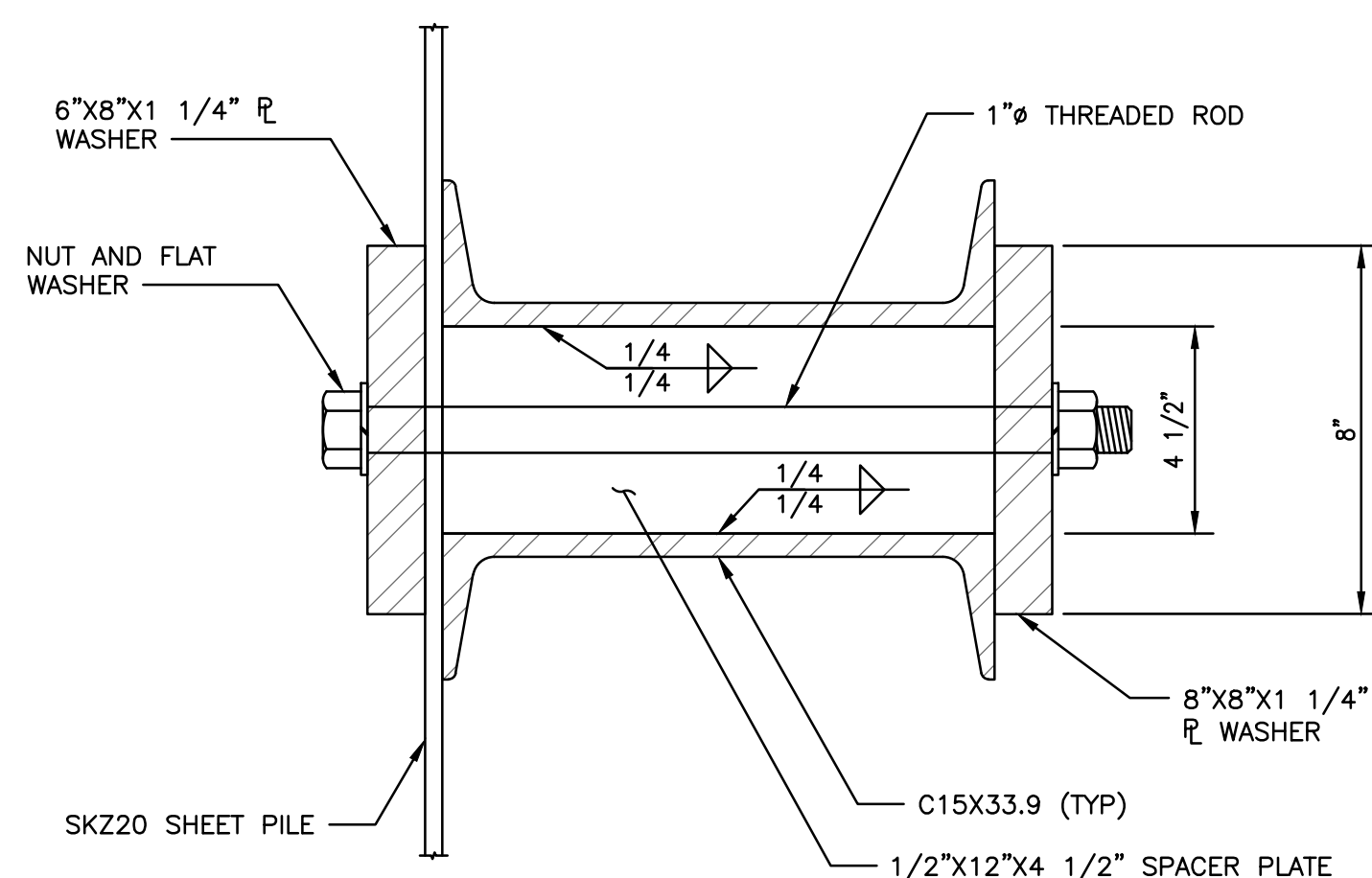
D2 TIE ROD SPLICE SECTION
SCALE: 3"=1'-0"

NOTE:

SECTION DEPICTS TIE ROD DETAIL AT BELLY-IN. IN LOCATIONS WHERE TIE ROD IS LOCATED AT BELLY-OUT, CONTRACTOR SHALL CUT HOLE IN STEEL SHEET PILE AND INSTALL PLATE WASHER ON OUTSIDE FACE OF SHEET PILE.



C1 WALE SECTION - AT INTERNAL TIE-ROD
SCALE: 3"=1'-0"



C2 WALE SECTION - AT SHEET PILE BOLTS
SCALE: 3"=1'-0"

TOP OF DOLPHIN EL. 11.0' ±

HTL EL. 6.37' ±

MHW EL. 3.97'

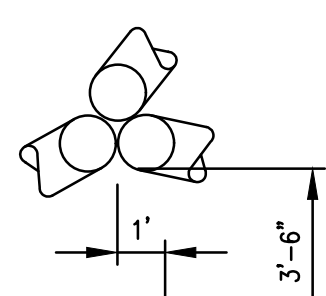
MLW EL. -4.66'

12"Ø TIMBER BATTER PILE

PILE TIP EL. -26.0'

APPROX. MUDLINE
(EL. -5.2' ±)

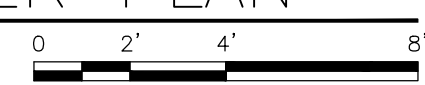
PILE TIP EL. -26.0'



PILE TIP EL. -26.0'

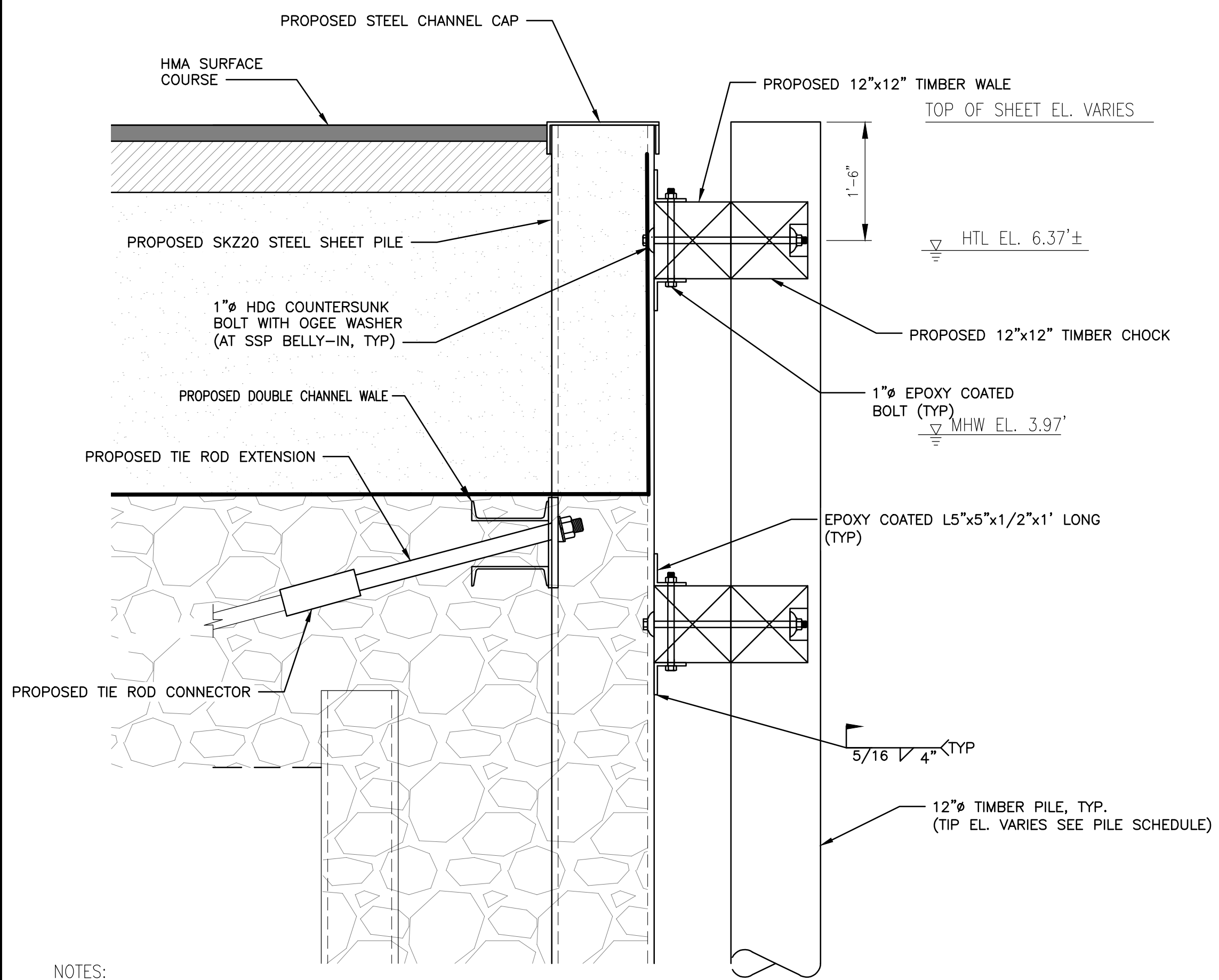
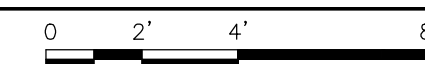
A2 DOLPHIN CLUSTER PLAN

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



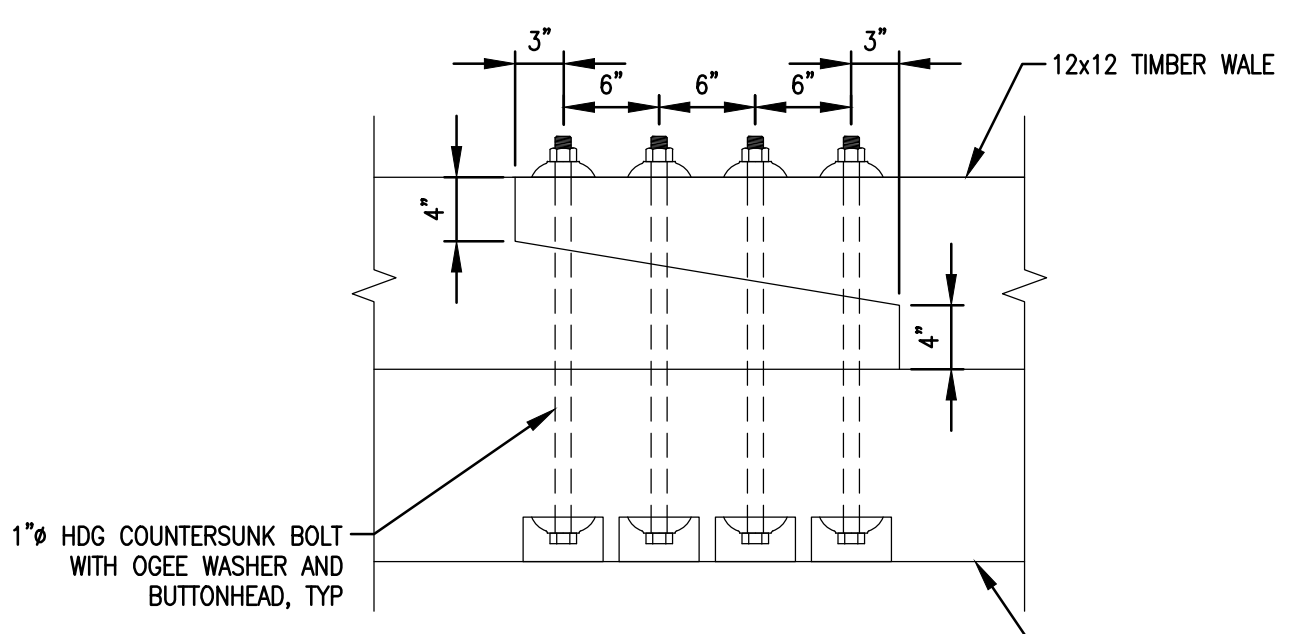
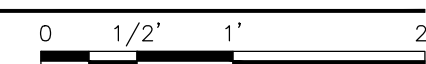
A1 DOLPHIN CLUSTER DETAIL

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



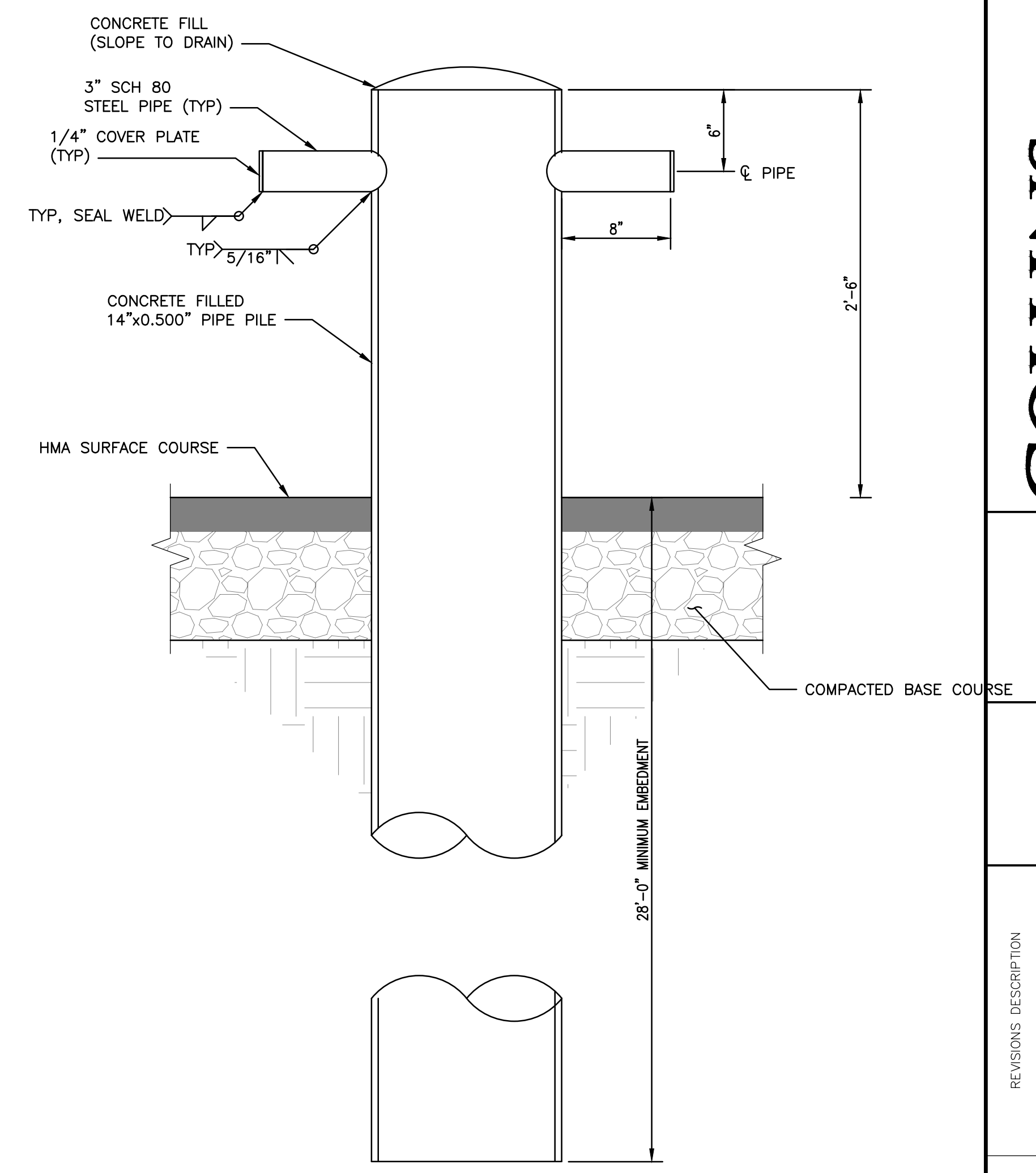
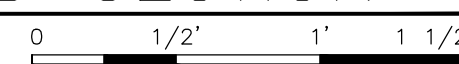
B3 WALE SPLICE DETAIL

SCALE: 1"=1'-0"



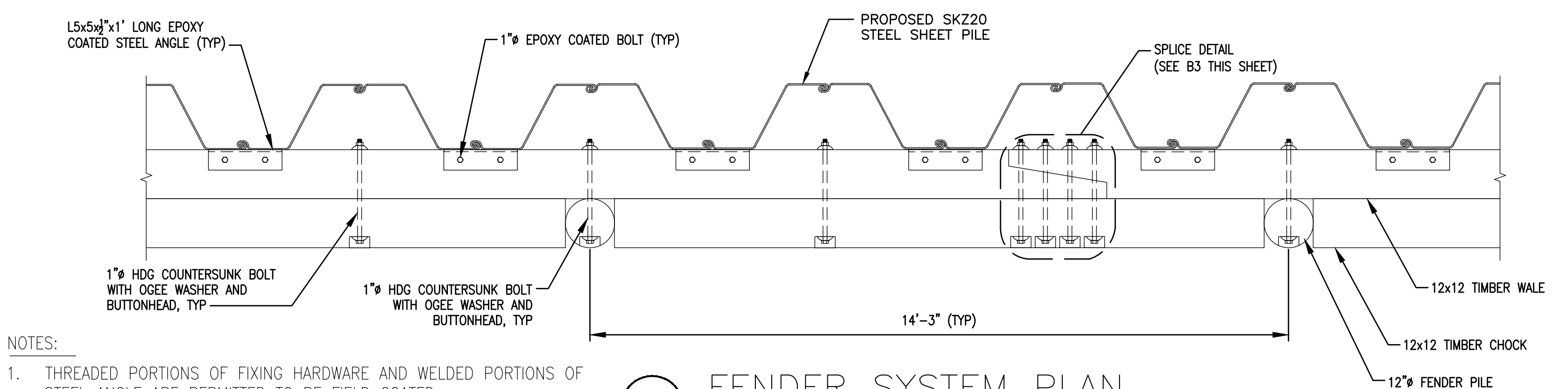
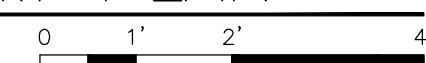
C1 MOORING BOLLARD SECTION

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



B2 FENDER SYSTEM PLAN

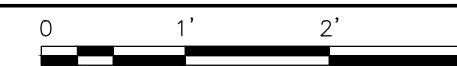
SCALE: 1/2"=1'-0"



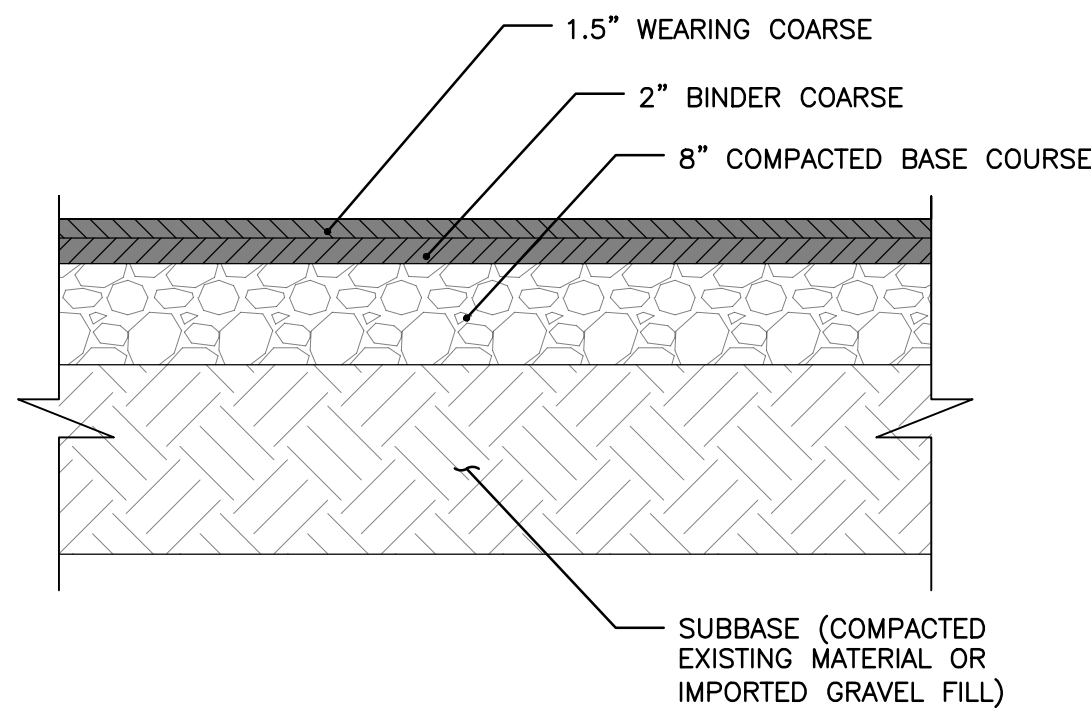
- NOTES:
1. THREADED PORTIONS OF FIXING HARDWARE AND WELDED PORTIONS OF STEEL ANGLE ARE PERMITTED TO BE FIELD COATED.

B1 FENDER SYSTEM SECTION

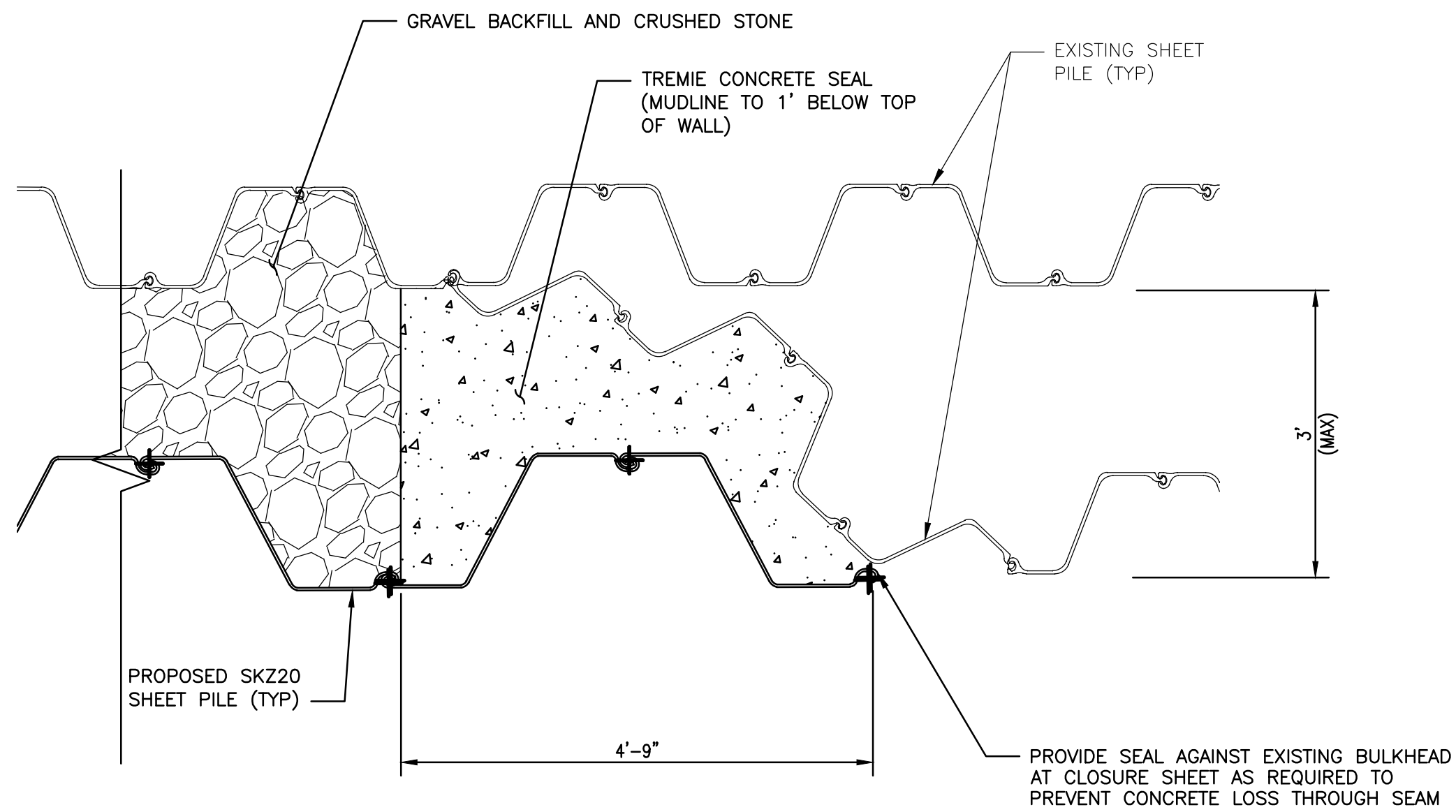
SCALE: 3/4"=1'-0"



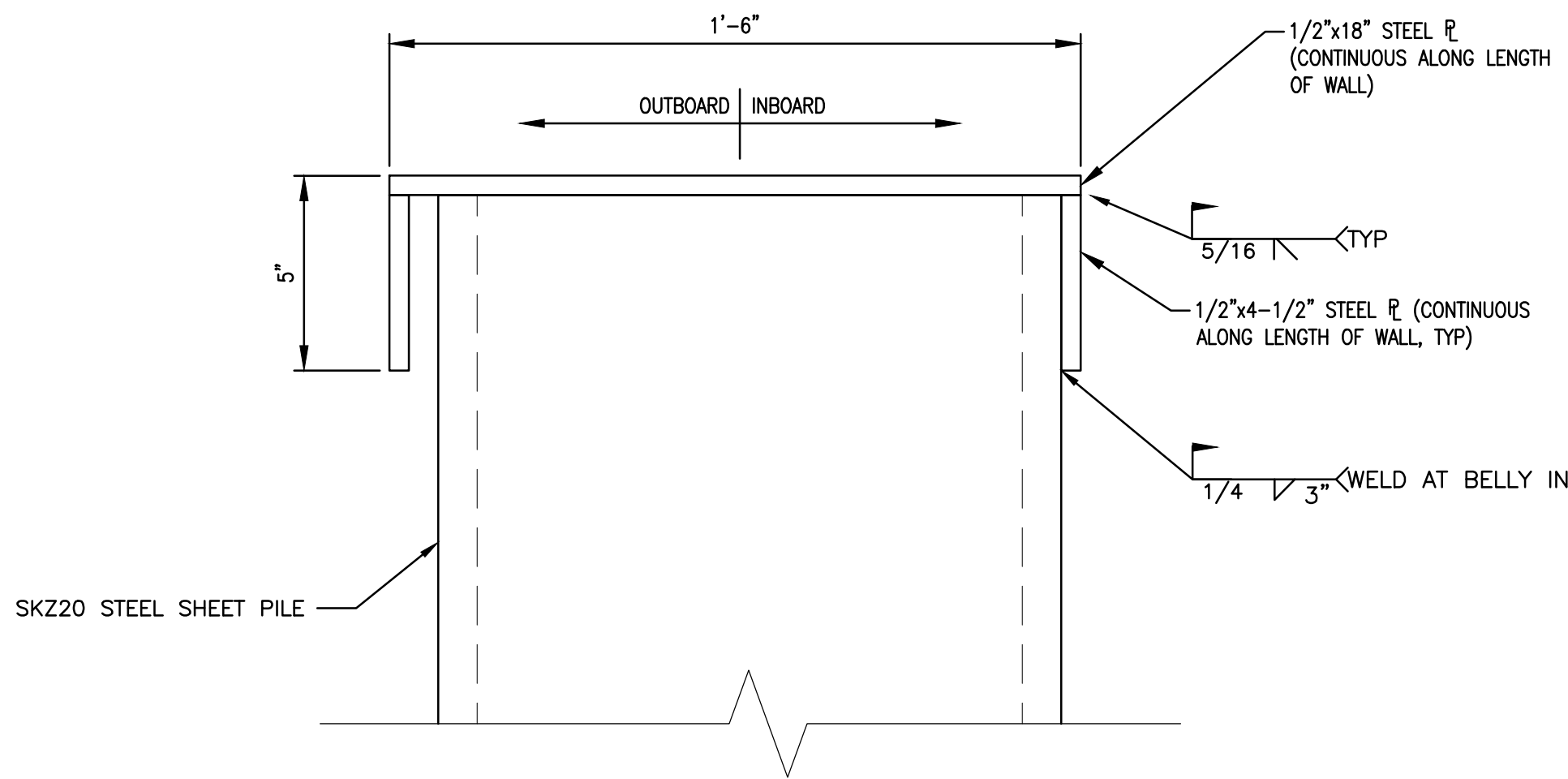
- NOTES:
1. BOTTOM WALE AND CHOCKS TO BE INSTALLED ALONG 136 LINEAR FEET OF PROPOSED TIMBER FENDER SYSTEM FROM NORTHWEST CORNER. TOP CHOCK AND WALE TO BE INSTALLED ALONG TOTAL LENGTH OF PROPOSED TIMBER FENDER SYSTEM.



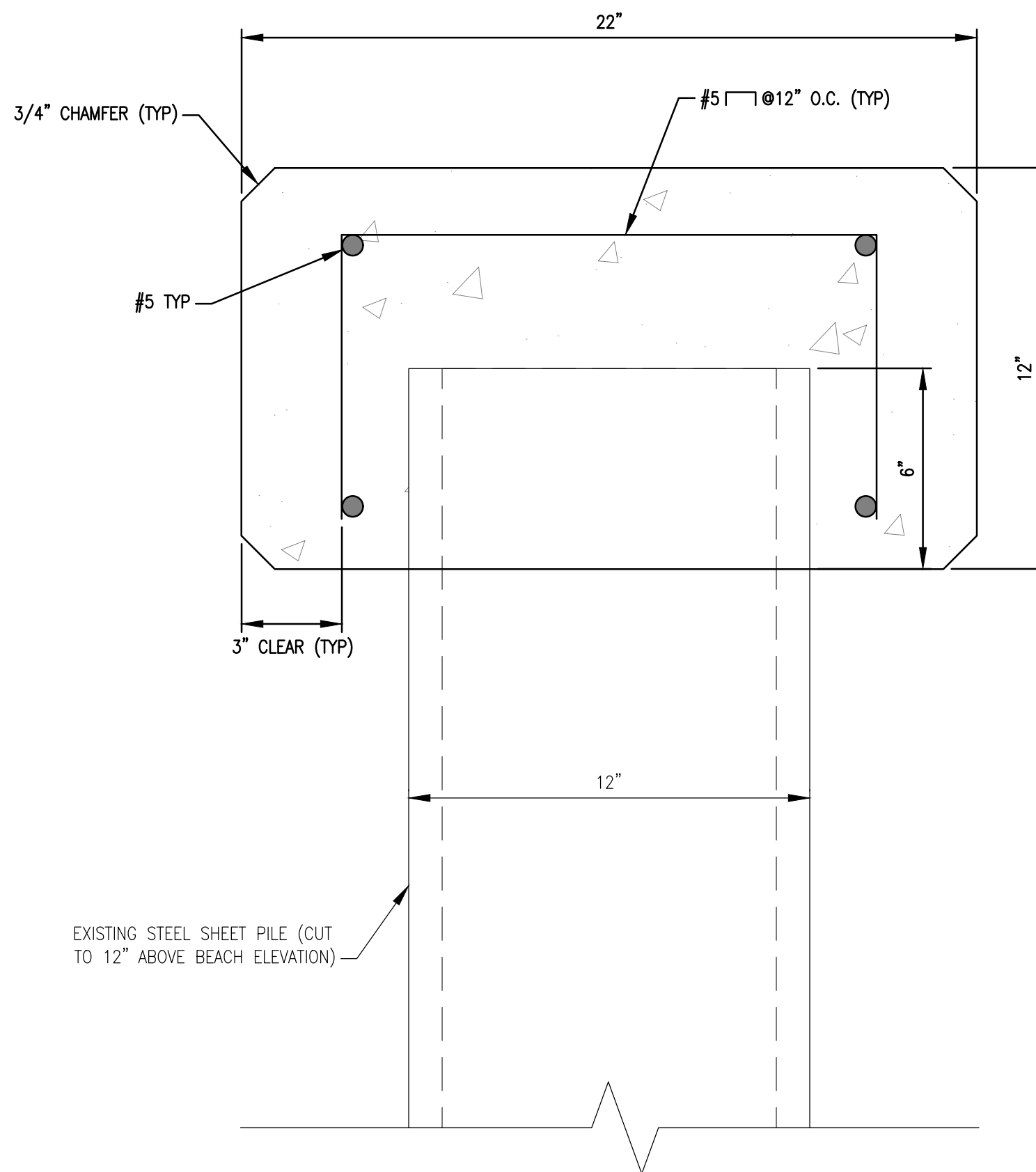
A1 HMA PAVEMENT DETAIL
NTS



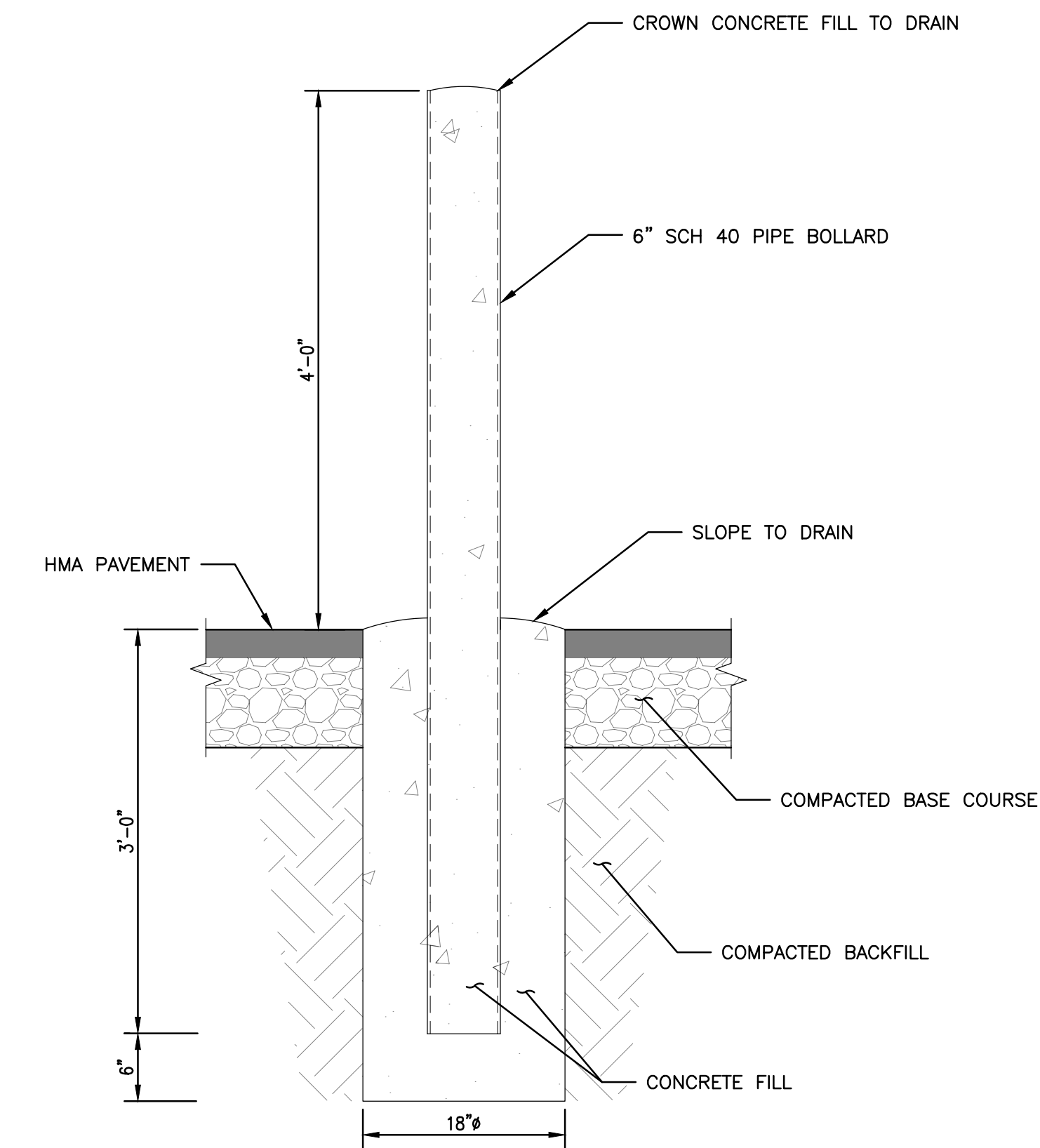
B1 TYPICAL SHEET PILE CLOSURE DETAIL
SCALE: 3/4"=1'-0"



C1 STEEL PILE CAP DETAIL
SCALE: 3"=1'-0"



C2 CONCRETE PILE CAP DETAIL
SCALE: 3"=1'-0"



D1 6" SAFETY BOLLARD DETAIL
SCALE: 1"=1'-0"

designed by: _____ DTG checked by: _____ DG approved by: _____ CTC QA/QC by: _____ ZDJ project no.: 15-12415 drawing no.: D01 date: JUNE 2022		MISCELLANEOUS DETAILS		REV. NO.	DATE	REVISIONS DESCRIPTION
				1		
				2		
				3		
				4		
				5		
				6		
				7		
SEABROOK, NEW HAMPSHIRE		2021		REVISIONS		