

**CITY OF SALEM, MASSACHUSETTS**



**BID #R-36**

**Salem Commercial Marina Dredge Project – Phase IIIB**

**SALEM WHARF PROJECT  
BLANEY STREET, SALEM, MA**

**Bid Opening: November 25, 2015**

**at 3:00 PM**

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**LEGAL NOTICE  
CITY OF SALEM  
BID # R-36**

**Sealed Bids** will be received at the Office of the City Purchasing Agent, 120 Washington Street, 3rd floor, Salem, MA 01970, on or before **3:00 P.M. November 25, 2015** at which time and place they will be publicly opened and read for the following:

**Salem Commercial Marina Dredge Project – Phase IIIB, SALEM WHARF PROJECT, BLANEY STREET, SALEM, MA**

**There will be a refundable fee of \$100.00 for the Bid Documents when returned in a timely manner. A Non-Refundable fee of \$25.00 for mailing of Bid Documents.**

The **Bid** award is made by the Purchasing Agent and is subject to **Mayoral** approval. The City of Salem reserves the right to reject any and all bids or to waive any informalities in the Bid process, if deemed in the City's best interest.

No **pre-bid conference** will be held. For questions contact Kathleen Winn, Department of Planning and Community Development at (978) 619-5685.

**Bid Documents** containing Specifications, Requirements, and Conditions will be/are available to view after **2:00 PM, November 4, 2015**, at the Office of the City Purchasing Agent, 120 Washington Street 3rd Floor, Salem, MA and may be viewed and printed from [www.salem.com](http://www.salem.com) within the Purchasing Department, under Bids and RFP's, **R-36**.

Office Hours:

Mon., Tues., Wed., 8:00AM – 4:00PM

Thurs. 8:00AM – 7:00PM

Fri. 8:00AM – 12:00PM (noon)

Whitney Haskell  
Purchasing Agent

## INVITATION FOR BID

The City of Salem invites sealed bids for the **Salem Commercial Marina Dredge Project – Phase IIIB, Salem Wharf Project, Blaney Street, Salem, MA**

Bid documents will be available for pick up during normal business hours **after 2:00 PM on Wednesday, November 4, 2015** at the Purchasing Agents Office, Salem City Hall Annex, 120 Washington Street, 3<sup>rd</sup> Floor, Salem, MA 01970. City Hall hours are as follows:

Monday - Wednesday:	8:00 AM - 4:00 PM
Thursday:	8:00 AM - 7:00 PM
Friday:	8:00 AM - 12:00 PM

No **pre-bid conference** will be held. For questions contact Kathleen Winn, Department of Planning and Community Development at (978) 619-5685.

Bidders shall address inquiries regarding availability of documents, delivery time, and other similar matters to the Purchasing Agent, 120 Washington Street, 3<sup>rd</sup> Floor, Salem, MA 01970, Attn: Albert C. Hill, Jr.,. Copies of Addenda, if any, will be mailed faxed or e-mailed to bidders of record without charge.

Each bidder shall fully acquaint him/herself with the site conditions as they exist and shall also thoroughly examine the Contract and Bidding Documents. Failure of any bidder to acquaint him/herself with these documents shall in no way relieve bidder from any obligation with respect to his/her bid.

Sealed bids will be received **on or before 3:00 P.M., November 25, 2015** at the Purchasing Department, City Hall Annex, 120 Washington Street, 3<sup>rd</sup> Floor, Salem, MA 01970.

Bids will be valid only when accompanied by a bid deposit in the form of a certified check, issued by a responsible bank or trust company, or a bid bond duly executed by the bidder as principal and having as surety thereon a surety company approved by the City, all in the amount of 5% of the total bid, payable to the "City of Salem".

Prior to the contract execution, the successful bidder will be required to furnish:

1. Labor and Materials Payment Bond and a Performance Bond being 100% of the amount of the Contract Price, issued by a company Licensed by the Division of Insurance of the Commonwealth of Massachusetts and in accordance with the requirements of the contract documents.
2. Certificate of Insurance with Workers Compensation Coverage in the amounts required by the contract documents.

The Awarding Authority reserves the right to waive any informalities and to reject any or all bids if it is in the public interest to do so.

## INSTRUCTIONS TO BIDDERS

**All bidders must adhere to these instructions. Bids that do not meet all the requirements of these instructions will not be considered.**

The City of Salem will receive sealed bids for the proposed **Salem Wharf Dredge Project – Phase I,, Salem Wharf Project, Blaney Street, Salem, MA** until **3:00 P.M. on November 25, 2015** at the Purchasing Department, City Hall Annex, 120 Washington Street, Salem, MA 01970, at which time all bids will be publicly opened and read aloud.

Bids should be addressed to the Purchasing Department, 120 Washington Street, Salem, MA 01970, and marked “**Salem Commercial Marina Dredge Project – Phase IIIB, Salem Wharf Project, Blaney Street, Salem, MA**” on the lower left hand corner of the envelope.

No bid received after the time and or date established for the opening of the bids will be considered regardless of the cause for the delay of the receipt of any such bid.

Copies of the contract for the work and required bid forms can be obtained from the Office of the Purchasing Department. Bid Surety and other conditions of bidding shall be as described in the Notice to Bidders in the bid documents.

**There will be a refundable fee of \$100.00 for the Bid Documents when returned in a timely manner. A Non-Refundable fee of \$25.00 for mailing of Bid Documents.**

All bids are subject to Commonwealth of Massachusetts General Laws C30, S39M and prevailing wage rates under MA C149, Sections 26-27D and the Federal Davis Bacon and Related Acts, as amended.

All bids shall be made by attending to each item enumerated below:

- Insert total bid price for Base Bid work in words and figures and amount in designated space.
- Insert individual lump sum bid prices for all Add Alternates
- Indicate Addenda received on the General Bid Form and sign Bid.
- Fill in all appropriate blank spaces in the Bid documents.
- Submit this bid intact without changing any of the text, enclosed in a sealed envelope bearing the name and address of the bidder and marked “**Salem Commercial Marina Dredge Project – Phase IIIB, Salem Wharf Project, Salem Wharf Project, Blaney Street, Salem, MA**”.
- Submit to the City a Bid Bond for 5% of bid as bid security. The Bid Bond shall be made payable to “City of Salem, Massachusetts” and shall not be enclosed in the sealed envelope containing the Bid, but shall be contained in a separate envelope that shall be attached to the bid.

This inquiry implies no obligation on the part of the buyer or the City of Salem. Bids will not be considered unless returned on the enclosed bid forms.

Any request from a prospective bidder for the interpretation of the meaning of the Contract Drawings, Specifications, or other Contract Documents shall be made in writing to the City Purchasing Agent, and to be given consideration must be received at least five calendar days prior to the date fixed for the opening of proposals. Interpretations will be made by the City as requested and all interpretations will be made in form of written Addenda to the Contract Documents, which Addenda shall become a part of the Contract.

All Addenda issued will be mailed or faxed to all persons registered with the Salem Purchasing Department, not later than three calendar days prior to the date fixed for the opening of Bids. Failure of any bidder to receive any such Addenda shall not relieve any bidder from any obligation under his bid as submitted.

A bid may be withdrawn by written request prior to the schedule time for bid opening.

At the date fixed for opening of bids, it will be presumed that each bidder has made an examination of the locations and sites of the work to be done under the contract; has satisfied himself as to the actual conditions, locations of utilities, requirements and quantities of work; and has read and become thoroughly familiar with Contract Documents, including the Contract Drawings, and all Addenda to them, if any.

The failure or omission of any bidder to receive or examine and become familiar with any form, instrument, or document shall in no way relive the bidder of any obligation in respect to his bid.

Bids will be evaluated on price, quality, experience and references.

The work and contract requirements are stated in the Contract Documents. In case of error in the extension of prices quoted herein, the unit price will govern.

As the City is exempt from payment of Federal Excise and Massachusetts Sales Taxes, price quoted herein are not to include these taxes. The City of Salem exemption number will be provided.

The bidder agrees to furnish material and/or services at prices quoted herein from the date of the bid award to the completion and acceptance of the project by the City.

The bidder to whom the contract is awarded guarantees to the City of Salem all equipment, materials and/or workmanship until final inspection and acceptance. He/She shall replace promptly all defective equipment, materials and/or workmanship required without additional costs to the City.

Contract execution will be conditioned upon producing a Labor and Materials Payment Bond and Performance Bond issued by a surety company satisfactory to the City and licensed by the State Division of Insurance, in an amount equal to One Hundred Percent (100%) of the total amount bid.

All bonds, except those of the bidder to whom the contract is awarded, will be returned as early as practicable after the awarding of the contract.

Notice of the acceptance of any bid will be given to the successful bidder by the City via posting a

registered letter to the bidder's address stated in the bid. If, within ten (10) days, Sundays and holidays excluded, after notice of acceptance by the City, the successful bidder shall fail to deliver his contract duly signed and his bonds, property executed, the proposal and acceptance, at the option of the owner, may become null and void, and the bid security accompanying his bid shall become the property of the City which may proceed to accept another bid.

The contractor shall start the work under this contract within 10 calendar days after the issuance of the Notice to Proceed, provided he shall have been notified to do so by the City and shall continue work to completion with all practical dispatch and regularity so that **Project shall be completed by February 15, 2016** and within all regulatory requirements.

The performance period shall begin upon Notice to Proceed and shall end on **February 15, 2016**. The sum of One thousand (\$1000) dollars per day as liquidated damages shall be paid by the Contractor to the City if any work is uncompleted after on **February 15, 2016** unless an extension of the performance period is granted in writing by the Salem Purchasing Agent.

Workman's Compensation, Property Damage, and Public Liability Insurance requirements are set forth in detail in the Articles. The Contractor shall comply with all laws, ordinances and regulations of the Federal, State and Municipal Governments which may be in force during the life of the contract, in any manner affecting his employees or the conduct of the work or the material used or employed in the work.

It is understood and agreed that it shall be a material breach of contract resulting from this bid for the contractor to engage in any practice which shall violate any provisions of M.G.L. Ch. 151 and Ch. 30, S39M as amended, EEOC Regulations and M.G.L. Ch. 62C Section 49R.

As stipulated in the Contract, the Contractor shall indemnify and save harmless the City, its officers, employees and agents from all claims, suits or actions of every kind and character made upon or brought against said City, its officers, employees and agents, for or on account of any injuries, or damages received or sustained by any party or parties by or from the acts of the said Contractor or its servants, agents, and Sub-Contractors, in doing the work and rendering services herein contracted for, or by in consequence of any negligence in operations or any improper material or equipment used, or by or on account of any action of omission of said Contract or his or its servants, agents, and Sub-Contractors; or on account of or in consequence of the performance of the Contract, whether or not such injuries to persons or damage to the property are due or claimed to be due to any negligence of the Contractor, his employees, his agents or servants. This indemnity shall include attorney's fees and costs and all other expenses incurred in the defense of any suit.

The wages paid to labor on the work shall be not less than those prescribed by the Commissioner of Labor and Industries in accordance with Massachusetts General Laws, Chapter 149, Sections 26 through 27D amended and in the Federal Davis Bacon Act and related acts. The higher wage rate shall prevail. Certified payroll forms must be submitted weekly to the Salem Department of Planning and Community Development. If the certified payroll submittals are not up to date or are in conflict with the prevailing wage law, then requisitions for payment from the contractor will not be processed.

Contractors shall retain their records for at least six (6) years after final payment. These records may be

subject to inspection by authorized representatives of the state or City of Salem during the entire six (6) year period.

The City of Salem has an established set of conditions for public construction contracts. A substantial amount of money that is expended on public contracts is derived through taxes paid by City residents. It is in the public interest, health, welfare, and safety to ensure that the employees on such projects are paid at the lawfully required wage rates, have been trained in a bona fide apprenticeship training program, have hospitalization and medical coverage, and are classified according to the law. In light of the economic loss to the city when bidders and subcontractors who perform work on public construction projects are not from the Salem area and/or do not hire workers from the Salem area, it is in the public interest to establish goals for the hiring of Salem residents on public construction projects, and it is found that these provisions will serve the public interest, health, welfare and safety as described hereinabove. The City Conditions are specified in The GENERAL CONDITIONS below.

Under Massachusetts Executive Order 237, it is the policy of the Commonwealth to promote to the fullest participation of all citizens in resources provided by municipal government. Therefore, the City of Salem invites the participation of minority and women owned businesses in any and all parts of the contract.

A contract for work under this proposal shall obligator the Contractors and Sub-Contractors not to discriminate in employment practices. Bidder must, if requested, submit compliance reports concerning their employment practices and policies in order to maintain their ability to receive an award of Contract. Bidders must, if requested, submit a list of all Sub-Contractors who will perform work on this Contract together with a "Certification of Bidder Regarding Equal Employment Opportunity" signed by the Contractor and/or his or her Sub-Contractors as requested.

**THE CITY RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS**, for any reason the City deems advisable, and so award the contract to any one of the contractors bidding on the work regardless of the amount of the bid. It is the City's intention that the contract will be awarded to the lowest responsive and responsible bidder possessing the skill, ability and integrity necessary to the faithful performance of the work, provided the times stated by the Contractor in the Schedule of Prices for starting and completing the work are deemed advantageous to the City's interest.

**BASIS OF CONTRACT AWARD**: The City's Basis of Award will be determined by the available funding for the project. Additive Alternatives, if included, will be selected in order and cannot be taken out of sequence.

All Bidders will be first evaluated for award on the Base Bid to confirm the project is within the available funding. If the available project funding exceeds the lowest responsive Base Bid, the City will review all Bids with the inclusion of Alternative 1 and determine if any bids are within the available project funding. If so, the City will proceed to the review of all Bids with the inclusion of Additive Alternative 1 and 2 and determine if any bids are within the available project funding. This process will continue with inclusion of subsequent Additive Alternatives until the lowest responsive bid total is greater that available project funding. At that point, the City will select the lowest responsive Bidder, with the inclusion of accepted Additive Alternatives, that is within the available funding for the project.

The City reserves the right to add additional funding to the project should it be in its best interest for maximizing the construction for the available funding.



**CHECKLIST**  
**SUBMISSION REQUIREMENTS**

This page is to be completed by the City of Salem and is also supplied to assist bidders in fulfilling the Bid Submission Requirements:

- |  |   |
|--|---|
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>00820 COMMONWEALTH OF MASS SUPPLEMENTAL EEO, NON-DISCRIMINATION AND AFFIRMATIVE ACTION PROGRAM</b> |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>00860 COMMONWEALTH OF MASS PUBLIC EMPLOYMENT LAWS</b>  |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>CERTIFICATE OF COMPLIANCE WITH MASSACHUSETTS EMPLOYMENT SECURITY LAW</b>                           |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>CERTIFICATION OF CONSTRUCTION EQUIPMENT STANDARD COMPLIANCE</b>                                    |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>CERTIFICATE OF CONTRACTOR</b>  |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>DIESEL RETROFIT DATA/DIESEL CONSTRUCTION EQUIPMENT DATA SHEET</b>                                  |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>FORMAL BID COVER SHEET</b>   |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>COMPLETE GENERAL BID FORM</b>  |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>COMPLETE BID ITEMS FORM</b>  |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>COMPLETE GENERAL BIDDER QUALIFICATIONS FORM</b>  |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>CERTIFICATE OF NON-COLLUSION &amp; ATTESTATION STATEMENT FORM</b>                                  |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>OSHA CERTIFICATION FORM</b>  |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>CERTIFICATION OF BIDDER REGARDING SEGREGATED FACILITIES</b>  |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | <b>STATEMENT OF CORPORATE AUTHORITY FORM</b>  |

If all "yes" continue; if one "no" may be cause for rejection.

- ☐ YES ☐ NO      **5% BID DEPOSIT**

**The bid deposit must be sealed in a separate envelope from the bid and attached to the bid-containing envelope.**

If all "yes" continue; if "no" may be cause for rejection.

- ☐ YES ☐ NO      **MEETS ALL MINIMUM EVALUATION CRITERIA**

If "yes", continue; if "no" then may be cause for rejection.

## FORMAL BID COVER SHEET

NAME OF BIDDER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_  
ZIP CODE \_\_\_\_\_

TO: Whitney Haskell  
Purchasing Department  
Salem City Hall Annex,  
120 Washington Street, 3<sup>rd</sup> Floor  
Salem, MA 01970

- I. The Undersigned submits this bid for providing contracted services necessary to meet the specifications contained herein for **“Salem Commercial Marina Dredge Project – Phase IIIB, Salem Wharf Project, Blaney Street, Salem, MA”** and declares that it is made without collusion with any other person, firm or corporation making any other proposal or who otherwise would make a proposal, and agrees to furnish the Contracted Services in strict accordance with the specifications which consist of this bid form and all attached documents and instructions.
2. The Chief Procurement Officer, acting as the Awarding Authority for the City of Salem reserves the right to reject any or all bids, or any part of any bid, and/or to waive any minor informalities which in the opinion of the Awarding Authority is in the best interest of the City of Salem.
3. Bidder has checked bid carefully and will be held to his/her bid.

SIGNATURE OF BIDDER: \_\_\_\_\_

TITLE OF BIDDER: \_\_\_\_\_

TELEPHONE NO. WITH AREA CODE: (       ) \_\_\_\_\_

**Please check one of the following:**

(   ) Corporation, incorporated under the State of \_\_\_\_\_

(   ) Partnership, names of partners are: \_\_\_\_\_  
\_\_\_\_\_

(   ) Individual - name and address of Owner: \_\_\_\_\_

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## GENERAL BID FORM

To The Awarding Authority:

1. The Undersigned proposes to furnish all labor and materials required for the **Salem Wharf Dredge Project – Phase I,, Salem Wharf Project, Blaney Street, Salem, MA** in accordance with the Contract Documents prepared by the Salem Purchasing Department for the Contract Price specified below, subject to additions and deductions according to the terms of the contract.

The undersigned hereby declares to have carefully examined the annexed form of Contract, Specifications, and Drawings therein referred to and also the sites upon which the projected work is to be performed. Also, included in the Bid Form is a table requiring information on the Bidder's qualifications.

2. The undersigned acknowledges receipt of addenda numbered \_\_\_\_\_.  
(If none, write "NONE")

3. **The Proposed Contract Price is:** \$\_\_\_\_\_

\_\_\_\_\_dollars

(insert words and numbers. In cases of conflict between words and numbers, words shall control)

### THE OWNER SOLICITS THE FOLLOWING BIDS:

#### A. BASE BID

The Bidder agrees to perform all the Work described in the Contract Documents for the following prices:

#### B. BASE BID SCHEDULE

Brief Description of Item	Est. Quant.	Unit	Rate	Total Amount in words	Total Amount in figures
1. Mobilization (Item 02000-1)	1	LS		_____dollars and_____cents	\$
2. Steel Sheet Pile (Item 02320-1)	1	LS		_____dollars and_____cents	\$
3. Dredging with MBDS Disposal. (Item 02410-1)	13,565	CY		_____dollars and_____cents	\$
4. Class B Rock Removal and Disposal (Item 02410-2)	20	CY		_____dollars and_____cents	\$
5. Unsuitable Material Disposal (Item 02410-3)	40	TON		_____dollars and_____cents	\$
<b>TOTAL BID PRICE:</b>					<b>\$</b>

**TOTAL BASE BID PRICE WRITTEN IN WORDS:**

\_\_\_\_\_ DOLLARS

\_\_\_\_\_ CENTS

**BID PROPOSAL INCLUDES ADDENDA NUMBER(S)** \_\_\_\_\_

**BASIS OF CONTRACT AWARD:** The City's Basis of Award will be determined by the available funding for the project. Additive Alternatives, if included, will be selected in order and cannot be taken out of sequence.

All Bidders will be first evaluated for award on the Base Bid to confirm the project is within the available funding. If the available project funding exceeds the lowest responsive Base Bid, the City will review all Bids with the inclusion of Alternative 1 and determine if any bids are within the available project funding. If so, the City will proceed to the review of all Bids with the inclusion of Additive Alternative 1 and 2 and determine if any bids are within the available project funding. This process will continue with inclusion of subsequent Additive Alternatives until the lowest responsive bid total is greater than available project funding. At that point, the City will select the lowest responsive Bidder, with the inclusion of accepted Additive Alternatives, that is within the available funding for the project.

The City reserves the right to add additional funding to the project should it be in its best interest for maximizing the construction for the available funding.

**DESCRIPTION OF PAY ITEMS**

The description of payment items will be as defined within the Technical Specifications and as indicated below. Where differences in scope are present, the more encompassing shall govern. When conflicts in scope of work exists, the scope as defined in the Technical Specifications shall govern

**BASE BID ITEMS**

**1. Mobilization**

Payment for mobilization/demobilization of all equipment, movement and/or relocation of equipment, all office and field engineering and survey support, and all other costs not specifically identified but is required to complete the work specified. Mobilization will be paid sixty percent (60%) of the lump sum price upon completion of mobilization at the work site. An additional twenty-five percent (25%) will be paid the Contractor upon the acceptance of his verification survey. The final fifteen percent (15%) will be paid only after the Contractor has received the written notice from the Owner to proceed with the demobilization and has successfully demobilized to the satisfaction of the Owner.

**2. Steel Sheet Pile**

Payment for the work of STEEL SHEET PILE shall be at the Contract Unit Price of Lump Sum. Compensation shall include payment for all labor, equipment, trucking, materials, survey, supervision and any incidentals necessary for the supply and installation of the steel sheet pile system, connections, and work associated with excavation, backfill and stone reinstallation per the Contract Documents and as specified.

**3. Dredging With MBDS Disposal**

Payment for DREDGING WITH MBDS DISPOSAL including over-dredge depth. Shall be by the CUBIC YARD and shall include payment of all labor, equipment, transportation, disposal, permits, materials, survey, supervision, site restoration and any incidentals necessary to satisfactorily complete the work as specified herein, to the pay limits as shown on the Contract Drawings and as directed by the Owner. No payment will be made for material beyond the payment limits indicated on the plan. Contractor shall be penalized for dredging beyond the pay limit in area of archeological significance.

#### **4. Class B Rock – Removal and Disposal**

Payment for CLASS B ROCK - REMOVAL AND DISPOSAL associated with mechanical dredging shall be by the CUBIC YARD and shall include payment of all labor, equipment, transportation, trucking, disposal, permits, materials, survey, supervision, site restoration and any incidentals necessary to satisfactorily complete the work. Quantity will be determined by the Owner from measurements made in the field by the Owner's Representative. The volume of work will be based upon such measurements. The Contractor shall be present for all measurements made for this Item.

#### **5. Unsuitable Material Disposal**

Payment for UNSUITABLE MATERIAL DISPOSAL shall be paid by the unit price per TON which shall include the actual cost for trucking from dredge site (or other acceptable site for transfer from the contractor's dredge plant to landside) and disposal at a state and federally approved disposal site including tipping fees but with no contractor markup.

Bidder hereby agrees that he/she will not withdraw this bid within thirty (30) business days after the date fixed for receipt of bids and that, if the Owner accepts this bid, the bidder will execute the agreement within ten days after notification that the agreement and other Contract Documents are ready for signature.

Company Name: \_\_\_\_\_

Company Address: \_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Date: \_\_\_\_\_

**In conjunction with the words and figures submitted above for the requisite bid items, and as an integral part of said bid submission, the Undersigned certifies that:**

The undersigned also hereby declares to be the only person interested in this Proposal; that it is made without any connection with any other person making any bid for the same work; that no person acting for, or employed by the Owner is directly or indirectly interested in this Proposal, or in any Contract which may be made under it, or in expected profits to arise therefrom; and it is made without directly or indirectly influencing or attempting to influence any other person or corporation to bid or to refrain from bidding or to influence the amount of the bid of any other person or corporation; and that this Proposal is made in good faith, without collusion or connection with any other person bidding for the same work; and that this Proposal is made with distinct reference and relation to the Bid Documents prepared for this case, and herein mentioned.

If a notice of award and at least four (4) unsigned copies of the Contract (and all other applicable Contract Documents) is delivered to the Undersigned within ninety (90) days, not including Saturdays, Sundays, and legal holidays, after the date of receipt of such notification, he/she shall execute and return all copies of the Contract (and all other applicable Contract Documents) to the City. The premiums for all bonds required shall be paid by the Contractor and shall be included in the contract price.

Accompanying this Proposal is a bid deposit in the amount of 5% of the value of the Base Bid which shall become the property of the City of Salem (Owner) if, in case this Proposal shall be accepted by the said Owner, the undersigned shall fail to comply with the statutes as herein before specified, if it is a foreign corporation, or in any event fails to execute the Contract with, and give a bond to, said Owner, according to the requirements of the Notice to Contractor in the form annexed to said form of Contract, within the time hereinafter specified.

The Undersigned hereby agrees that the contract term shall not extend beyond **January 15, 2015**, unless an extension is provided, and to fully complete the work in accordance with the Contract as stipulated. The undersigned further agrees to pay the City, as liquidated damages, One Thousand Dollars (\$1000.00) per calendar day that the Contractor fails to complete the work in accordance with the Contract Documents.

Amounts shall be shown in both words and figures, where indicated. In case of discrepancy, the amount shown in words will govern. The above prices shall include all labor, materials, overhead, profit, insurance, and incidentals required to complete the Work.

The undersigned proposes to furnish all labor and materials in accordance with the Drawings and Specifications prepared by BOURNE CONSULTING ENGINEERING, 3 BENT STREET, FRANKLIN, MA for the Contract Price specified below, subject to additions and deductions according to the terms of the Specifications.

The Undersigned further certifies under the penalties of perjury that the said Undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

Furthermore, pursuant to M.G.L., Chapter 62C, Section 49A, I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all state taxes required under the law.

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

### **BID ITEMS**

- A. Bidder Agrees to perform all the work including all incidental labor, materials and equipment necessary for the satisfactory completion of the work and in full compliance with the contents and intent of the specifications and/or plans of the work, for the aforementioned prices.
- B. All prices shall be stated in both words and figures. In the event of a discrepancy between the price in words and figures, the words shall govern.

**Alteration may void the bid. All prices shall be typewritten or written by hand in ink.**

Signed this \_\_\_\_ day \_\_\_\_\_, 2015.

\_\_\_\_\_  
Social Security Number or  
Federal Identification Number

(seal)

\_\_\_\_\_  
Signature of Individual or Corporate Name  
Corporate Name

By: \_\_\_\_\_  
Partner or Corporate Officer (if applicable)



- C. The undersigned agrees that, if he/she is selected as Contractor, he/she will within 10 calendar days, after presentation thereof by the Owner, execute the Contract in accordance with the terms of this bid and furnish a performance bond and a payment bond for the full amount of the Contract Price, each with a Surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Owner, the premiums for which are to be paid by the Contractor and are included in the Contract Price.
- D. The bidder hereby certifies that in the event he/she is awarded the Contract he/she shall comply with the minority manpower ratio and all specific action steps contained in the State of Massachusetts Equal Employment Opportunity Anti-Discrimination and Affirmative Action Programs.
- E. The undersigned hereby certifies that he/she is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on this work.
- F. The undersigned further certifies under penalties of perjury that this bid is in all respects bona fide, fair, and made without collusion or fraud with any other person. As used in this subsection, the work "person" shall mean any natural person, joint venture, partnership, corporation, or other business or legal entity.
- G. I hereby certify that I have been informed that this project is sales tax exempt. I further certify that the bid prices contained herein do not include any calculations for sales tax.

Date: \_\_\_\_\_  
(Name of General Bidder)

By \_\_\_\_\_

\_\_\_\_\_  
(Print Name as Signed Above)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Business Address)

Note: If the bidder is a corporation, indicate State of incorporation; if a partnership, give full names and addresses of all partners; and if an individual, give residential address if different from business address. Incorporated in what State: \_\_\_\_\_

President: \_\_\_\_\_  
Treasurer: \_\_\_\_\_  
Secretary \_\_\_\_\_

If a Partnership: (Name all Partners)

Name of Partner: \_\_\_\_\_  
Residence: \_\_\_\_\_  
Name of Partner: \_\_\_\_\_  
Residence: \_\_\_\_\_

If an Individual:

Name: \_\_\_\_\_  
Residence: \_\_\_\_\_

If an Individual doing business under a firm name:

Name of Firm: \_\_\_\_\_  
Name of Individual: \_\_\_\_\_  
Business Address: \_\_\_\_\_  
Residence: \_\_\_\_\_

The bidder will give below the name and address of the Surety Company who will sign the bonds.

\_\_\_\_\_  
\_\_\_\_\_

## GENERAL BIDDER QUALIFICATIONS FORM

The undersigned certifies the following:

There is enclosed herewith a properly executed bid bond, cash, or a certified check or cashier's check, made payable without condition, to the order of the City in the amount required, and a duly executed consent of surety from an approved surety company agreeing to furnish the required performance and payment bonds upon the award of the contract.

The cash, check, or bid bond is as stipulated in the Instructions to Bidders and it is understood and agreed that such bid security is subject to the terms and conditions of the Contract Documents. The bid bond is executed by a surety licensed to conduct business in the Commonwealth of Massachusetts having a local agent as follows:

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The undersigned hereby agrees to each and every stipulation in the Contract Documents pertaining to the submission of bids and further, if awarded the Contract, agrees to execute and secure the required contract and Contract Documents within five (5) days after the notice of award.

**THE CITY MAY DISQUALIFY ANY BIDDER WHO DOES NOT SUPPLY SATISFACTORY RESPONSES TO THE FOLLOWING:**

How many years has the bidder been in business as a General Contractor under the name in which its representatives propose to execute this Contract?

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The undersigned states that the full names and addresses of all persons interested in this bid as principals are as follows:

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The bidder shall state on the line below, if a corporation, the name of the State in which it is incorporated and the date of such incorporation:

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If a partnership or corporation, give the name of all partners or all officers of the corporation with the address of each:

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The undersigned states that s/he is a citizen of the United States and that all the partners, associates or principals interested herein are citizens of the United States, except:

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The undersigned offers the following information relative to the facilities, experience, and financial resources to demonstrate its ability to perform the work and comply with the terms and conditions of this Contract:

**FACILITIES/EQUIPMENT:** Bidder owns and/or has available for immediate use on the work under this Contract the following equipment:

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**GENERAL EXPERIENCE:** Bidder has performed the following similar work: (give location, date, type of work, size or cost, and reference to name and address of client).

Location

Date

Type of Work

Size/Cost

1.

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Reference: \_\_\_\_\_

Was the bidder the general contractor or sub-contractor? \_\_\_\_\_

2.

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Reference: \_\_\_\_\_

Was the bidder the general contractor or sub-contractor? \_\_\_\_\_

3.

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Reference:\_\_\_\_\_

Was the bidder the general contractor or sub-contractor? \_\_\_\_\_

4.

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Reference:\_\_\_\_\_

Was the bidder the general contractor or sub-contractor? \_\_\_\_\_

Has the Contractor ever failed to complete any work awarded to it? If so, state when, where, and why:

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State any additional related business experience:

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**MARINE CONSTRUCTION EXPERIENCE:**

1. Is marine construction a customary part of the General Contractor's business?

Circle:           **YES**                           **NO**

2. If yes, provide the name of the construction supervisor and describe the supervisor's experience in marine construction.

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3. If no, what is the primary trade of the sub-contractor who will complete the marine work?

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4. In the marine work will be completed by a subcontractor, list the number of years have the general contractor and subcontractor worked together.

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**FINANCIAL RESOURCES:** Information relative to the bidder's financial resources will be supplied by the following upon request (Give name, business address, and telephone number):

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The bidder may be requested to amplify the foregoing statements as necessary to satisfy the City that the bidder is able to perform the work on an emergency basis in accordance with the Contract Documents.

Bidder agrees to submit upon request, audited financial statements which describe its financial position for the past three (3) years, including without limitation, a balance sheet and income statement.

Bidders are encouraged to supply complete information in direct response to the preceding questions. Any attachments should be keyed by number to the question to which they respond. The City will appreciate bidders' efforts to supply succinct responses to avoid redundant material. Pre-printed brochures or other promotional materials should be avoided entirely in favor of specifically targeted, straightforward, factually detailed responses.

The City of Salem will disqualify any bidder who provides false information in response to the questions above.

Signed this \_\_\_\_ day \_\_\_\_\_, 2015.

\_\_\_\_\_  
Social Security Number or  
Federal Identification Number

\_\_\_\_\_  
Signature of Individual or  
Corporate Name

By: \_\_\_\_\_  
Partner or Corporate Officer  
(if applicable)

(seal)

## CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Dated:

\_\_\_\_\_  
Name of Company or Corporation

\_\_\_\_\_  
Authorized Official's Signature

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## ATTESTATION STATEMENT

Pursuant to M.G.L. Ch. 62C, Sec. 49A, I certify under the penalties of perjury that I, to the best of my knowledge and belief, am in compliance with all the laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

State tax paid to \_\_\_\_\_ using Federal ID or Social Security

Number \_\_\_\_\_.

Dated:

\_\_\_\_\_  
Company of Corporation

\_\_\_\_\_  
Authorized Official's Signature

## STATEMENT OF CORPORATE AUTHORITY

At a duly authorized meeting of the Board of Directors of \_\_\_\_\_  
held on \_\_\_\_\_ at which time all voted that  
\_\_\_\_\_ be and hereby is authorized to execute contracts and bonds  
in the name and behalf of said Company, and affix its Corporate seal thereto, and such execution of  
any contract of obligation in this Company's name on its behalf by such person  
\_\_\_\_\_ under seal of the Company, shall be valid and binding upon  
this Company.

A TRUE COPY,  
ATTEST: \_\_\_\_\_

PLACE OF BUSINESS:

\_\_\_\_\_

\_\_\_\_\_

DATE OF THIS CONTRACT:

\_\_\_\_\_

I hereby certify that I am Clerk of \_\_\_\_\_ and that  
\_\_\_\_\_ is duly elected \_\_\_\_\_  
of said Company, and that the above vote has not been amended or rescinded and remains in full  
force and effect as of the date of this contract.

\_\_\_\_\_  
(Clerk's Signature)

(CORPORATE SEAL)

CONTRACT NO. \_\_\_\_\_

**Chapter 306 of the Acts of 2004**  
**An Act Relative to the Health and Safety on Construction Projects**

**GENERAL CONTRACTOR'S OSHA CERTIFICATION**

\_\_\_\_\_ (Name of General Bidder) hereby certifies that it, and all its subcontractors who are not filed subbidders shall:

certify that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is a least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee.

Signed under the penalties of perjury. \_\_\_\_\_ (date)

\_\_\_\_\_  
Signature of authorized representative of contractor

\_\_\_\_\_  
Print name of authorized representative of contractor

## CERTIFICATION OF NON SEGREGATED FACILITIES

The Bidder certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained.

The bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any contract resulting from acceptance of this bid. As used in this certification the term "segregated facilities" means any waiting rooms, work area, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise.

The bidder agrees that (except where he has obtained identical certification from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractor prior to the award of subcontracts which are not exempt from the provisions of the Equal Opportunity clause, and that he will retain such certification in his files.

Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_, 20 \_\_\_\_\_

By: \_\_\_\_\_

Title  
\_\_\_\_\_

\_\_\_\_\_

Company Address

## **CITY OF SALEM- CONTRACT FOR SERVICES**

For informational purposes only

This agreement is made and entered into by and between the City of Salem, 93 Washington Street, Salem, MA 01970 (hereinafter the CITY), a municipal corporation organized and existing under the laws of the Commonwealth of Massachusetts, and \_\_\_\_\_, (hereinafter the CONTRACTOR).

### **ARTICLE I. DEFINITION.**

This CONTRACT as used herein shall mean these articles, and the “contract documents” which include but are not limited to the following identified items and all documents, and forms submitted therewith, or attached hereby.

- Attachment A: Scope of Services, and other bid package materials
- Attachment B: Additional Contract Terms and Conditions
- Attachment C: Statement of Corporate Authority
- Addenda through # \_\_\_\_\_

### **ARTICLE II. AMOUNT AND DURATION.**

This CONTRACT in an amount not to exceed \$\_\_\_\_\_ shall commence on or about \_\_\_\_\_ and shall terminate no later than \_\_\_\_\_, unless a written amendment to renew or extend this CONTRACT is executed in accordance with the provisions of this CONTRACT.

If the CONTRACTOR shall fail to complete the work by the date agreed upon, or within any extended time allowed by the CITY under this CONTRACT, and the CITY shall certify in writing that the work could reasonably have been completed by the said date, or within the extended time, the CONTRACTOR shall pay or allow to the CITY the sum of Seven Hundred Dollars (\$750.00) per day as liquidated and ascertained damages for every day beyond the said date or extended time, as the case may be, during which the work shall remain unfinished, and such damages may be deducted by the CITY from any moneys due the CONTRACTOR.

### **ARTICLE III. PERFORMANCE.**

The CONTRACTOR agrees to provide all goods and/or services set forth in the Invitation for Bid/Request for Proposal Documents, Scope of Service, the CONTRACTOR’S proposal for

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\_\_\_\_\_ and/or as outlined in ATTACHMENT A - SCOPE OF SERVICES.

### **ARTICLE IV. TERMINATION.**

- i) Without Cause. The CITY may terminate this CONTRACT on sixty (60) calendar days notice, or may suspend this CONTRACT for up to sixty (60) calendar days upon receipt of notice, when in the best interests of the CITY by providing notice to the CONTRACTOR, which shall be in writing and shall be deemed delivered and received when given in person to the CONTRACTOR, or when received by fax, express mail, certified mail return receipt requested, regular mail postage prepaid or delivered by any other appropriate method evidencing actual receipt by the CONTRACTOR.

- ii) For Cause. If the CONTRACTOR is determined by the CITY to be in default of any term or condition of CONTRACT, the CITY may terminate this CONTRACT on thirty (30) days notice by providing notice to the CONTRACTOR, which shall be in writing and shall be deemed delivered and received when given in person to the CONTRACTOR, or when received by fax, express mail, certified mail return receipt requested, regular mail postage prepaid or delivered by any other appropriate method evidencing actual receipt by the CONTRACTOR. If the CITY is determined by the CONTRACTOR to be in default of any term or condition of this CONTRACT the CONTRACTOR may terminate this CONTRACT on thirty (30) days notice by providing notice to the CITY, which shall be in writing and shall be deemed delivered and received when given in person to the CITY, or when received by fax, express mail, certified mail return receipt requested, regular mail postage prepaid or delivered by any other appropriate method evidencing actual receipt by the CITY.
- iii) Default. The following shall constitute events of default under this CONTRACT: a) any material misrepresentation made by the CONTRACTOR to the CITY, b) any failure to perform any of its obligations under this CONTRACT including, but not limited to the following: (i) failure to commence performance of this CONTRACT at the time specified in this CONTRACT due to a reason or circumstance within the CONTRACTOR'S reasonable control, (ii) failure to perform this CONTRACT with sufficient personnel and equipment or with sufficient material to ensure the completion of this CONTRACT within the specified time due to a reason or circumstance within the CONTRACTOR'S reasonable control, (iii) failure to performance this CONTRACT in a manner reasonably satisfactory to the CITY, (iv) failure to promptly re-perform with reasonable time the services that were rejected by the CITY as unsatisfactory, or erroneous, (v) discontinuance of the services for reasons not beyond the CONTRACTOR'S reasonable control, (vi) failure to comply with a material term of this CONTRACT, including, but not limited to, the provision of insurance and nondiscrimination, and (vii) any other acts specifically and expressly stated in this CONTRACT as constituting a basis for termination of this CONTRACT, and (viii) failure to comply with any and all requirements of state law, and/or regulations, and City ordinances, and/or regulations.

#### **ARTICLE V. REMEDIES OF THE CITY.**

The CITY may deduct the cost of any substitute contract or performance for expenses, losses, and all damages, including incidental and consequential damages as a result of any event of non-conformance or non-performance of the CONTRACTOR in complying with the terms of this CONTRACT, and shall withhold such expenses, losses, and damages from sums due to become due.

#### **ARTICLE VI. REMEDIES OF THE CONTRACTOR.**

If the damages, other than loss, non-conformance, or non-performance, are actually sustained by the CONTRACTOR due to any act or omission for which the CITY is legally responsible the CITY shall allow a sum equal to the amount of such damages sustained by the CONTRACTOR as determined by the CITY in writing, provided the CONTRACTOR shall have provided to all signatories of the CONTRACT a detailed written statement of such damages and cause thereof within 30 days of the act of omission by the CITY.



## **ARTICLE VII. ASSIGNABILITY.**

The CONTRACTOR shall not assign, subcontract or in any way transfer any interest in this CONTRACT without the prior written consent of the Procurement Officer of said CITY. In the event of such occurrence the CITY reserves the right to deal with any assignee subcontractor or transferee directly and the CONTRACTOR agrees to remain bound by all terms and conditions of this CONTRACT in accordance with its original tenor. The provisions of this CONTRACT shall be binding upon, and shall inure to the benefit of, the successors and assigns of the CONTRACTOR and any public body or bodies succeeding the interests of the CITY.

## **ARTICLE VIII. INDEMNIFICATION.**

The CONTRACTOR shall assume the defense, indemnify and hold harmless the CITY, the CITY'S agents and employees, from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against them by reason of acts, in actions, omissions, negligence, reckless or intentional misconduct of the said CONTRACTOR, its agent(s), officers, employees, or subcontractors; in the execution of the work or in guarding the same. Unless otherwise provided by law, the CITY may elect to indemnify the CONTRACTOR for claims arising in tort if it is determined that the CONTRACTOR performed its obligations under this CONTRACT pursuant to the direct supervision and control of the CITY or its designated agent(s).

## **ARTICLE IX. WORKER'S COMPENSATION AND OTHER INSURANCE.**

The CONTRACTOR shall provide by insurance for the payment of compensation and the furnishing of other benefits under Chapter 152 of the General Laws of Massachusetts (The Worker's Compensation Act) to all employees of the CONTRACTOR who are subject to the provisions of Chapter 152 of the General Laws of Massachusetts.

Failure to provide and continue in force such insurance during the period of this contract shall be deemed a material breach of this contract, shall operate as an immediate termination thereof, and CONTRACTOR shall indemnify the CITY for all losses, claims, and actions resulting from the failure to provide the insurance required by this Article.

The CONTRACTOR shall furnish to the CITY evidence of such insurance prior to the execution of this CONTRACT and before the same shall be binding on the parties thereto, except if specifically waived in Attachment B.

Prior to commencement of any work and until completion of its work under this CONTRACT shall maintain the following insurance coverage, at its cost, from insurance acceptable to the CITY, giving evidence of such coverage to the CITY prior to execution of this CONTRACT, a copy of such insurance coverage to be attached herewith:

1. Comprehensive Automobile Liability Insurance covering the use of all owned, non-owned and hired automobiles in connection with its operations with a combined single limit of \$1,000,000. The comprehensive Automobile Liability insurance may be provided through primary and excess or umbrella insurance policies.
2. CONTRACTOR'S Equipment Coverage (or a certification of self-insurance satisfactory to the CITY) must be provided on an "All Risks" basis, covering physical damage to all tools and equipment, including automotive equipment owned, rented, or used by the CONTRACTOR.

3. Commercial General Liability Insurance coverage which may be provided through primary and excess or umbrella liability policies for limits of \$1,000,000 general aggregate, and \$500,000 per occurrence.

All required insurance must be endorsed to name the CITY as Additional Insured. All required insurance shall be endorsed to waive the insurer's rights of subrogation against the CITY. All policies and certificate for insurance must contain language that the insurance shall not be canceled, materially changed or non-renewed without at least thirty (30) days advance written notice to the CITY. The CONTRACTOR under this CONTRACT shall not allow its subcontractors to begin work until similar insurance has been so obtained and certificates of insurance approved by the CONTRACTOR.

#### **ARTICLE X. CORPORATE CONTRACTOR.**

If CONTRACTOR is a corporation, CONTRACTOR shall endorse the Certificate of Corporate Authority for the CONTRACTORS' signatory (Attachment C), or shall otherwise provide a form similar in nature and substance acceptable to the CITY.

If CONTRACTOR is a non-profit corporation, CONTRACTOR shall provide satisfactory proof of present status as a non-profit corporation. Such proof shall be in the form of a certification from the Massachusetts Secretary of State's office and/or from the Internal Revenue Service and shall provide the Federal Tax Identification Number of the non-profit corporation. This agreement shall not be enforceable against the CITY unless and until the CONTRACTOR complies with this section. Failure to inform the CITY in writing of revocation, or other loss of non-profit status shall be deemed a material breach of this contract and operate as an immediate termination thereof.

#### **ARTICLE XI. SUBJECT TO APPROPRIATION.**

The obligations of the CITY under this CONTRACT shall be subject to appropriation. In the absence of appropriation this CONTRACT shall be immediately terminated without liability for damages, penalties, or other charges.

In the requisite circumstances, the obligations of the CITY under this CONTRACT shall be subject to the formal award of the state, federal grant.

#### **ARTICLE XII. DOCUMENTS, MATERIALS, ETC.**

Any materials, reports, information, data, etc. given to or prepared or assembled by the CONTRACTOR under this CONTRACT are to be kept confidential and shall not be made available to any individual or organization by the CONTRACTOR (except agents, servants, or employees of the CONTRACTOR) without the prior written approval of the CITY, except as otherwise required by law. The CONTRACTOR understands that he/she/it may acquire or have access to "personal data" otherwise kept by the CITY. The CONTRACTOR shall comply with the provisions Chapter 66A of the General Laws of Massachusetts as it relates to public documents, and all other state and federal laws and regulations relating to confidentiality, security privacy and use of confidential data.

Any materials produced in whole or in part under this CONTRACT shall not be subject to copyright, except by the CITY, in the United States or any other country. The CITY shall have unrestricted authority to, without payment of any royalty, commission, or additional fee of any type

or nature, publicly disclose, reproduce, distribute and otherwise use, and authorize other to use, in whole or in part, any reports, data or other materials prepared under this CONTRACT.

All data, reports, programs, software, equipment, furnishings, and any other documentation or product paid for by the CITY shall vest in the CITY at the termination of this CONTRACT. The CONTRACTOR shall at all times, during or after termination of this CONTRACT, obtain the prior written approval of the CITY before making any statement bearing on the work performed or data collected under this CONTRACT to the press or issues any material for publication through any medium.

#### **ARTICLE XIII.      AUDIT, INSPECTION, RECORDKEEPING.**

At any time during normal business hours, and as often as the CITY may deem it reasonably necessary, there shall be made available in the office of the CONTRACTOR for the purpose of audit, examination, and/or to make excerpts or transcripts, all records, contracts, invoices, materials, payrolls, records of personnel, conditions of employment and other data relating to all matters covered by this agreement.

Further the CONTRACTOR agrees to make its work papers, records and other evidence of audit available to the CITY for a period of three years after final payment under his CONTRACT. The CITY shall be entitled to reproduce any or all such documents at its own expense, for which provision shall be made at such time.

#### **ARTICLE XIV.      WEEKLY PAYROLL RECORDS REPORT.**

In accordance with Massachusetts General Law c. 149, s. 27B, a true and accurate record must be kept of all individuals employed on a public works construction project for which prevailing wage rates are applicable.

In addition, every contractor and subcontractor is required to submit, on a weekly basis, a copy of their weekly payroll records to the awarding authority. Once collected, the awarding authority is also required to preserve those records for three years.

#### **ARTICLE XV.      CONFLICT OF INTEREST.**

- i) CITY. No officer, member or employee of the CITY and no members of its governing body who exercise any function or responsibility in review or approval of the undertaking or carrying out of this CONTRACT shall participate in any decision relating to the CONTRACT which affects his/her personal interests or the interest of any corporation, partnership, or association in which he/she has a direct or indirect pecuniary interest. None of the services to be provided by the CONTRACTOR shall be used for any partisan political activity or further the election or defeat of any candidate for political office in the CITY. Compliance with this section shall be material to the CONTRACT.
- ii) CONTRACTOR. CONTRACTOR agrees that his/her/its agents, servants, and employees have neither presently nor during the period of this CONTRACT any interest direct or indirect which would impair, detract, or conflict in any manner or degree with the performance of services required under this CONTRACT. The CONTRACTOR, his/her/its agents, servants or employees further stipulates that in the performance of this CONTRACT, no person having any such interest shall be employed. Conflicts of Interest include but are not limited to (a) immediate family relationships with officials of the CITY, (b) instances where the CONTRACTOR, his/her/it agents, servants or employees during

the period of this CONTRACT was connected as an officer, employee or member of the governing body of the CITY, and (c) instances where the CONTRACTOR has an interest in any CITY department, its agents, servants or employees or parcels of land within the CITY. Compliance with this section shall be material to the CONTRACT.

#### **ARTICLE XVI. PAYMENT.**

The City agrees to make all reasonable efforts to pay to the CONTRACTOR the sum set forth in the CONTRACTOR'S bid or proposal within thirty (30) days of receipt of an invoice at the Department of Planning and Development detailing the work completed.

Subject to pending statutory appeal rights, CONTRACTOR agrees that all sums otherwise due and payable to the CITY for outstanding taxes, fines, fees and or other municipal charges may be deducted from the sum(s) otherwise payable under this CONTRACT prior to disbursement to the CONTRACTOR.

#### **ARTICLE XVII. CONFLICT.**

In the event there is a conflict between these Articles and Attachment A, Attachment A shall supersede these Articles.

#### **ARTICLE XVIII. WAIVER AND AMENDMENT.**

The provisions contained in this CONTRACT may be modified only as specifically provided by ATTACHMENT B - ADDITIONAL TERMS AND CONDITIONS. Amendments, or waivers of any additional term, condition, covenant, duty or obligation contained in this CONTRACT may be made only by written amendment executed by all signatories to the original agreement, prior to the effective date of the amendment.

To the extent allowed by law, all conditions, duties, and obligations contained in this CONTRACT may be waived only by written agreement by both parties.

Forbearance or indulgence in any form or manner by a party shall not be construed as a waiver, nor in any manner limit the legal or equitable remedies available to that party. No waiver by either party of any default or breach shall constitute a waiver of any subsequent default or breach of a similar or different matter.

#### **ARTICLE XIX. CERTIFICATION.**

IN WITNESS WHEREOF, THE CONTRACTOR CERTIFIES, UNDER THE PAINS AND PENALTIES OF PERJURY, THAT THE CONTRACTOR IS IN COMPLIANCE WITH EACH OF THE FOLLOWING:

- a. TAXES. PURSUANT to M.G.L. c. 62C, s. 49A, the CONTRACTOR has filed all state tax returns and complied with all laws of the Commonwealth relating to taxes.
- b. DEBARMENT. The CONTRACTOR is not currently debarred or suspended by the Commonwealth of Massachusetts, or any of its entities or subdivisions.
- c. AMERICANS WITH DISABILITIES ACT. The CONTRACTOR is aware of the recently enacted Americans with Disabilities Act which prohibits discrimination based upon disability and shall meet any relevant standards, and/or conditions set out in the bid/proposal documents, bid/proposal specifications, and/or ATTACHMENT A - SCOPE OF SERVICES.

**ARTICLE XX. FORUM AND CHOICE OF LAW**

This CONTRACT and any performance herein shall be governed by and be construed in accordance with the laws of Commonwealth. Any and all proceedings or actions relating to subject matter herein shall be brought and maintained in the courts of the Commonwealth or the federal district court sitting in the Commonwealth, which shall have exclusive jurisdiction thereof.

This paragraph shall not be construed to limit any other legal rights of the parties.

IN WITNESS WHEREOF the parties have hereto and to three other identical instruments set forth their hands the day and year first above written.

City of Salem

THE CONTRACTOR

\_\_\_\_\_  
Kimberley Driscoll, Mayor

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Whitney Haskell  
Purchasing Agent

\_\_\_\_\_  
Status (Corporation/Non-corporate)

\_\_\_\_\_  
Signature & Title

\_\_\_\_\_  
Lynn Goonin Duncan, AICP  
Director, DPCD

\_\_\_\_\_  
Please Print Name & Title

\_\_\_\_\_  
Date

APPROVED AS TO FORM:

\_\_\_\_\_  
Taxpayer Identification Number

\_\_\_\_\_  
Elizabeth Rennard, Esq.,  
City Solicitor

**PERFORMANCE BOND  
CITY OF SALEM**

KNOW ALL MEN BY THESE PRESENTS:

That we, \_\_\_\_\_ as Principal, and \_\_\_\_\_, as Surety, are held and firmly bound unto the City of Salem, as Obligee, in the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_), to be paid to the Obligee, for which payments, well and truly to be made, we bind ourselves, our respective heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has made a contract with the Obligee, bearing the date of \_\_\_\_\_, 2012, for \_\_\_\_\_  
(identify project and location)

NOW, the condition of this obligation is such that if the Principal and all Subcontractors under said contract shall well and truly keep and perform all the undertakings, covenants, agreement, terms and conditions of said contract on its part to be kept and performed during the original term of said contract and any extensions thereof that may be granted by the Obligee, with or without notice to the Surety, and during the life and any guarantee required under the contract, and shall also well and truly keep and perform all the undertakings, covenants, agreements, terms and conditions of any and all duly authorized modifications, alterations, changes or additions to said contract that may hereafter be made, notice to the Surety of such modifications, alterations, changes or additions being hereby waived, then this obligation shall become null and void; otherwise, it shall remain in full force and virtue.

IN THE EVENT, that the contract is abandoned by the Principal, or the Obligee, of said contract terminates the employment of the Principal or the authority of the Principal to continue the work, said Surety hereby further agrees that said Surety shall, if requested in writing to the Obligee, take such action as is necessary to complete said contract.

IN WITNESS WHEREOF, the Principal and Surety have hereto set their hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

PRINCIPAL

SURETY

\_\_\_\_\_

\_\_\_\_\_

(Name and Seal)

(Attorney-in-Fact and Seal)

\_\_\_\_\_

(Title)

Attest: \_\_\_\_\_

Attest: \_\_\_\_\_

The rate for this bond is \_\_\_\_\_% for the first \$ \_\_\_\_\_ and \_\_\_\_\_% for the next \$ \_\_\_\_\_.

The total premium for this bond is \$ \_\_\_\_\_.

**PAYMENT BOND  
CITY OF SALEM**

KNOW ALL MEN BY THESE PRESENTS:

That we, \_\_\_\_\_, as Principal, and \_\_\_\_\_, as Surety, are held and firmly bound unto the City of Salem, as Obligee, in the sum of \_\_\_\_\_ dollars (\$\_\_\_\_\_), to be paid to the Obligee, for which payments, well and truly to be made, we find ourselves, our respective heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, the said Principal has made a contract with the Oblige, bearing the date of \_\_\_\_\_, 2015, for \_\_\_\_\_  
(identify project and location)

NOW, the condition of this obligation is such that if the Principal and all Subcontractors under said contract shall pay for all labor performed or furnished and for all materials used or employed in said contract and in any and all duly authorized modifications, alterations, extensions of time, changes or additions to said contract that may hereafter be made, notice to the surety of such modifications, alterations, extensions of time, changes, or additions being hereby waived, the foregoing to include any other purposes or items set out in, and to be subject to, provisions of M.G.L. c.30 § 39A, and M.G.L. c.149 § 29, as amended, then this obligation shall become null and void; otherwise it shall remain in full force and virtue.

IN WITNESS WHEREOF, the Principal and Surety have hereto set their hands and seals this \_\_\_\_\_ day of \_\_\_\_\_, 2015.

PRINCIPAL

SURETY

\_\_\_\_\_  
(Name and Seal)

\_\_\_\_\_  
(Attorney-in-Fact and Seal)

\_\_\_\_\_  
(Title)

Attest:\_\_\_\_\_

Attest:\_\_\_\_\_

The rate for this bond is \_\_\_\_\_% for the first \$\_\_\_\_\_ and \_\_\_\_\_% for the next \$\_\_\_\_\_.

The total premium for this bond is \$\_\_\_\_\_

## **GENERAL CONDITIONS**

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## **GENERAL CONDITIONS**

### **ARTICLE I GENERAL**

- a. Every provision of this Contract shall have the same force and effect as if included and repeated in every division or subdivision of the Contract under which it may apply.
- b. Headings, letterings, and numbers of the various divisions and subdivisions of and in the Contract are intended for convenience of reference only and have no force or effect whatever on the intent of the Contract.

### **ARTICLE II DEFINITIONS**

Wherever the words defined in this Article or pronouns used in their stead occur in this Contract, they shall have the meanings here given.

- a. The words "Contract Documents" and "the Contract" shall mean this Contract and shall include Advertisement for Bids, Information for Bidders, Proposal, Bid Bond, Agreement, Payment Bond, General Conditions, Special Conditions Technical Specifications, Drawings, Addenda, Notice of Award, Notice to Proceed, and Change Orders. The Contract Documents represent the entire and integrated agreement between the Owner and the Contractor. The Contract shall not be construed to create any contractual relationship of any kind between The Owner's Representative and the Contractor, but The Owner's Representative shall be entitled to performance of obligations intended for his benefit and to enforcement thereof. Nothing in the Contract Documents shall create any contractual relationship between the Owner or The Owner's Representative and any Subcontractor.
- b. The word "Owner" or "Project Sponsor" or "Awarding Authority", shall mean the City of Salem.
- c. The word "State" shall mean the Commonwealth of Massachusetts.
- d. The word "Commonwealth" shall mean the Commonwealth of Massachusetts.
- e. The words "Approval of the Owner" or "Approved by the Owner," "Approval of Bourne Consulting Engineering" or "Approved by Bourne Consulting Engineering," shall mean approval in writing.
- f. The word "Contractor" shall mean the party termed as such by the Agreement, his/her heirs, executors, administrators, successors, or assigns as regards the obligations of the Contract.

- g. "Subcontractor." A person, firm, or corporation supplying labor and materials, or only labor, for work at the site of the project under separate Contract or agreement with the Contractor.
- h. The word "Contract Drawings" or words of like effect shall mean the Drawings listed by that number and title herein.
- i. The words "as permitted," "as required," or words of like effect shall mean that the permission or requirement of The Owner's Representative is intended; the words "approved," "acceptable," "satisfactory," or words of like import shall mean approved by, or acceptable to, or satisfactory to The Owner's Representative - and the words "necessary," "suitable," "equal," or words of like import shall mean necessary, suitable, or equal in the opinion of The Owner's Representative .
- j. The Owner is treated as if it were of singular number and neuter gender and the Contractor and The Owner's Representative are treated as if each were of the singular number and masculine gender.
- k. The words "Notice to Proceed" shall mean a written notice to the Contractor of the date on which he is to begin the prosecution of the work for which he has contracted.
- l. Any communication to the Owner shall be addressed to the City of Salem Department of Planning and Community Development, 120 Washington Street, Salem, MA 01970.
- m. The word "work" shall mean all performance, including the furnishing of materials, labor, tools, equipment and incidentals required of the Contractor under the terms of this Contract, including the transportation of the materials and supplies to or from the location of the project by employees of the Contractor and any subcontractor.

### ARTICLE III INTERPRETATION OF CONTRACT

The Contractor shall at this own proper cost and expense provide and do everything necessary to prepare for and perform everything required under the conditions and requirements of the Contract, and he hereby agrees that The Owner's Representative shall in the first instance be the interpreter of the Contract Documents, and all the work contemplated and described therein shall be so done as to satisfy him that its intent is fulfilled. The Owner's Representative shall promptly render impartial decision on all claims of either party against the other and on all other matters governed by this intent, including questions as to the execution and progress of the work, the quality and types of materials and workmanship, the suitability of methods, and costs and values. The determination and decision of The Owner's Representative shall be final and binding on both parties, and shall be a condition precedent to the right of the Contractor to receive any money hereunder, except as to those areas of disputed work covered under ARTICLE XII - DISPUTED WORK, DETERMINATION OR ORDER.

#### ARTICLE IV DRAWINGS AND SPECIFICATIONS

The Owner will furnish to the Contractor, at no charge, two copies of the Contract Drawings, and two copies of the Contract Specifications. The Owner will also furnish the Contractor, at no charge, electronic PDF files of Contract Drawings and Specifications and electronic AutoCAD files of the Contract Drawings. Additional copies of the Contract Drawings and Contract Specifications shall be provided at the Contractor's expense.

The Plans, Drawings, Specifications and other data and documents prepared for use in connection with this Contract are intended to be complementary to each other, but should any discrepancy appear or any misunderstanding arise as to the import of anything contained in them or any of them, except to those areas of disputed work covered by ARTICLE XII - DISPUTED WORK, DETERMINATION OR ORDER the explanation or decisions of The Owner's Representative shall be final and binding on the parties hereto.

Any errors or omissions in Plans, Drawings or Specifications or in other data or documents may be corrected by The Owner's Representative when such correction is necessary for the proper fulfillment of their intention as construed by him, such correction to govern only from the time that The Owner's Representative gives notice in writing thereof to the Contractor.

The Contractor shall not take any advantage, or make any claim for damages on account of any omission, discrepancy or error in any soundings, borings, estimates, schedules, specifications, drawings, plans, or other data or documents furnished him, but shall report same to The Owner's Representative as soon as it comes to his knowledge.

#### ARTICLE V NOT TO SUBLET OR ASSIGN

The Contractor shall keep the Contract under his control; and shall not assign, by power of attorney or otherwise, any portion of said work, or any moneys payable under the Contract or his claim thereto, unless by the previous approval of the Owner and the Surety. No part of this work shall be sublet except to parties skilled in and equipped properly for the same and satisfactory to The Owner's Representative and approved by the Owner.

#### ARTICLE VI INSURANCE REQUIREMENTS

The Contractor shall, before commencing performance of the Contract, provide by insurance for the payment of compensation and the furnishing of other benefits under Chapter 152 of the General Laws (Tercentenary Edition), to all persons to be employed within the Commonwealth under the Contract, and he shall continue such insurance in full force and effect during the term of the Contract.

- a. The Contractor shall take out and maintain during the life of this Contract such comprehensive Public Liability and Property Damage Insurance as shall protect him and any subcontractor performing work covered by this Contract from claims for Damages for bodily injury, including wrongful death, as well as from claims for property damages which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. Public Liability Insurance shall be in an amount not less than One Million (\$1,000,000) Dollars for injuries, including wrongful death, to any one person, and, subject to the same limit for each person, in an amount not less than One Million (\$1,000,000) Dollars on account of one accident. Property Damage Insurance shall be in an amount not less than One Million (\$1,000,000) Dollars, including explosion, collapse and underground damage coverage, for each accident, and not less than One Million (\$1,000,000) Dollars aggregate.
- b. The Contractor shall also take out and maintain during the life of this Contract a "Builders Risk" Insurance with extended coverage upon the entire project in an amount not less than the full insurable value of the interest. The policy shall cover not less than the losses due to fire, explosion, collapse, underground damage, hail, lightning, vandalism, malicious mischief, wind, tornado, riot, riot attending strike, aircraft, vehicle, and smoke damage. The loss, if any, is to be made payable to the Owner and/or to the Contractor as their interests may appear.
- c. The Contractor shall take out and maintain during the life of the Contract complete Owner's Protective Liability and Property Damage Insurance insuring the Owner and its agents, servants, representatives and employees and extended to The Owner's Representative , and their agents and subcontractors in the amounts specified herein before for Public Liability Insurance and for Property Damage Insurance. The Contractor shall supply, prior to commencing work under the Contract, to the Owner and The Owner's Representative , in a form satisfactory to each of them, evidence of its full compliance with this paragraph.
- d. The Contractor shall also take out and maintain during the life of this Contract Contractor's Protective Liability Insurance to protect themselves against any liability which might attach to themselves as a result of an accident arising out of work performed by any subcontractor.
- e. The Contractor shall carry Completed Operations Liability Insurance in the same amounts as for Public Liability, Property Damage and Automotive Vehicles. This insurance shall be maintained for the full guarantee period.
- f. The Contractor shall take out and maintain during the life of the Contract, Workmans Compensation and Employers Liability Insurance as specified in M.G.L.c.149s.34A.
- g. Failure to provide and continue in force such insurance as aforesaid shall be deemed a material breach of the Contract and shall constitute grounds for immediate termination thereof.

#### ARTICLE VII ALTERATIONS OF WORK

- a. The Owner may make alterations in the form or character of any of the work done, or to be done, and in the requirements of the Contract Documents, and the Purchasing Agent may order in writing such alterations to be made. Such order shall be by means of a written Change Order, supplemented with drawings when in the opinion of the Purchasing Agent it is necessary, which shall include a description of the change with revised specifications, estimated quantities, and prices of the work involved in the alterations made. Each Change Order shall make provisions for revising the time of completion of all work to be done under this Contract or shall state that no revision of time is necessary. All such Change Orders shall be approved in writing by the Owner and accepted in writing by the Contractor before they become effective. If the Owner and Contractor do not agree on the revised prices of the work involved in the alterations, the work shall be paid for on the cost-plus basis as provided for Extra Work in ARTICLE VIII -EXTRA WORK.
- b. All work involved in the alterations shall be made under the terms of and as a part of this Contract, and the security for the performance of the Contract shall in no way be invalidated, but shall be held to secure in like manner the performance of the work involved in the alterations made under the Contract.

#### ARTICLE VIII EXTRA WORK

- a. For the purpose of this Contract all Change Orders which include extra work shall be referred to as Extra Work Orders.
- b. The Contractor shall do any work in addition to the obligations required under the Contract in the original form of its Contract Documents and not herein otherwise provided for as ordered in writing by The Owner's Representative . Such work shall be termed Extra Work. All orders for Extra Work shall contain particular reference to this Article. Before any work is commenced under any Extra Work Order, the order shall be approved by the Owner in writing and accepted in writing by the Contractor. It is understood that the Owner may, at its option, have other parties do work in connection with the work to be done under this Contract, which is not within the limits or is not an integral part of the work herein specified, in lieu of having such work done as Extra Work under this Contract.
- c. All requirements of this Contract and its documents shall be applicable to Extra Work. The Contractor shall not receive any compensation for Extra Work, regardless of its nature, unless the work was ordered done in the manner prescribed above. The Contractor waives all rights to claim any compensation for any work done except (a) that provided for payment as stated in the Proposal, (b) alterations of the work as provided for in ARTICLE VII ALTERATIONS OF WORK, and (c) that provided for as Extra Work ordered done as described in this Article.

- d. All written orders for Extra Work issued by The Owner's Representative shall be accompanied by drawings, if in the opinion of The Owner's Representative drawings are necessary: all orders shall describe the work to be done, shall make provisions for revising the time of completion of all work to be done under this Contract or shall state no revision of time is necessary, and shall prescribe unit prices or the total cost of the Extra Work agreed to by the Owner and Contractor for the work to be done. If the Owner and the Contractor do not agree on unit prices or the total cost of the Extra Work to be done, the orders for Extra Work shall provide for the work to be done on a cost-plus basis, so that the Contractor will receive for full compensation for providing and doing everything required to prepare for and perform everything included in the Extra Work Order the actual cost to him of the following items applicable to the Extra Work Order:
1. All labor directly on the Contractor's payroll at specified rates;
  2. Salaries of Contractor's employees stationed at the field office, engaged at shops or on the road in expediting the production or transportation of material;
  3. Fees for licenses and permits required particularly for the extra work involved and not required for the work as planned in the original Contract;
  4. Minor expenses, such as telegrams, telephone service, express, and similar petty cash items;
  5. Cost of hand tools not owned by the workmen consumed in the prosecution of the work, and depreciation of such tools used but not consumed and which shall remain the property of the Contractor;
  6. Cost of moving equipment from and to the Contractor's yard; and
  7. Cost of Bonds
- e. To the cost of items 1 to 7, inclusive, there shall be added a fixed fee to be agreed upon but not to exceed 15 percent of the total of items 1 to 7, inclusive. The fee shall be compensation to cover the cost of general supervision, overhead, profit, and other general expenses.
- f. If the work is done by a subcontractor, and the cost is determined on the actual cost basis, there shall be added an additional fixed fee to be agreed upon but not to exceed 5 percent of the total of item 1 to 7, inclusive. This additional fee shall be compensation to cover the General Contractor. In no case shall the combined overhead and profit allowed to the Subcontractor and General Contractor exceed 20 percent.

- g. The Contractor shall furnish to The Owner's Representative an itemized statement of all costs incurred in Extra Work during any calendar month on or about the first of the next following month. All quantities (labor, equipment, etc.) shall be agreed upon on daily basis, in writing, by the Contractor and The Owner's Representative .
- h. Unless otherwise specifically provided for in the Extra Work Orders, the compensation agreed to, whether unit prices, total cost or the cost-plus basis as described above, includes payment for any damages or expense caused the Contractor by any delays to other work to be done under the Contract resulting from or on account of Extra Work, and the Contractor waives all rights to any compensation for such damage or expense except as may be provided for in the Extra Work Orders.

#### ARTICLE IX PAYMENTS

- a. The Owner shall pay and the Contractor shall receive as full compensation for providing and doing everything required to prepare for and perform everything called for by this Contract, and as full compensation also for all loss or damage arising out of the nature of the work under the Contract, or from the action of the elements, or from fire, or from any unforeseen obstructions or difficulties which may be encountered in the prosecution of the said work; also for all expenses incurred by, or in consequence of, the suspension or discontinuance of said work in accordance with the Contract, including all work incidental thereto, the prices stated in the bid Schedule of Prices, or the prices revised, if such are revised as provided for in ARTICLE VII ALTERATIONS OF WORK, and also the cost of Extra Work authorized under ARTICLE VIII EXTRA WORK.
- b. It is understood and agreed that the Contractor shall receive payment in accordance with the Schedule of Prices in the bid forms.
- c. In accordance with Massachusetts General Law c.149, s.27B, every Contractor and Subcontractor is required to submit a copy of their weekly payroll records to the awarding authority. The City reserves the right to hold payment of any monies outstanding under this contract until the Contractor or subcontractor complies with the requirements of this law.
- d. Within fifteen days after receipt from the Contractor of a periodic estimate requesting payment of the amount due for the preceding month, the Awarding Authority will make a periodic payment to the Contractor for the work performed during the preceding month and for the materials not incorporated in the work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the Contractor has title or to which a Subcontractor has title and has authorized the Contractor to transfer title to the Awarding Authority, less (1) a retention based on its estimate of the fair value of its claims against the Contractor and less (2) a retention for direct payments to Subcontractors based on demands for same in accordance with the provisions of Section Thirty-Nine, and less (3) a retention not exceeding five percent of the approved amount of the periodic payment. After receipt of

a periodic estimate requesting final payment and within sixty-five days after (A) the Contractor fully completes the work or substantially completes the work so that the value of the work remaining to be done is, in the estimate of the Awarding Authority, less than one percent of the original contract price, or (B) the Contractor substantially complete the work and the Awarding Authority takes possession for occupancy, whichever occurs first, the Awarding Authority shall pay the Contractor the entire balance due on the contract less (1) a retention based on its estimate of the fair value of its claims against the Contractor and of the cost of completing the incomplete and unsatisfactory items of work.

- e. A certificate from The Owner's Representative to the effect that the Contractor has fully or substantially completed the work shall be conclusive for the purposes of this section.

#### ARTICLE X GUARANTEE

- a. The Contractor guarantees that the work and services to be performed under the Contract, and all workmanship, materials and equipment performed, furnished, used or installed in the construction of the same, shall be free from defects and flaws, and shall be performed and furnished in strict accordance with the Drawings, Specifications and other Contract Documents, that the strength of all parts of all manufactured equipment shall be adequate and as specified and that the performance test requirements of the Contract shall be fulfilled. This guarantee shall be for a period of one year from and after the date of completion which date of completion shall be determined under the provisions of ARTICLE IX PAYMENTS herein. If part of the work is accepted in accordance with the Special Conditions, the guarantee for that part of the work shall be for a period of one year from the date fixed for such acceptance. Said guarantees are in addition to any other guarantees provided by law or otherwise.
- b. If at any time within the said period of guarantee any part of the work requires repairing, correction or replacement, the Owner may notify the Contractor in writing to make the required repairs, corrections, or replacements. If the Contractor neglects to commence making such repairs, corrections, or replacements to the satisfaction of the Owner within seven (7) days from the date of receipt of such notice, or having commenced failed to prosecute such work with diligence, the Owner may employ other persons to make the same, and all direct and indirect costs of making said repairs, corrections or replacements, including compensation for additional professional services, shall be paid by the Contractor.

#### ARTICLE XI RIGHT OF THE OWNER TO TERMINATE CONTRACT

- a. If the Contractor shall be adjudged bankrupt or if he shall make a general assignment for the benefit of his creditors, or if a receiver shall be appointed of his property, or if the work to be done under this Contract shall be abandoned, or if this Contract or any part thereof shall be sublet without the previous written consent of the Owner, or if the Contract or any claim thereunder shall be assigned by the Contractor otherwise than as herein specified, or if at



any time The Owner's Representative shall certify in writing to the Owner that the rate of progress of the work or any part thereof is unsatisfactory or that the work or any part thereof is unnecessarily or unreasonably delayed, or that the Contractor has violated any of the provisions of this Contract, the Owner may notify the Contractor to discontinue all work or any part thereof; and thereupon, the Contractor shall discontinue such work or such part thereof as the Owner may designate and charge the entire expense of so completing the work or part thereof to the Contractor; and for such completion, the Owner for itself or its contractors may take possession of and use or cause to be used in the completion of the work or part thereof any of such materials, machinery, implements and tools of every description as may be found upon the site of the Contractor's operations. The Owner may at its option require the surety or sureties to complete the Contract.

- b. All expenses charged under this Article shall be deducted and paid by the Owner out of any money then due or to become due the Contractor under this Contract or any part thereof; and in such accounting, the Owner shall not be held to obtain the lowest figures for the work of completing the Contract or any part thereof, or for insuring its proper completion, but all sums actually paid therefore shall be charged to the Contractor. In case the expenses so charged are less than the sum which would have been payable under this Contract if the same had been completed by the Contractor, the Contractor shall be entitled to receive the difference, but only for work actually completed by the Contractor. If such expenses shall exceed the said sum, the Contractor shall pay the amount of the excess to the Owner upon completion of the work without further demand being made therefor.

#### ARTICLE XII DISPUTED WORK, DETERMINATION OR ORDER

- a. If the Contractor is of the opinion that any work ordered to be done as Contract work by The Owner's Representative is in fact Extra Work and not Contract work, or that any determination or order of The Owner's Representative violates the provisions of this Contract, he must promptly, and before proceeding with such work or complying with the determination or order, notify the Owner and The Owner's Representative in writing of his contentions with respect thereto and request a final determination thereon.
- b. If the Owner determines that the work is Contract work and not Extra Work, or that the determination or order complained of is proper, it will direct The Owner's Representative to order the Contractor to proceed and the Contractor must promptly comply. However, in order to reserve the right to claim compensation for such work or damages resulting from such compliance, the Contractor must, within five days after receiving notice of the Owner's determination, notify the Owner and the Owner's Representative in writing that the work is being performed or that the determination is being complied with under protest.
- c. If the Contractor fails to so appeal to the Owner and the Owner's Representative, or having appealed, should the Contractor fail to notify the Owner and the Owner's Representative in writing of his doing the work under protest, the Contractor shall be deemed to have waived

any claim for extra compensation or damages. No oral appeals or oral protests shall be deemed as compliance with the provisions of this Article.

#### ARTICLE XIII MINIMUM WAGE RATES

- a. The work is subject to MA Prevailing Wage Rates. The established minimum wage rates to be paid to employees of the Contractor, Sub-contractor and suppliers, as attached to this document. The Contractor shall comply with the wage rates, shall keep them posted in a conspicuous place at the work site, and shall, at the completion of the work and as one of the conditions of the Owner's acceptance of the work, certify, on the form supplied with the wage rates, his compliance.
- b. The Contractor is advised to review the advisory issued by the Division of Fair Labor and Business Practices, Criminal Bureau through the Office of the Massachusetts Attorney General, a copy of which is at the end of these General Conditions.
- c. The Contractor and each sub-contractor shall preserve its payroll records for a period of three years from the date of completion of the Contract.

#### ARTICLE XIV CITY CONDITIONS

- a. The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:
  1. **Salem resident:** any person for whom the principal place of residence is within the City of Salem.
  2. **Salem area resident:** any person for whom the principal place of residence is within a ten-mile radius of the City limits.
- b. All bidders and subcontractors under the bidder shall as a condition for bidding or award of a subcontract, verify under oath and in writing that they comply with the following conditions:
  1. The bidder and subcontractors under the bidder must pay the appropriate wage rates to their employees.
  2. The bidder and subcontractors under the bidder must maintain or participate in an apprentice training program for each apprenticeable trade or occupation represented in their workforce.
  3. The bidder and subcontractors under the bidder must furnish at their expense hospitalization and medical benefits and/or coverage for all mechanics and apprentices, teamsters, chauffeurs, and laborers.

4. The bidder and all subcontractors under the bidder must maintain appropriate industrial accident insurance coverage for all employees.
  5. The bidder and all subcontractors under the bidder must classify employees as such, rather than independent contractors and treat them accordingly for purpose of worker's compensation insurance coverage, unemployment taxes, social security taxes, and income tax withholding.
- c. A bid that is submitted by a bidder or subcontractor under the bidder that does not comply with the conditions listed above will be rejected.
  - d. The bidder and subcontractors awarded the contract must comply with the conditions listed above for the entire duration of the project. An officer of each bidder or subcontractor under the bidder shall certify under oath and in writing on a weekly basis to the purchasing agent that they are in compliance with such obligations. Such certificate shall constitute a condition precedent to any payment obligation of the City.
  - e. The bidder or subcontractor under the bidder who fails to comply with the conditions listed above may be subject to the following sanctions: Termination of work until compliance is achieved, withholding of payment until compliance is achieved, permanent removal from further work on the project, or liquidated damages to the City in the amount of 5% the dollar value of the contract.
  - f. Any contractor or subcontractor that has been determined by the city or by any court or agency to have violated any of the obligations set forth in subsections (b) and (d) above shall be barred from performing any work on any future projects for six months for a first violation, for three years for a second violation and permanently for a third violation.
  - g. The Purchasing Agent shall be the enforcement and compliance officer for these conditions. All notices, records and/or other written verification of compliance shall be directed to the purchasing agent.
  - h. All bidders and subcontractors under the bidder shall make a good faith effort to provide at all times at least 20% of the total employee work hours in each trade, at every tier, to be performed by a Salem resident or Salem area resident.
  - i. Contractors shall submit to the purchasing agent workforce charts listing each of its workers and those of its subcontractors of all tiers, by name, residence, craft, job category and hours worked. Submission of said workforce charts shall constitute condition precedent to any payment obligation of the city.
  - j. Any person who provides false information regarding his or her residential address, or in the case of a contractor or bidder who knowingly provides false information regarding address of any employee, shall be subject to a fine of \$300.00 for each violation.

- k. The Purchasing Agent shall establish criteria and procedures for compliance herewith, and shall report to the mayor and city council annually.
- l. Where the provision of any federal or state statute or regulation provide that no procedure or requirement shall be imposed which will operate to discriminate against the employment of labor from any other state, possession or territory of the United States, the terms of this section shall not apply.

## **SPECIAL CONDITIONS**

<b><u>NUMBER</u></b>	<b><u>TITLE</u></b>
1.	COMMENCEMENT
2.	LIQUIDATED DAMAGES
3.	PROTECTION OF WORK AND MATERIALS
4.	CHANGED CONDITIONS
5.	SUPERINTENDENCE, SKILLED LABOR, AND EMPLOYEES
6.	PROTECTION OF UTILITIES
7.	FIRE PROTECTION
8.	USE OF PORTIONS BEFORE ENTIRE COMPLETION OF WORK
9.	MASSACHUSETTS SALES TAX EXEMPTION
10.	ANTI-DISCRIMINATION CLAUSE
11.	COORDINATION OF WORK BY OTHERS
12.	MISPLACED MATERIALS
13.	CONTRACT AND REFERENCE DRAWINGS
14.	SUBSTANTIAL COMPLETION
15.	OSHA SITE REQUIREMENTS

## **SPECIAL CONDITIONS**

### **1. COMMENCEMENT**

- a. The Contractor shall commence work within ten (10) calendar days after the dates specified in the Notice to Proceed and shall complete the work fully and acceptable as herein prescribed within the Contract time specified in the Agreement.

### **2. LIQUIDATED DAMAGES**

- a. Contractor agrees to pay as liquidated damages, the sum of \$1,000 for each consecutive calendar day that Contractor is in default of completing the work.
- b. It is hereby understood and mutually agreed by and between the Contractor and the Owner that the date of beginning and the time for completion are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed that the work embraced in this Contract shall be commenced as stated in the Contract Documents.

### **3. PROTECTION OF WORK AND MATERIALS**

The Contractor shall protect all work, equipment and materials from deterioration and damage. All work of whatever kind, which during its progress or before the final acceptance of the work as established by the Owner's Representative's Certificate of Completion may have become damaged from any cause, shall be removed and replaced by good and satisfactory work, and at no additional cost to the Owner, both for labor and materials.

### **4. CHANGED CONDITIONS**

- a. If, during the progress of the work, the Contractor or the Owner discovers that the actual sub-surface or latent physical conditions encountered at the site differ substantially or materially from those shown on the plans or indicated in the Contract Documents either the Contractor or the Owner may request an equitable adjustment in the Contract Price of the Contract applying to work affected by the differing site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to each other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a Contractor, or upon its own initiative, the Owner will make an investigation of such physical conditions, and, if they differ substantially or materially from those shown on the plan or indicated in the Contract Documents and are of such a nature as to cause an increase or decrease in the cost of performance of the work or a change in the construction methods required for the performance of the work which results in an increase or decrease in the cost of the work, the Owner will make an equitable adjustment in the Contract Price and the Contract will be modified in writing accordingly.
- b. Any adjustment in compensation and/or any adjustment in Contract time because of a

change or changes resulting from one or more of the conditions described in the foregoing paragraph will be made in accordance with the provisions of ARTICLE VII - ALTERATIONS OF WORK contained within the General Conditions.

5. SUPERINTENDENCE, SKILLED LABOR, AND EMPLOYEES

- a. The Contractor shall employ qualified personnel for scheduling all materials and equipment to be used in the Project and for preparation of suitable working drawings. The Contractor shall employ a suitable superintendent and foremen to represent him at all the several parts of the work and they shall be present at all times while the work entrusted to them is in progress and shall be informed thoroughly regarding it. The foremen, workers, and others employed by the Contractor shall be skilled and experienced in the particular work which is given them to do.

6. PROTECTION OF UTILITIES

Location and depth of existing utilities are estimated and should not be relied upon by the Contractor. The Contractor shall check and verify the location of all existing utilities, both underground (by test pits or other approved means) and overhead before proceeding to begin the work or to order materials. Excavation, if any, shall be in accordance with Chapter 502 of the Acts of 1980 entitled, "An Act Further Regulating Excavation in Public Ways," which became effective in the Commonwealth of Massachusetts on October 12, 1980, including any amendments thereto, and all other statutes, by-laws, rules and regulations of any city, state or federal agency that may be applicable. Any damage to the existing utilities and any other costs arising out of said excavation or by reason thereof shall be the Contractor's sole responsibility.

7. FIRE PROTECTION

The Contractor shall take all necessary precautions to prevent fires adjacent to the work and its buildings and shall prevent the spread of fires to areas outside the limits of the work. It shall provide adequate facilities for extinguishing fires.

8. USE OF PORTIONS BEFORE ENTIRE COMPLETION OF WORK

The Owner and its duly authorized representative may enter upon and use any portions of the work for the Owner's benefit before final completion of the whole work to be done under this Contract, without any claim by the Contractor for payment for said use, or for any damage for delay caused by such use.

9. MASSACHUSETTS SALES TAX EXEMPTION

Materials for use in the work under this Contract are exempt from the Massachusetts Sales Tax. The Tax Exemption number will be provided.

10. ANTI-DISCRIMINATION CLAUSE

In connection with the performance of work under this Contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, color, religious creed, national origin, age or ancestry. The aforesaid provision 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; conditions or privileges of employment; and selection for training, including apprenticeship. The Contractor agrees to post hereafter in conspicuous places available for employees and applicants for employment, notices to be provided by the Massachusetts Commission Against Discrimination setting forth the provisions of the fair employment practice law of the Commonwealth. The aforesaid provision shall be binding upon all subcontractors, except subcontractors for standard commercial supplies or raw materials.

11. COORDINATION OF WORK BY OTHERS

Before beginning any portion of the work, the Contractor shall coordinate with and give current users (Salem Ferry and SPT Offshore LLC) due notice of work activities along with ample time for making their necessary preparations.

12. MISPLACED MATERIALS

Should the Contractor during the progress of the work, lose, dump, sink, or misplace any material, plant, machinery, or appliance, which in the opinion of The Owner's Representative or Owner is unsatisfactory, the Contractor shall recover and remove the same with the utmost dispatch.

If such material must be removed by the Owner, the cost of such removal may be deducted from any money due the Contractor, or may be recovered under its bond.

13. CONTRACT AND REFERENCE DRAWINGS

The work shall conform to specifications contained herein and **Sheets 1 through 8** for the **Salem Commercial Marina Dredge Project – Phase IIIB, Salem Wharf Project, Blaney Street, Salem, MA.**

14. SUBSTANTIAL COMPLETION

Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

The Owner's Representative will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion. The Contractor shall forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor. The Owner's Representative will issue a final Certificate for Payment upon compliance with the requirements of the Contract Documents.

In all events, the Owner shall make the final decision on whether to make payment to the Contractor in accordance with the Contractor's Applications for Payment.

The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. If, in the opinion of the Owner, the Contractor falls behind the approved schedule, the Contractor shall take all steps necessary to improve its progress, including those that may be required by the Owner, without additional cost to the Owner. In these circumstances, the Owner may require the Contractor to increase the number of shifts,



overtime operations, days of work, and/or the amount of construction planned, and to submit for approval any supplementary schedule or schedules in such detail and form as the Owner's Representative or Owner deems necessary to demonstrate how the approved rate of progress shall be regained.

Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can utilize the Work for its intended use.

When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Owner a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Upon receipt of the Contractor's list, the Owner's Representative will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Owner's Representative's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Owner's Representative. In such case, the Contractor shall then submit a request for another inspection by the Owner's Representative to determine Substantial Completion.

When the Work or designated portion thereof is substantially complete, the Owner's Representative will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

#### 15. OSHA SITE REQUIREMENTS

Pursuant to M.G.L. c.30, §39S, any person signing a contract to work on a public building or public works project estimated to cost more than \$10,000, must certify under the pains and penalties of perjury that all employees employed on the worksite, or in work subject to the bid, have successfully completed at least ten hours of OSHA approved training. Proof of OSHA certification of all workers onsite will be required by the City prior to the start of work.

# **WAGES**

## **Massachusetts Prevailing Wage Rates**

**W-1**



CHARLES D. BAKER  
Governor

KARYN E. POLITO  
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Director under the provisions of the  
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

RONALD L. WALKER, II  
Secretary

WILLIAM D MCKINNEY  
Director

**Awarding Authority:** City of Salem  
**Contract Number:** R-36 **City/Town:** SALEM  
**Description of Work:** Dredging of approx. 13,600 cu. yds. of material in Salem Harbor to be disposed of off site.  
**Job Location:** Salem Harbor, Salem, MA 01970

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Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards ("DLS") if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **If an apprentice rate is not listed on the prevailing wage schedule for the trade in which an apprentice is registered with the DAS, the apprentice must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F "rental of equipment" contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Construction</b>						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$31.65	\$10.41	\$9.33	\$0.00	\$51.39
	12/01/2015	\$31.65	\$10.41	\$10.08	\$0.00	\$52.14
	06/01/2016	\$32.15	\$10.41	\$10.08	\$0.00	\$52.64
	08/01/2016	\$32.15	\$10.91	\$10.08	\$0.00	\$53.14
	12/01/2016	\$32.15	\$10.91	\$10.89	\$0.00	\$53.95
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$31.72	\$10.41	\$9.33	\$0.00	\$51.46
	12/01/2015	\$31.72	\$10.41	\$10.08	\$0.00	\$52.21
	06/01/2016	\$32.22	\$10.41	\$10.08	\$0.00	\$52.71
	08/01/2016	\$32.22	\$10.91	\$10.08	\$0.00	\$53.21
	12/01/2016	\$32.22	\$10.91	\$10.89	\$0.00	\$54.02
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$31.84	\$10.41	\$9.33	\$0.00	\$51.58
	12/01/2015	\$31.84	\$10.41	\$10.08	\$0.00	\$52.33
	06/01/2016	\$32.34	\$10.41	\$10.08	\$0.00	\$52.83
	08/01/2016	\$32.34	\$10.91	\$10.08	\$0.00	\$53.33
	12/01/2016	\$32.34	\$10.91	\$10.89	\$0.00	\$54.14
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.29	\$9.80	\$19.23	\$0.00	\$117.32
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	12/01/2015	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	06/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
	12/01/2016	\$33.65	\$7.30	\$12.30	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	06/01/2015	\$33.43	\$10.40	\$5.95	\$0.00	\$49.78
	12/01/2015	\$34.38	\$10.40	\$5.95	\$0.00	\$50.73
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	12/01/2015	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	06/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
	12/01/2016	\$33.65	\$7.30	\$12.30	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2015	\$40.32	\$6.97	\$16.21	\$0.00	\$63.50
	01/01/2016	\$41.62	\$6.97	\$16.21	\$0.00	\$64.80
	01/01/2017	\$42.92	\$6.97	\$16.21	\$0.00	\$66.10

**Apprentice - BOILERMAKER - Local 29**

**Effective Date - 01/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$26.21	\$6.97	\$10.54	\$0.00	\$43.72
2	65	\$26.21	\$6.97	\$10.54	\$0.00	\$43.72
3	70	\$28.22	\$6.97	\$11.35	\$0.00	\$46.54
4	75	\$30.24	\$6.97	\$12.16	\$0.00	\$49.37
5	80	\$32.26	\$6.97	\$12.97	\$0.00	\$52.20
6	85	\$34.27	\$6.97	\$13.78	\$0.00	\$55.02
7	90	\$36.29	\$6.97	\$14.59	\$0.00	\$57.85
8	95	\$38.30	\$6.97	\$15.40	\$0.00	\$60.67

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
2	65	\$27.05	\$6.97	\$10.54	\$0.00	\$44.56
3	70	\$29.13	\$6.97	\$11.35	\$0.00	\$47.45
4	75	\$31.22	\$6.97	\$12.16	\$0.00	\$50.35
5	80	\$33.30	\$6.97	\$12.97	\$0.00	\$53.24
6	85	\$35.38	\$6.97	\$13.78	\$0.00	\$56.13
7	90	\$37.46	\$6.97	\$14.59	\$0.00	\$59.02
8	95	\$39.54	\$6.97	\$15.40	\$0.00	\$61.91

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (LYNN)</i>	08/01/2015	\$49.86	\$10.18	\$18.57	\$0.00	\$78.61
	02/01/2016	\$50.43	\$10.18	\$18.57	\$0.00	\$79.18
	08/01/2016	\$51.33	\$10.18	\$18.65	\$0.00	\$80.16
	02/01/2017	\$51.90	\$10.18	\$18.65	\$0.00	\$80.73

**Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Lynn**

**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.93	\$10.18	\$18.57	\$0.00	\$53.68
2	60	\$29.92	\$10.18	\$18.57	\$0.00	\$58.67
3	70	\$34.90	\$10.18	\$18.57	\$0.00	\$63.65
4	80	\$39.89	\$10.18	\$18.57	\$0.00	\$68.64
5	90	\$44.87	\$10.18	\$18.57	\$0.00	\$73.62

**Effective Date - 02/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.22	\$10.18	\$18.57	\$0.00	\$53.97
2	60	\$30.26	\$10.18	\$18.57	\$0.00	\$59.01
3	70	\$35.30	\$10.18	\$18.57	\$0.00	\$64.05
4	80	\$40.34	\$10.18	\$18.57	\$0.00	\$69.09
5	90	\$45.39	\$10.18	\$18.57	\$0.00	\$74.14

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

BULLDOZER/GRADER/SCRAPER	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN	06/01/2015	\$36.20	\$7.30	\$13.40	\$0.00	\$56.90
LABORERS - FOUNDATION AND MARINE	12/01/2015	\$36.95	\$7.30	\$13.40	\$0.00	\$57.65
	06/01/2016	\$37.70	\$7.30	\$13.40	\$0.00	\$58.40
	12/01/2016	\$38.70	\$7.30	\$13.40	\$0.00	\$59.40
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER	06/01/2015	\$35.05	\$7.30	\$13.40	\$0.00	\$55.75
LABORERS - FOUNDATION AND MARINE	12/01/2015	\$35.80	\$7.30	\$13.40	\$0.00	\$56.50
	06/01/2016	\$36.55	\$7.30	\$13.40	\$0.00	\$57.25
	12/01/2016	\$37.55	\$7.30	\$13.40	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN	06/01/2015	\$35.05	\$7.30	\$13.40	\$0.00	\$55.75
LABORERS - FOUNDATION AND MARINE	12/01/2015	\$35.80	\$7.30	\$13.40	\$0.00	\$56.50
	06/01/2016	\$36.55	\$7.30	\$13.40	\$0.00	\$57.25
	12/01/2016	\$37.55	\$7.30	\$13.40	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	03/01/2015	\$35.75	\$9.80	\$16.48	\$0.00	\$62.03

**Apprentice - CARPENTER - Zone 2 Eastern MA**

**Effective Date - 03/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.88	\$9.80	\$1.63	\$0.00	\$29.31
2	60	\$21.45	\$9.80	\$1.63	\$0.00	\$32.88
3	70	\$25.03	\$9.80	\$11.59	\$0.00	\$46.42
4	75	\$26.81	\$9.80	\$11.59	\$0.00	\$48.20
5	80	\$28.60	\$9.80	\$13.22	\$0.00	\$51.62
6	80	\$28.60	\$9.80	\$13.22	\$0.00	\$51.62
7	90	\$32.18	\$9.80	\$14.85	\$0.00	\$56.83
8	90	\$32.18	\$9.80	\$14.85	\$0.00	\$56.83

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (LYNN)</i>	07/01/2015	\$45.82	\$10.90	\$18.71	\$1.30	\$76.73
	01/01/2016	\$46.44	\$10.90	\$18.71	\$1.30	\$77.35

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Lynn)**
**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$10.90	\$12.21	\$0.00	\$46.02
2	60	\$27.49	\$10.90	\$13.71	\$1.30	\$53.40
3	65	\$29.78	\$10.90	\$14.71	\$1.30	\$56.69
4	70	\$32.07	\$10.90	\$15.71	\$1.30	\$59.98
5	75	\$34.37	\$10.90	\$16.71	\$1.30	\$63.28
6	80	\$36.66	\$10.90	\$17.71	\$1.30	\$66.57
7	90	\$41.24	\$10.90	\$18.71	\$1.30	\$72.15

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.22	\$10.90	\$12.21	\$0.00	\$46.33
2	60	\$27.86	\$10.90	\$13.71	\$1.30	\$53.77
3	65	\$30.19	\$10.90	\$14.71	\$1.30	\$57.10
4	70	\$32.51	\$10.90	\$15.71	\$1.30	\$60.42
5	75	\$34.83	\$10.90	\$16.71	\$1.30	\$63.74
6	80	\$37.15	\$10.90	\$17.71	\$1.30	\$67.06
7	90	\$41.80	\$10.90	\$18.71	\$1.30	\$72.71

**Notes:**

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

**Apprentice to Journeyworker Ratio:1:3**

CHAIN SAW OPERATOR	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
LABORERS - ZONE 2	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	06/01/2015	\$43.83	\$10.00	\$14.55	\$0.00	\$68.38
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$45.08	\$10.00	\$14.55	\$0.00	\$69.63
	06/01/2016	\$45.83	\$10.00	\$14.55	\$0.00	\$70.38
	12/01/2016	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	06/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
	12/01/2017	\$49.08	\$10.00	\$14.55	\$0.00	\$73.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR	06/01/2015	\$29.61	\$10.00	\$14.55	\$0.00	\$54.16
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$30.48	\$10.00	\$14.55	\$0.00	\$55.03
	06/01/2016	\$31.00	\$10.00	\$14.55	\$0.00	\$55.55
	12/01/2016	\$31.87	\$10.00	\$14.55	\$0.00	\$56.42
	06/01/2017	\$32.56	\$10.00	\$14.55	\$0.00	\$57.11
	12/01/2017	\$33.25	\$10.00	\$14.55	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						



Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DELEADER (BRIDGE)	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
<i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS**

**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.28	\$7.85	\$0.00	\$0.00	\$32.13
2	55	\$26.71	\$7.85	\$3.66	\$0.00	\$38.22
3	60	\$29.14	\$7.85	\$3.99	\$0.00	\$40.98
4	65	\$31.56	\$7.85	\$4.32	\$0.00	\$43.73
5	70	\$33.99	\$7.85	\$14.11	\$0.00	\$55.95
6	75	\$36.42	\$7.85	\$14.44	\$0.00	\$58.71
7	80	\$38.85	\$7.85	\$14.77	\$0.00	\$61.47
8	90	\$43.70	\$7.85	\$15.44	\$0.00	\$66.99

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$7.85	\$0.00	\$0.00	\$32.61
2	55	\$27.23	\$7.85	\$3.66	\$0.00	\$38.74
3	60	\$29.71	\$7.85	\$3.99	\$0.00	\$41.55
4	65	\$32.18	\$7.85	\$4.32	\$0.00	\$44.35
5	70	\$34.66	\$7.85	\$14.11	\$0.00	\$56.62
6	75	\$37.13	\$7.85	\$14.44	\$0.00	\$59.42
7	80	\$39.61	\$7.85	\$14.77	\$0.00	\$62.23
8	90	\$44.56	\$7.85	\$15.44	\$0.00	\$67.85

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

DEMO: ADZEMAN	06/01/2015	\$35.25	\$7.30	\$13.20	\$0.00	\$55.75
<i>LABORERS - ZONE 2</i>	12/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR	06/01/2015	\$36.25	\$7.30	\$13.20	\$0.00	\$56.75
<i>LABORERS - ZONE 2</i>	12/01/2015	\$37.00	\$7.30	\$13.20	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS	06/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
<i>LABORERS - ZONE 2</i>	12/01/2015	\$36.75	\$7.30	\$13.20	\$0.00	\$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER	06/01/2015	\$36.25	\$7.30	\$13.20	\$0.00	\$56.75
<i>LABORERS - ZONE 2</i>	12/01/2015	\$37.00	\$7.30	\$13.20	\$0.00	\$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR	06/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
<i>LABORERS - ZONE 2</i>	12/01/2015	\$36.75	\$7.30	\$13.20	\$0.00	\$57.25

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER	06/01/2015	\$35.25	\$7.30	\$13.20	\$0.00	\$55.75
LABORERS - ZONE 2	12/01/2015	\$36.00	\$7.30	\$13.20	\$0.00	\$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER	08/01/2015	\$58.86	\$9.80	\$19.23	\$0.00	\$87.89
PILE DRIVER LOCAL 56 (ZONE 1)						
DIVER TENDER	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
PILE DRIVER LOCAL 56 (ZONE 1)						
DIVER TENDER (EFFLUENT)	08/01/2015	\$63.06	\$9.80	\$19.23	\$0.00	\$92.09
PILE DRIVER LOCAL 56 (ZONE 1)						
DIVER/SLURRY (EFFLUENT)	08/01/2015	\$88.23	\$9.80	\$19.23	\$0.00	\$117.26
PILE DRIVER LOCAL 56 (ZONE 1)						
DRAWBRIDGE OPERATOR (Construction)	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
ELECTRICIANS LOCAL 103	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
ELECTRICIANS LOCAL 103	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56

**Classification**

Effective Date    Base Wage    Health    Pension    Supplemental  
Unemployment    Total Rate

**Apprentice - ELECTRICIAN - Local 103**
**Effective Date - 09/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.27	\$13.00	\$0.55	\$0.00	\$31.82
2	40	\$18.27	\$13.00	\$0.55	\$0.00	\$31.82
3	45	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
4	45	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
5	50	\$22.84	\$13.00	\$12.23	\$0.00	\$48.07
6	55	\$25.12	\$13.00	\$12.58	\$0.00	\$50.70
7	60	\$27.40	\$13.00	\$12.95	\$0.00	\$53.35
8	65	\$29.69	\$13.00	\$13.32	\$0.00	\$56.01
9	70	\$31.97	\$13.00	\$13.69	\$0.00	\$58.66
10	75	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31

**Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
2	40	\$18.47	\$13.00	\$0.55	\$0.00	\$32.02
3	45	\$20.78	\$13.00	\$11.84	\$0.00	\$45.62
4	45	\$20.78	\$13.00	\$11.84	\$0.00	\$45.62
5	50	\$23.09	\$13.00	\$12.71	\$0.00	\$48.80
6	55	\$25.39	\$13.00	\$13.07	\$0.00	\$51.46
7	60	\$27.70	\$13.00	\$13.39	\$0.00	\$54.09
8	65	\$30.01	\$13.00	\$13.81	\$0.00	\$56.82
9	70	\$32.32	\$13.00	\$14.18	\$0.00	\$59.50
10	75	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

**Notes :**

App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

**Apprentice to Journeyworker Ratio:2:3\*\*\***

ELEVATOR CONSTRUCTOR	01/01/2015	\$53.30	\$13.58	\$14.21	\$0.00	\$81.09
ELEVATOR CONSTRUCTORS LOCAL 4	01/01/2016	\$54.53	\$14.43	\$14.96	\$0.00	\$83.92
	01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**Apprentice - ELEVATOR CONSTRUCTOR - Local 4**

**Effective Date -** 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.65	\$13.58	\$0.00	\$0.00	\$40.23
2	55	\$29.32	\$13.58	\$14.21	\$0.00	\$57.11
3	65	\$34.65	\$13.58	\$14.21	\$0.00	\$62.44
4	70	\$37.31	\$13.58	\$14.21	\$0.00	\$65.10
5	80	\$42.64	\$13.58	\$14.21	\$0.00	\$70.43

**Effective Date -** 01/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.27	\$14.43	\$0.00	\$0.00	\$41.70
2	55	\$29.99	\$14.43	\$14.96	\$0.00	\$59.38
3	65	\$35.44	\$14.43	\$14.96	\$0.00	\$64.83
4	70	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
5	80	\$43.62	\$14.43	\$14.96	\$0.00	\$73.01

**Notes:**

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

**Apprentice to Journeyworker Ratio:1:1**

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2015	\$37.31	\$13.58	\$14.21	\$0.00	\$65.10
	01/01/2016	\$38.17	\$14.43	\$14.96	\$0.00	\$67.56
	01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$40.22	\$10.00	\$14.30	\$0.00	\$64.52
	11/01/2015	\$40.49	\$10.00	\$14.55	\$0.00	\$65.04
	05/01/2016	\$41.38	\$10.00	\$14.55	\$0.00	\$65.93
	11/01/2016	\$41.97	\$10.00	\$14.55	\$0.00	\$66.52
	05/01/2017	\$42.85	\$10.00	\$14.55	\$0.00	\$67.40
	11/01/2017	\$43.58	\$10.00	\$14.55	\$0.00	\$68.13
	05/01/2018	\$44.29	\$10.00	\$14.55	\$0.00	\$68.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$41.65	\$10.00	\$14.30	\$0.00	\$65.95
	11/01/2015	\$41.93	\$10.00	\$14.55	\$0.00	\$66.48
	05/01/2016	\$42.82	\$10.00	\$14.55	\$0.00	\$67.37
	11/01/2016	\$43.42	\$10.00	\$14.55	\$0.00	\$67.97
	05/01/2017	\$44.31	\$10.00	\$14.55	\$0.00	\$68.86
	11/01/2017	\$45.04	\$10.00	\$14.55	\$0.00	\$69.59
	05/01/2018	\$45.76	\$10.00	\$14.55	\$0.00	\$70.31
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2015	\$21.68	\$10.00	\$14.30	\$0.00	\$45.98
	11/01/2015	\$21.71	\$10.00	\$14.55	\$0.00	\$46.26
	05/01/2016	\$22.23	\$10.00	\$14.55	\$0.00	\$46.78
	11/01/2016	\$22.58	\$10.00	\$14.55	\$0.00	\$47.13
	05/01/2017	\$23.11	\$10.00	\$14.55	\$0.00	\$47.66
	11/01/2017	\$23.53	\$10.00	\$14.55	\$0.00	\$48.08
	05/01/2018	\$23.96	\$10.00	\$14.55	\$0.00	\$48.51
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS</i> <i>LOCAL 103</i>	09/01/2015	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31
	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$35.64	\$10.00	\$14.55	\$0.00	\$60.19
	12/01/2015	\$36.69	\$10.00	\$14.55	\$0.00	\$61.24
	06/01/2016	\$37.31	\$10.00	\$14.55	\$0.00	\$61.86
	12/01/2016	\$38.35	\$10.00	\$14.55	\$0.00	\$62.90
	06/01/2017	\$39.19	\$10.00	\$14.55	\$0.00	\$63.74
	12/01/2017	\$40.02	\$10.00	\$14.55	\$0.00	\$64.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 2</i>	06/01/2015	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
	12/01/2015	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
	06/01/2016	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
	12/01/2016	\$20.50	\$7.30	\$12.30	\$0.00	\$40.10
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE I</i>	09/01/2015	\$41.59	\$9.80	\$17.53	\$0.00	\$68.92

**Apprentice - FLOORCOVERER - Local 2168 Zone I**

**Effective Date -** 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.80	\$9.80	\$1.79	\$0.00	\$32.39
2	55	\$22.87	\$9.80	\$1.79	\$0.00	\$34.46
3	60	\$24.95	\$9.80	\$12.16	\$0.00	\$46.91
4	65	\$27.03	\$9.80	\$12.16	\$0.00	\$48.99
5	70	\$29.11	\$9.80	\$13.95	\$0.00	\$52.86
6	75	\$31.19	\$9.80	\$13.95	\$0.00	\$54.94
7	80	\$33.27	\$9.80	\$15.74	\$0.00	\$58.81
8	85	\$35.35	\$9.80	\$15.74	\$0.00	\$60.89

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$29.61	\$10.00	\$14.55	\$0.00	\$54.16
	12/01/2015	\$30.48	\$10.00	\$14.55	\$0.00	\$55.03
	06/01/2016	\$31.00	\$10.00	\$14.55	\$0.00	\$55.55
	12/01/2016	\$31.87	\$10.00	\$14.55	\$0.00	\$56.42
	06/01/2017	\$32.56	\$10.00	\$14.55	\$0.00	\$57.11
	12/01/2017	\$33.25	\$10.00	\$14.55	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	07/01/2015	\$38.06	\$7.85	\$16.10	\$0.00	\$62.01
	01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
	07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
	01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

**Apprentice - GLAZIER - Local 35 Zone 2**

**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.03	\$7.85	\$0.00	\$0.00	\$26.88
2	55	\$20.93	\$7.85	\$3.66	\$0.00	\$32.44
3	60	\$22.84	\$7.85	\$3.99	\$0.00	\$34.68
4	65	\$24.74	\$7.85	\$4.32	\$0.00	\$36.91
5	70	\$26.64	\$7.85	\$14.11	\$0.00	\$48.60
6	75	\$28.55	\$7.85	\$14.44	\$0.00	\$50.84
7	80	\$30.45	\$7.85	\$14.77	\$0.00	\$53.07
8	90	\$34.25	\$7.85	\$15.44	\$0.00	\$57.54

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.51	\$7.85	\$0.00	\$0.00	\$27.36
2	55	\$21.46	\$7.85	\$3.66	\$0.00	\$32.97
3	60	\$23.41	\$7.85	\$3.99	\$0.00	\$35.25
4	65	\$25.36	\$7.85	\$4.32	\$0.00	\$37.53
5	70	\$27.31	\$7.85	\$14.11	\$0.00	\$49.27
6	75	\$29.26	\$7.85	\$14.44	\$0.00	\$51.55
7	80	\$31.21	\$7.85	\$14.77	\$0.00	\$53.83
8	90	\$35.11	\$7.85	\$15.44	\$0.00	\$58.40

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63

**Apprentice - OPERATING ENGINEERS - Local 4**

**Effective Date -** 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$23.56	\$10.00	\$0.00	\$0.00	\$33.56
2	60	\$25.70	\$10.00	\$14.55	\$0.00	\$50.25
3	65	\$27.84	\$10.00	\$14.55	\$0.00	\$52.39
4	70	\$29.98	\$10.00	\$14.55	\$0.00	\$54.53
5	75	\$32.12	\$10.00	\$14.55	\$0.00	\$56.67
6	80	\$34.26	\$10.00	\$14.55	\$0.00	\$58.81
7	85	\$36.41	\$10.00	\$14.55	\$0.00	\$60.96
8	90	\$38.55	\$10.00	\$14.55	\$0.00	\$63.10

**Effective Date -** 12/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.24	\$10.00	\$0.00	\$0.00	\$34.24
2	60	\$26.45	\$10.00	\$14.55	\$0.00	\$51.00
3	65	\$28.65	\$10.00	\$14.55	\$0.00	\$53.20
4	70	\$30.86	\$10.00	\$14.55	\$0.00	\$55.41
5	75	\$33.06	\$10.00	\$14.55	\$0.00	\$57.61
6	80	\$35.26	\$10.00	\$14.55	\$0.00	\$59.81
7	85	\$37.47	\$10.00	\$14.55	\$0.00	\$62.02
8	90	\$39.67	\$10.00	\$14.55	\$0.00	\$64.22

**Notes:**

**Apprentice to Journeyworker Ratio:1:6**

HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	08/01/2015	\$43.31	\$10.20	\$21.48	\$2.25	\$77.24
	02/01/2016	\$44.31	\$10.20	\$21.48	\$2.25	\$78.24
	08/01/2016	\$45.46	\$10.20	\$21.48	\$2.25	\$79.39
	02/01/2017	\$46.56	\$10.20	\$21.48	\$2.25	\$80.49
	08/01/2017	\$47.66	\$10.20	\$21.48	\$2.25	\$81.59
	02/01/2018	\$48.81	\$10.20	\$21.48	\$2.25	\$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i>	09/01/2015	\$45.67	\$13.00	\$15.89	\$0.00	\$74.56
	03/01/2016	\$46.17	\$13.00	\$16.39	\$0.00	\$75.56
For apprentice rates see "Apprentice- ELECTRICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	08/01/2015	\$43.31	\$10.20	\$21.48	\$2.25	\$77.24
	02/01/2016	\$44.31	\$10.20	\$21.48	\$2.25	\$78.24
	08/01/2016	\$45.46	\$10.20	\$21.48	\$2.25	\$79.39
	02/01/2017	\$46.56	\$10.20	\$21.48	\$2.25	\$80.49
	08/01/2017	\$47.66	\$10.20	\$21.48	\$2.25	\$81.59
	02/01/2018	\$48.81	\$10.20	\$21.48	\$2.25	\$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	12/01/2015	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	06/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
	12/01/2016	\$33.65	\$7.30	\$12.30	\$0.00	\$53.25
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) <i>HEAT &amp; FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2015	\$43.81	\$11.50	\$13.80	\$0.00	\$69.11
	09/01/2016	\$45.81	\$11.50	\$13.80	\$0.00	\$71.11
	09/01/2017	\$47.81	\$11.50	\$13.80	\$0.00	\$73.11
	09/01/2018	\$50.06	\$11.50	\$13.80	\$0.00	\$75.36
	09/01/2019	\$52.56	\$11.50	\$13.80	\$0.00	\$77.86



**Classification**

**Effective Date    Base Wage    Health    Pension    Supplemental  
Unemployment    Total Rate**

**Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston**

**Effective Date - 09/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.91	\$11.50	\$10.05	\$0.00	\$43.46
2	60	\$26.29	\$11.50	\$10.80	\$0.00	\$48.59
3	70	\$30.67	\$11.50	\$11.55	\$0.00	\$53.72
4	80	\$35.05	\$11.50	\$12.30	\$0.00	\$58.85

**Effective Date - 09/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$11.50	\$10.05	\$0.00	\$44.46
2	60	\$27.49	\$11.50	\$10.80	\$0.00	\$49.79
3	70	\$32.07	\$11.50	\$11.55	\$0.00	\$55.12
4	80	\$36.65	\$11.50	\$12.30	\$0.00	\$60.45

**Notes:**

Steps are 1 year

**Apprentice to Journeyworker Ratio:1:4**

IRONWORKER/WELDER	09/16/2015	\$42.40	\$7.80	\$20.85	\$0.00	\$71.05
IRONWORKERS LOCAL 7 (BOSTON AREA)	03/16/2016	\$43.40	\$7.80	\$20.85	\$0.00	\$72.05
	09/16/2016	\$44.05	\$7.80	\$20.85	\$0.00	\$72.70
	03/16/2017	\$44.65	\$7.80	\$20.85	\$0.00	\$73.30

**Classification**

**Effective Date   Base Wage   Health   Pension   Supplemental Unemployment   Total Rate**

**Apprentice - IRONWORKER - Local 7 Boston**
**Effective Date - 09/16/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$25.44	\$7.80	\$20.85	\$0.00	\$54.09
2	70	\$29.68	\$7.80	\$20.85	\$0.00	\$58.33
3	75	\$31.80	\$7.80	\$20.85	\$0.00	\$60.45
4	80	\$33.92	\$7.80	\$20.85	\$0.00	\$62.57
5	85	\$36.04	\$7.80	\$20.85	\$0.00	\$64.69
6	90	\$38.16	\$7.80	\$20.85	\$0.00	\$66.81

**Effective Date - 03/16/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.04	\$7.80	\$20.85	\$0.00	\$54.69
2	70	\$30.38	\$7.80	\$20.85	\$0.00	\$59.03
3	75	\$32.55	\$7.80	\$20.85	\$0.00	\$61.20
4	80	\$34.72	\$7.80	\$20.85	\$0.00	\$63.37
5	85	\$36.89	\$7.80	\$20.85	\$0.00	\$65.54
6	90	\$39.06	\$7.80	\$20.85	\$0.00	\$67.71

**Notes:**

\*\* Structural 1:6; Ornamental 1:4

**Apprentice to Journeyworker Ratio:\*\***

JACKHAMMER & PAVING BREAKER OPERATOR	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
LABORERS - ZONE 2	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

LABORER	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
LABORERS - ZONE 2	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**Apprentice - LABORER - Zone 2**

**Effective Date - 06/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.69	\$7.30	\$12.30	\$0.00	\$38.29
2	70	\$21.81	\$7.30	\$12.30	\$0.00	\$41.41
3	80	\$24.92	\$7.30	\$12.30	\$0.00	\$44.52
4	90	\$28.04	\$7.30	\$12.30	\$0.00	\$47.64

**Effective Date - 12/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.99	\$7.30	\$12.30	\$0.00	\$38.59
2	70	\$22.16	\$7.30	\$12.30	\$0.00	\$41.76
3	80	\$25.32	\$7.30	\$12.30	\$0.00	\$44.92
4	90	\$28.49	\$7.30	\$12.30	\$0.00	\$48.09

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

LABORER: CARPENTER TENDER LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER LABORERS - ZONE 2	06/01/2015	\$31.35	\$7.30	\$12.25	\$0.00	\$50.90
	12/01/2015	\$31.85	\$7.30	\$12.25	\$0.00	\$51.40
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER LABORERS - ZONE 2	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
LABORER: MULTI-TRADE TENDER LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER LABORERS - ZONE 2	06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
	12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
	06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
LABORERS - ZONE 2	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
MARBLE & TILE FINISHERS	08/01/2015	\$38.08	\$10.18	\$17.25	\$0.00	\$65.51
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2016	\$38.53	\$10.18	\$17.25	\$0.00	\$65.96
	08/01/2016	\$39.23	\$10.18	\$17.33	\$0.00	\$66.74
	02/01/2017	\$39.69	\$10.18	\$17.33	\$0.00	\$67.20
<b>Apprentice - MARBLE &amp; TILE FINISHER - Local 3 Marble &amp; Tile</b>						
<b>Effective Date - 08/01/2015</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.04	\$10.18	\$17.25	\$0.00	\$46.47
2	60	\$22.85	\$10.18	\$17.25	\$0.00	\$50.28
3	70	\$26.66	\$10.18	\$17.25	\$0.00	\$54.09
4	80	\$30.46	\$10.18	\$17.25	\$0.00	\$57.89
5	90	\$34.27	\$10.18	\$17.25	\$0.00	\$61.70
<b>Effective Date - 02/01/2016</b>						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.27	\$10.18	\$17.25	\$0.00	\$46.70
2	60	\$23.12	\$10.18	\$17.25	\$0.00	\$50.55
3	70	\$26.97	\$10.18	\$17.25	\$0.00	\$54.40
4	80	\$30.82	\$10.18	\$17.25	\$0.00	\$58.25
5	90	\$34.68	\$10.18	\$17.25	\$0.00	\$62.11
<b>Notes:</b>						
<b>Apprentice to Journeyworker Ratio:1:3</b>						
MARBLE MASONS,TILELAYERS & TERRAZZO MECH	08/01/2015	\$49.90	\$10.18	\$18.57	\$0.00	\$78.65
BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2016	\$50.47	\$10.18	\$18.57	\$0.00	\$79.22
	08/01/2016	\$51.37	\$10.18	\$18.65	\$0.00	\$80.20
	02/01/2017	\$51.94	\$10.18	\$18.65	\$0.00	\$80.77

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile**

**Effective Date -** 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.95	\$10.18	\$18.57	\$0.00	\$53.70
2	60	\$29.94	\$10.18	\$18.57	\$0.00	\$58.69
3	70	\$34.93	\$10.18	\$18.57	\$0.00	\$63.68
4	80	\$39.92	\$10.18	\$18.57	\$0.00	\$68.67
5	90	\$44.91	\$10.18	\$18.57	\$0.00	\$73.66

**Effective Date -** 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.24	\$10.18	\$18.57	\$0.00	\$53.99
2	60	\$30.28	\$10.18	\$18.57	\$0.00	\$59.03
3	70	\$35.33	\$10.18	\$18.57	\$0.00	\$64.08
4	80	\$40.38	\$10.18	\$18.57	\$0.00	\$69.13
5	90	\$45.42	\$10.18	\$18.57	\$0.00	\$74.17

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

MECH. SWEEPER OPERATOR (ON CONST. SITES)	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 1)	04/01/2015	\$37.64	\$9.80	\$16.21	\$0.00	\$63.65
MILLWRIGHTS LOCAL 1121 - Zone 1						

**Apprentice -   MILLWRIGHT - Local 1121 Zone 1**

**Effective Date -   04/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$20.70	\$9.80	\$4.48	\$0.00	\$34.98
2	65	\$24.47	\$9.80	\$13.36	\$0.00	\$47.63
3	75	\$28.23	\$9.80	\$14.18	\$0.00	\$52.21
4	85	\$31.99	\$9.80	\$14.99	\$0.00	\$56.78

**Notes:**

Steps are 2,000 hours

**Apprentice to Journeyworker Ratio:1:5**

MORTAR MIXER	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
LABORERS - ZONE 2	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS)	06/01/2015	\$21.97	\$10.00	\$14.55	\$0.00	\$46.52
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$22.62	\$10.00	\$14.55	\$0.00	\$47.17
	06/01/2016	\$23.01	\$10.00	\$14.55	\$0.00	\$47.56
	12/01/2016	\$23.66	\$10.00	\$14.55	\$0.00	\$48.21
	06/01/2017	\$24.17	\$10.00	\$14.55	\$0.00	\$48.72
	12/01/2017	\$24.69	\$10.00	\$14.55	\$0.00	\$49.24

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS)	06/01/2015	\$25.68	\$10.00	\$14.55	\$0.00	\$50.23
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$26.43	\$10.00	\$14.55	\$0.00	\$50.98
	06/01/2016	\$26.89	\$10.00	\$14.55	\$0.00	\$51.44
	12/01/2016	\$27.64	\$10.00	\$14.55	\$0.00	\$52.19
	06/01/2017	\$28.24	\$10.00	\$14.55	\$0.00	\$52.79
	12/01/2017	\$28.85	\$10.00	\$14.55	\$0.00	\$53.40

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OTHER POWER DRIVEN EQUIPMENT - CLASS II	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS)	07/01/2015	\$48.56	\$7.85	\$16.10	\$0.00	\$72.51
PAINTERS LOCAL 35 - ZONE 2	01/01/2016	\$49.51	\$7.85	\$16.10	\$0.00	\$73.46
	07/01/2016	\$50.46	\$7.85	\$16.10	\$0.00	\$74.41
	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

**Apprentice - PAINTER Local 35 - BRIDGES/TANKS****Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.28	\$7.85	\$0.00	\$0.00	\$32.13
2	55	\$26.71	\$7.85	\$3.66	\$0.00	\$38.22
3	60	\$29.14	\$7.85	\$3.99	\$0.00	\$40.98
4	65	\$31.56	\$7.85	\$4.32	\$0.00	\$43.73
5	70	\$33.99	\$7.85	\$14.11	\$0.00	\$55.95
6	75	\$36.42	\$7.85	\$14.44	\$0.00	\$58.71
7	80	\$38.85	\$7.85	\$14.77	\$0.00	\$61.47
8	90	\$43.70	\$7.85	\$15.44	\$0.00	\$66.99

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.76	\$7.85	\$0.00	\$0.00	\$32.61
2	55	\$27.23	\$7.85	\$3.66	\$0.00	\$38.74
3	60	\$29.71	\$7.85	\$3.99	\$0.00	\$41.55
4	65	\$32.18	\$7.85	\$4.32	\$0.00	\$44.35
5	70	\$34.66	\$7.85	\$14.11	\$0.00	\$56.62
6	75	\$37.13	\$7.85	\$14.44	\$0.00	\$59.42
7	80	\$39.61	\$7.85	\$14.77	\$0.00	\$62.23
8	90	\$44.56	\$7.85	\$15.44	\$0.00	\$67.85

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (SPRAY OR SANDBLAST, NEW) \*

\* If 30% or more of surfaces to be painted are new construction,

NEW paint rate shall be used. *PAINTERS LOCAL 35 - ZONE 2*

07/01/2015	\$39.46	\$7.85	\$16.10	\$0.00	\$63.41
01/01/2016	\$40.41	\$7.85	\$16.10	\$0.00	\$64.36
07/01/2016	\$41.36	\$7.85	\$16.10	\$0.00	\$65.31
01/01/2017	\$42.31	\$7.85	\$16.10	\$0.00	\$66.26

**Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New****Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.73	\$7.85	\$0.00	\$0.00	\$27.58
2	55	\$21.70	\$7.85	\$3.66	\$0.00	\$33.21
3	60	\$23.68	\$7.85	\$3.99	\$0.00	\$35.52
4	65	\$25.65	\$7.85	\$4.32	\$0.00	\$37.82
5	70	\$27.62	\$7.85	\$14.11	\$0.00	\$49.58
6	75	\$29.60	\$7.85	\$14.44	\$0.00	\$51.89
7	80	\$31.57	\$7.85	\$14.77	\$0.00	\$54.19
8	90	\$35.51	\$7.85	\$15.44	\$0.00	\$58.80

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.21	\$7.85	\$0.00	\$0.00	\$28.06
2	55	\$22.23	\$7.85	\$3.66	\$0.00	\$33.74
3	60	\$24.25	\$7.85	\$3.99	\$0.00	\$36.09
4	65	\$26.27	\$7.85	\$4.32	\$0.00	\$38.44
5	70	\$28.29	\$7.85	\$14.11	\$0.00	\$50.25
6	75	\$30.31	\$7.85	\$14.44	\$0.00	\$52.60
7	80	\$32.33	\$7.85	\$14.77	\$0.00	\$54.95
8	90	\$36.37	\$7.85	\$15.44	\$0.00	\$59.66

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (SPRAY OR SANDBLAST, REPAINT)

PAINTERS LOCAL 35 - ZONE 2

07/01/2015	\$37.52	\$7.85	\$16.10	\$0.00	\$61.47
01/01/2016	\$38.47	\$7.85	\$16.10	\$0.00	\$62.42
07/01/2016	\$39.42	\$7.85	\$16.10	\$0.00	\$63.37
01/01/2017	\$40.37	\$7.85	\$16.10	\$0.00	\$64.32



**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint**
**Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.76	\$7.85	\$0.00	\$0.00	\$26.61
2	55	\$20.64	\$7.85	\$3.66	\$0.00	\$32.15
3	60	\$22.51	\$7.85	\$3.99	\$0.00	\$34.35
4	65	\$24.39	\$7.85	\$4.32	\$0.00	\$36.56
5	70	\$26.26	\$7.85	\$14.11	\$0.00	\$48.22
6	75	\$28.14	\$7.85	\$14.44	\$0.00	\$50.43
7	80	\$30.02	\$7.85	\$14.77	\$0.00	\$52.64
8	90	\$33.77	\$7.85	\$15.44	\$0.00	\$57.06

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.24	\$7.85	\$0.00	\$0.00	\$27.09
2	55	\$21.16	\$7.85	\$3.66	\$0.00	\$32.67
3	60	\$23.08	\$7.85	\$3.99	\$0.00	\$34.92
4	65	\$25.01	\$7.85	\$4.32	\$0.00	\$37.18
5	70	\$26.93	\$7.85	\$14.11	\$0.00	\$48.89
6	75	\$28.85	\$7.85	\$14.44	\$0.00	\$51.14
7	80	\$30.78	\$7.85	\$14.77	\$0.00	\$53.40
8	90	\$34.62	\$7.85	\$15.44	\$0.00	\$57.91

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER (TRAFFIC MARKINGS)

LABORERS - ZONE 2

06/01/2015	\$31.15	\$7.30	\$12.30	\$0.00	\$50.75
12/01/2015	\$31.65	\$7.30	\$12.30	\$0.00	\$51.25
06/01/2016	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
12/01/2016	\$32.90	\$7.30	\$12.30	\$0.00	\$52.50

For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) \*

\* If 30% or more of surfaces to be painted are new construction,

NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 2

07/01/2015	\$38.06	\$7.85	\$16.10	\$0.00	\$62.01
01/01/2016	\$39.01	\$7.85	\$16.10	\$0.00	\$62.96
07/01/2016	\$39.96	\$7.85	\$16.10	\$0.00	\$63.91
01/01/2017	\$40.91	\$7.85	\$16.10	\$0.00	\$64.86

**Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW****Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.03	\$7.85	\$0.00	\$0.00	\$26.88
2	55	\$20.93	\$7.85	\$3.66	\$0.00	\$32.44
3	60	\$22.84	\$7.85	\$3.99	\$0.00	\$34.68
4	65	\$24.74	\$7.85	\$4.32	\$0.00	\$36.91
5	70	\$26.64	\$7.85	\$14.11	\$0.00	\$48.60
6	75	\$28.55	\$7.85	\$14.44	\$0.00	\$50.84
7	80	\$30.45	\$7.85	\$14.77	\$0.00	\$53.07
8	90	\$34.25	\$7.85	\$15.44	\$0.00	\$57.54

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.51	\$7.85	\$0.00	\$0.00	\$27.36
2	55	\$21.46	\$7.85	\$3.66	\$0.00	\$32.97
3	60	\$23.41	\$7.85	\$3.99	\$0.00	\$35.25
4	65	\$25.36	\$7.85	\$4.32	\$0.00	\$37.53
5	70	\$27.31	\$7.85	\$14.11	\$0.00	\$49.27
6	75	\$29.26	\$7.85	\$14.44	\$0.00	\$51.55
7	80	\$31.21	\$7.85	\$14.77	\$0.00	\$53.83
8	90	\$35.11	\$7.85	\$15.44	\$0.00	\$58.40

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PAINTER / TAPER (BRUSH, REPAINT)

PAINTERS LOCAL 35 - ZONE 2

07/01/2015	\$36.12	\$7.85	\$16.10	\$0.00	\$60.07
01/01/2016	\$37.07	\$7.85	\$16.10	\$0.00	\$61.02
07/01/2016	\$38.02	\$7.85	\$16.10	\$0.00	\$61.97
01/01/2017	\$38.97	\$7.85	\$16.10	\$0.00	\$62.92

**Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT****Effective Date - 07/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.06	\$7.85	\$0.00	\$0.00	\$25.91
2	55	\$19.87	\$7.85	\$3.66	\$0.00	\$31.38
3	60	\$21.67	\$7.85	\$3.99	\$0.00	\$33.51
4	65	\$23.48	\$7.85	\$4.32	\$0.00	\$35.65
5	70	\$25.28	\$7.85	\$14.11	\$0.00	\$47.24
6	75	\$27.09	\$7.85	\$14.44	\$0.00	\$49.38
7	80	\$28.90	\$7.85	\$14.77	\$0.00	\$51.52
8	90	\$32.51	\$7.85	\$15.44	\$0.00	\$55.80

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$18.54	\$7.85	\$0.00	\$0.00	\$26.39
2	55	\$20.39	\$7.85	\$3.66	\$0.00	\$31.90
3	60	\$22.24	\$7.85	\$3.99	\$0.00	\$34.08
4	65	\$24.10	\$7.85	\$4.32	\$0.00	\$36.27
5	70	\$25.95	\$7.85	\$14.11	\$0.00	\$47.91
6	75	\$27.80	\$7.85	\$14.44	\$0.00	\$50.09
7	80	\$29.66	\$7.85	\$14.77	\$0.00	\$52.28
8	90	\$33.36	\$7.85	\$15.44	\$0.00	\$56.65

**Notes:**

Steps are 750 hrs.

**Apprentice to Journeyworker Ratio:1:1**

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	12/01/2012	\$30.28	\$9.07	\$8.00	\$0.00	\$47.35
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07

**Apprentice - PILE DRIVER - Local 56 Zone 1****Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.02	\$9.80	\$19.23	\$0.00	\$50.05
2	60	\$25.22	\$9.80	\$19.23	\$0.00	\$54.25
3	70	\$29.43	\$9.80	\$19.23	\$0.00	\$58.46
4	75	\$31.53	\$9.80	\$19.23	\$0.00	\$60.56
5	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
6	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
7	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87
8	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87

**Notes:****Apprentice to Journeyworker Ratio:1:3****PIPEFITTER & STEAMFITTER***PIPEFITTERS LOCAL 537 (Local 138)*

09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95

**Apprentice - PIPEFITTER Local 537 (Local 138)****Effective Date - 09/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.94	\$9.70	\$5.50	\$0.00	\$34.14
2	45	\$21.31	\$9.70	\$14.89	\$0.00	\$45.90
3	60	\$28.42	\$9.70	\$14.89	\$0.00	\$53.01
4	70	\$33.15	\$9.70	\$14.89	\$0.00	\$57.74
5	80	\$37.89	\$9.70	\$14.89	\$0.00	\$62.48

**Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.34	\$9.70	\$5.50	\$0.00	\$34.54
2	45	\$21.76	\$9.70	\$14.89	\$0.00	\$46.35
3	60	\$29.02	\$9.70	\$14.89	\$0.00	\$53.61
4	70	\$33.85	\$9.70	\$14.89	\$0.00	\$58.44
5	80	\$38.69	\$9.70	\$14.89	\$0.00	\$63.28

**Notes:**

\*\* 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.

Refrig/AC Mechanic \*\*1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

**Apprentice to Journeyworker Ratio:\*\***

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIPELAYER <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						

PLUMBER <i>PLUMBERS &amp; GASFITTERS LOCAL 12 (Local 138)</i>	09/01/2015	\$46.38	\$10.82	\$15.14	\$0.00	\$72.34
	03/01/2016	\$47.53	\$10.82	\$15.14	\$0.00	\$73.49
	09/01/2016	\$48.58	\$10.82	\$15.14	\$0.00	\$74.54
	03/01/2017	\$49.58	\$10.82	\$15.14	\$0.00	\$75.54

**Apprentice - PLUMBER/GASFITTER - Local 12 (Local 138)**

**Effective Date - 09/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$16.23	\$10.82	\$5.63	\$0.00	\$32.68
2	40	\$18.55	\$10.82	\$6.37	\$0.00	\$35.74
3	55	\$25.51	\$10.82	\$8.56	\$0.00	\$44.89
4	65	\$30.15	\$10.82	\$10.03	\$0.00	\$51.00
5	75	\$34.79	\$10.82	\$11.48	\$0.00	\$57.09

**Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$16.64	\$10.82	\$5.61	\$0.00	\$33.07
2	40	\$19.01	\$10.82	\$6.36	\$0.00	\$36.19
3	55	\$26.14	\$10.82	\$8.56	\$0.00	\$45.52
4	65	\$30.89	\$10.82	\$10.02	\$0.00	\$51.73
5	75	\$35.65	\$10.82	\$11.48	\$0.00	\$57.95

**Notes:**

Steps are 1 yr  
Step 4 with lic\$54.05 Step5 with lic\$60.13

**Apprentice to Journeyworker Ratio:1:5**

PNEUMATIC CONTROLS (TEMP.) <i>PIPEFITTERS LOCAL 537 (Local 138)</i>	09/01/2015	\$47.36	\$9.70	\$14.89	\$0.00	\$71.95
	03/01/2016	\$48.36	\$9.70	\$14.89	\$0.00	\$72.95
	09/01/2016	\$49.36	\$9.70	\$14.89	\$0.00	\$73.95
	03/01/2017	\$50.36	\$9.70	\$14.89	\$0.00	\$74.95
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						

PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						

POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	06/01/2015	\$32.15	\$7.30	\$12.30	\$0.00	\$51.75
	12/01/2015	\$32.65	\$7.30	\$12.30	\$0.00	\$52.25
	06/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
	12/01/2016	\$33.90	\$7.30	\$12.30	\$0.00	\$53.50
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$29.61	\$10.00	\$14.55	\$0.00	\$54.16
	12/01/2015	\$30.48	\$10.00	\$14.55	\$0.00	\$55.03
	06/01/2016	\$31.00	\$10.00	\$14.55	\$0.00	\$55.55
	12/01/2016	\$31.87	\$10.00	\$14.55	\$0.00	\$56.42
	06/01/2017	\$32.56	\$10.00	\$14.55	\$0.00	\$57.11
	12/01/2017	\$33.25	\$10.00	\$14.55	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 42</i>	05/01/2015	\$22.66	\$8.49	\$9.89	\$0.00	\$41.04
	11/01/2015	\$22.78	\$8.49	\$9.89	\$0.00	\$41.16
	04/30/2016	\$22.78	\$8.49	\$10.25	\$0.00	\$41.52
	05/01/2016	\$24.15	\$8.49	\$10.68	\$0.00	\$43.32
	04/30/2017	\$24.15	\$8.49	\$11.07	\$0.00	\$43.71
	05/01/2017	\$24.21	\$8.49	\$11.54	\$0.00	\$44.24
	04/30/2018	\$24.21	\$8.49	\$11.96	\$0.00	\$44.66
	05/01/2018	\$24.24	\$8.49	\$12.46	\$0.00	\$45.19
	04/30/2019	\$24.24	\$8.49	\$12.92	\$0.00	\$45.65
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 2 (Residential Wood)</i>	04/01/2011	\$24.24	\$8.67	\$15.51	\$0.00	\$48.42
RESIDENTIAL WOOD FRAME CARPENTER ** ** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. <i>CARPENTERS -ZONE 2 (Residential Wood)</i> As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.	05/01/2011	\$24.24	\$6.34	\$6.23	\$0.00	\$36.81

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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**Apprentice - CARPENTER (Residential Wood Frame) - Zone 2**

**Effective Date -** 05/01/2011

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$14.54	\$6.34	\$0.00	\$0.00	\$20.88
2	60	\$14.54	\$6.34	\$6.23	\$0.00	\$27.11
3	65	\$15.76	\$6.34	\$6.23	\$0.00	\$28.33
4	70	\$16.97	\$6.34	\$6.23	\$0.00	\$29.54
5	75	\$18.18	\$6.34	\$6.23	\$0.00	\$30.75
6	80	\$19.39	\$6.34	\$6.23	\$0.00	\$31.96
7	85	\$20.60	\$6.34	\$6.23	\$0.00	\$33.17
8	90	\$21.82	\$6.34	\$6.23	\$0.00	\$34.39

**Notes:**

**Apprentice to Journeyworker Ratio:1:5**

RIDE-ON MOTORIZED BUGGY OPERATOR	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
LABORERS - ZONE 2	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofers Waterproofing &Roofers Damproofg)	08/01/2015	\$40.11	\$11.00	\$12.00	\$0.00	\$63.11
ROOFERS LOCAL 33	02/01/2016	\$41.01	\$11.00	\$12.00	\$0.00	\$64.01

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - ROOFER - Local 33**
**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.06	\$11.00	\$3.38	\$0.00	\$34.44
2	60	\$24.07	\$11.00	\$12.00	\$0.00	\$47.07
3	65	\$26.07	\$11.00	\$12.00	\$0.00	\$49.07
4	75	\$30.08	\$11.00	\$12.00	\$0.00	\$53.08
5	85	\$34.09	\$11.00	\$12.00	\$0.00	\$57.09

**Effective Date - 02/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.51	\$11.00	\$3.38	\$0.00	\$34.89
2	60	\$24.61	\$11.00	\$12.00	\$0.00	\$47.61
3	65	\$26.66	\$11.00	\$12.00	\$0.00	\$49.66
4	75	\$30.76	\$11.00	\$12.00	\$0.00	\$53.76
5	85	\$34.86	\$11.00	\$12.00	\$0.00	\$57.86

**Notes:** \*\* 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1  
Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.

**Apprentice to Journeyworker Ratio:\*\***
**ROOFER SLATE / TILE / PRECAST CONCRETE**
*ROOFERS LOCAL 33*

08/01/2015	\$40.36	\$11.00	\$12.00	\$0.00	\$63.36
02/01/2016	\$41.26	\$11.00	\$12.00	\$0.00	\$64.26

For apprentice rates see "Apprentice- ROOFER"

**SHEETMETAL WORKER**
*SHEETMETAL WORKERS LOCAL 17 - A*

08/01/2015	\$43.31	\$10.20	\$21.48	\$2.25	\$77.24
02/01/2016	\$44.31	\$10.20	\$21.48	\$2.25	\$78.24
08/01/2016	\$45.46	\$10.20	\$21.48	\$2.25	\$79.39
02/01/2017	\$46.56	\$10.20	\$21.48	\$2.25	\$80.49
08/01/2017	\$47.66	\$10.20	\$21.48	\$2.25	\$81.59
02/01/2018	\$48.81	\$10.20	\$21.48	\$2.25	\$82.74



**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - SHEET METAL WORKER - Local 17-A**
**Effective Date - 08/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.32	\$10.20	\$4.90	\$0.00	\$32.42
2	40	\$17.32	\$10.20	\$4.90	\$0.00	\$32.42
3	45	\$19.49	\$10.20	\$9.59	\$1.18	\$40.46
4	45	\$19.49	\$10.20	\$9.59	\$1.18	\$40.46
5	50	\$21.66	\$10.20	\$10.45	\$1.27	\$43.58
6	50	\$21.66	\$10.20	\$10.70	\$1.28	\$43.84
7	60	\$25.99	\$10.20	\$12.17	\$1.45	\$49.81
8	65	\$28.15	\$10.20	\$13.04	\$1.54	\$52.93
9	75	\$32.48	\$10.20	\$14.76	\$1.72	\$59.16
10	85	\$36.81	\$10.20	\$15.98	\$1.89	\$64.88

**Effective Date - 02/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.72	\$10.20	\$4.90	\$0.00	\$32.82
2	40	\$17.72	\$10.20	\$4.90	\$0.00	\$32.82
3	45	\$19.94	\$10.20	\$9.59	\$1.19	\$40.92
4	45	\$19.94	\$10.20	\$9.59	\$1.19	\$40.92
5	50	\$22.16	\$10.20	\$10.45	\$1.28	\$44.09
6	50	\$22.16	\$10.20	\$10.70	\$1.29	\$44.35
7	60	\$26.59	\$10.20	\$12.17	\$1.47	\$50.43
8	65	\$28.80	\$10.20	\$13.04	\$1.56	\$53.60
9	75	\$33.23	\$10.20	\$14.76	\$1.75	\$59.94
10	85	\$37.66	\$10.20	\$15.98	\$1.92	\$65.76

**Notes:**

Steps are 6 mos.

**Apprentice to Journeyworker Ratio:1:4**

SIGN ERECTOR

PAINTERS LOCAL 35 - ZONE 2

06/01/2013

\$25.81

\$7.07

\$7.05

\$0.00

\$39.93

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - SIGN ERECTOR - Local 35 Zone 2**
**Effective Date - 06/01/2013**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$12.91	\$7.07	\$0.00	\$0.00	\$19.98
2	55	\$14.20	\$7.07	\$2.45	\$0.00	\$23.72
3	60	\$15.49	\$7.07	\$2.45	\$0.00	\$25.01
4	65	\$16.78	\$7.07	\$2.45	\$0.00	\$26.30
5	70	\$18.07	\$7.07	\$7.05	\$0.00	\$32.19
6	75	\$19.36	\$7.07	\$7.05	\$0.00	\$33.48
7	80	\$20.65	\$7.07	\$7.05	\$0.00	\$34.77
8	85	\$21.94	\$7.07	\$7.05	\$0.00	\$36.06
9	90	\$23.23	\$7.07	\$7.05	\$0.00	\$37.35

**Notes:**

Steps are 4 mos.

**Apprentice to Journeyworker Ratio:1:1**
**SPECIALIZED EARTH MOVING EQUIP < 35 TONS**
*TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*

08/01/2015	\$31.94	\$10.41	\$9.33	\$0.00	\$51.68
12/01/2015	\$31.94	\$10.41	\$10.08	\$0.00	\$52.43
06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24

**SPECIALIZED EARTH MOVING EQUIP > 35 TONS**
*TEAMSTERS JOINT COUNCIL NO. 10 ZONE B*

08/01/2015	\$32.23	\$10.41	\$9.33	\$0.00	\$51.97
12/01/2015	\$32.23	\$10.41	\$10.08	\$0.00	\$52.72
06/01/2016	\$32.73	\$10.41	\$10.08	\$0.00	\$53.22
08/01/2016	\$32.73	\$10.91	\$10.08	\$0.00	\$53.72
12/01/2016	\$32.73	\$10.91	\$10.89	\$0.00	\$54.53

**SPRINKLER FITTER**
*SPRINKLER FITTERS LOCAL 550 - (Section B) Zone 2*

10/01/2015	\$49.35	\$8.42	\$15.65	\$0.00	\$73.42
01/01/2016	\$48.99	\$8.67	\$15.80	\$0.00	\$73.46
03/01/2016	\$49.89	\$8.67	\$15.80	\$0.00	\$74.36
10/01/2016	\$50.93	\$8.67	\$15.80	\$0.00	\$75.40
03/01/2017	\$51.83	\$8.67	\$15.80	\$0.00	\$76.30

**Classification**
**Effective Date**
**Base Wage**
**Health**
**Pension**
**Supplemental  
Unemployment**
**Total Rate**
**Apprentice - SPRINKLER FITTER - Local 550 (Section B) Zone 2**
**Effective Date - 10/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.27	\$8.42	\$8.40	\$0.00	\$34.09
2	40	\$19.74	\$8.42	\$8.40	\$0.00	\$36.56
3	45	\$22.21	\$8.42	\$8.40	\$0.00	\$39.03
4	50	\$24.68	\$8.42	\$8.40	\$0.00	\$41.50
5	55	\$27.14	\$8.42	\$8.40	\$0.00	\$43.96
6	60	\$29.61	\$8.42	\$8.40	\$0.00	\$46.43
7	65	\$32.08	\$8.42	\$8.40	\$0.00	\$48.90
8	70	\$34.55	\$8.42	\$8.40	\$0.00	\$51.37
9	75	\$37.01	\$8.42	\$8.40	\$0.00	\$53.83
10	80	\$39.48	\$8.42	\$8.40	\$0.00	\$56.30

**Effective Date - 01/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$17.15	\$8.67	\$8.55	\$0.00	\$34.37
2	40	\$19.60	\$8.67	\$8.55	\$0.00	\$36.82
3	45	\$22.05	\$8.67	\$8.55	\$0.00	\$39.27
4	50	\$24.50	\$8.67	\$8.55	\$0.00	\$41.72
5	55	\$26.94	\$8.67	\$8.55	\$0.00	\$44.16
6	60	\$29.39	\$8.67	\$8.55	\$0.00	\$46.61
7	65	\$31.84	\$8.67	\$8.55	\$0.00	\$49.06
8	70	\$34.29	\$8.67	\$8.55	\$0.00	\$51.51
9	75	\$36.74	\$8.67	\$8.55	\$0.00	\$53.96
10	80	\$39.19	\$8.67	\$8.55	\$0.00	\$56.41

Notes: Apprentice entered prior 9/30/10:  
40/45/50/55/60/65/70/75/80/85  
Steps are 850 hours

**Apprentice to Journeyworker Ratio:1:3**
**STEAM BOILER OPERATOR**  
*OPERATING ENGINEERS LOCAL 4*

06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

**TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN**  
*OPERATING ENGINEERS LOCAL 4*

06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TELECOMMUNICATION TECHNICIAN	09/01/2015	\$34.25	\$13.00	\$14.06	\$0.00	\$61.31
<i>ELECTRICIANS LOCAL 103</i>	03/01/2016	\$34.63	\$13.00	\$14.55	\$0.00	\$62.18

**Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103**

**Effective Date - 09/01/2015**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.70	\$13.00	\$0.41	\$0.00	\$27.11
2	40	\$13.70	\$13.00	\$0.41	\$0.00	\$27.11
3	45	\$15.41	\$13.00	\$11.03	\$0.00	\$39.44
4	45	\$15.41	\$13.00	\$11.03	\$0.00	\$39.44
5	50	\$17.13	\$13.00	\$11.30	\$0.00	\$41.43
6	55	\$18.84	\$13.00	\$11.58	\$0.00	\$43.42
7	60	\$20.55	\$13.00	\$11.86	\$0.00	\$45.41
8	65	\$22.26	\$13.00	\$12.13	\$0.00	\$47.39
9	70	\$23.98	\$13.00	\$12.41	\$0.00	\$49.39
10	75	\$25.69	\$13.00	\$12.68	\$0.00	\$51.37

**Effective Date - 03/01/2016**

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$13.85	\$13.00	\$0.42	\$0.00	\$27.27
2	40	\$13.85	\$13.00	\$0.42	\$0.00	\$27.27
3	45	\$15.58	\$13.00	\$11.52	\$0.00	\$40.10
4	45	\$15.58	\$13.00	\$11.52	\$0.00	\$40.10
5	50	\$17.32	\$13.00	\$11.79	\$0.00	\$42.11
6	55	\$19.05	\$13.00	\$12.06	\$0.00	\$44.11
7	60	\$20.78	\$13.00	\$12.34	\$0.00	\$46.12
8	65	\$22.51	\$13.00	\$12.62	\$0.00	\$48.13
9	70	\$24.24	\$13.00	\$12.90	\$0.00	\$50.14
10	75	\$25.97	\$13.00	\$13.17	\$0.00	\$52.14

**Notes:**

**Apprentice to Journeyworker Ratio:1:1**

TERRAZZO FINISHERS	08/01/2015	\$48.80	\$10.18	\$18.57	\$0.00	\$77.55
<i>BRICKLAYERS LOCAL 3 - MARBLE &amp; TILE</i>	02/01/2016	\$49.37	\$10.18	\$18.57	\$0.00	\$78.12
	08/01/2016	\$50.27	\$10.18	\$18.65	\$0.00	\$79.10
	02/01/2017	\$50.84	\$10.18	\$18.65	\$0.00	\$79.67

**Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile**

**Effective Date -** 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.40	\$10.18	\$18.57	\$0.00	\$53.15
2	60	\$29.28	\$10.18	\$18.57	\$0.00	\$58.03
3	70	\$34.16	\$10.18	\$18.57	\$0.00	\$62.91
4	80	\$39.04	\$10.18	\$18.57	\$0.00	\$67.79
5	90	\$43.92	\$10.18	\$18.57	\$0.00	\$72.67

**Effective Date -** 02/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.69	\$10.18	\$18.57	\$0.00	\$53.44
2	60	\$29.62	\$10.18	\$18.57	\$0.00	\$58.37
3	70	\$34.56	\$10.18	\$18.57	\$0.00	\$63.31
4	80	\$39.50	\$10.18	\$18.57	\$0.00	\$68.25
5	90	\$44.43	\$10.18	\$18.57	\$0.00	\$73.18

**Notes:**

**Apprentice to Journeyworker Ratio:1:3**

TEST BORING DRILLER	06/01/2015	\$36.45	\$7.30	\$13.40	\$0.00	\$57.15
LABORERS - FOUNDATION AND MARINE	12/01/2015	\$37.20	\$7.30	\$13.40	\$0.00	\$57.90
	06/01/2016	\$37.95	\$7.30	\$13.40	\$0.00	\$58.65
	12/01/2016	\$38.95	\$7.30	\$13.40	\$0.00	\$59.65
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER	06/01/2015	\$35.17	\$7.30	\$13.40	\$0.00	\$55.87
LABORERS - FOUNDATION AND MARINE	12/01/2015	\$35.92	\$7.30	\$13.40	\$0.00	\$56.62
	06/01/2016	\$36.67	\$7.30	\$13.40	\$0.00	\$57.37
	12/01/2016	\$37.67	\$7.30	\$13.40	\$0.00	\$58.37
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER	06/01/2015	\$35.05	\$7.30	\$13.40	\$0.00	\$55.75
LABORERS - FOUNDATION AND MARINE	12/01/2015	\$35.80	\$7.30	\$13.40	\$0.00	\$56.50
	06/01/2016	\$36.55	\$7.30	\$13.40	\$0.00	\$57.25
	12/01/2016	\$37.55	\$7.30	\$13.40	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS	06/01/2015	\$42.42	\$10.00	\$14.55	\$0.00	\$66.97
OPERATING ENGINEERS LOCAL 4	12/01/2015	\$43.66	\$10.00	\$14.55	\$0.00	\$68.21
	06/01/2016	\$44.41	\$10.00	\$14.55	\$0.00	\$68.96
	12/01/2016	\$45.64	\$10.00	\$14.55	\$0.00	\$70.19
	06/01/2017	\$46.63	\$10.00	\$14.55	\$0.00	\$71.18
	12/01/2017	\$47.62	\$10.00	\$14.55	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$32.52	\$10.41	\$9.33	\$0.00	\$52.26
	12/01/2015	\$32.52	\$10.41	\$10.08	\$0.00	\$53.01
	06/01/2016	\$33.02	\$10.41	\$10.08	\$0.00	\$53.51
	08/01/2016	\$33.02	\$10.91	\$10.08	\$0.00	\$54.01
	12/01/2016	\$33.02	\$10.91	\$10.89	\$0.00	\$54.82
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	06/01/2015	\$47.33	\$7.30	\$13.80	\$0.00	\$68.43
	12/01/2015	\$48.08	\$7.30	\$13.80	\$0.00	\$69.18
	06/01/2016	\$48.83	\$7.30	\$13.80	\$0.00	\$69.93
	12/01/2016	\$49.83	\$7.30	\$13.80	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	06/01/2015	\$49.33	\$7.30	\$13.80	\$0.00	\$70.43
	12/01/2015	\$50.08	\$7.30	\$13.80	\$0.00	\$71.18
	06/01/2016	\$50.83	\$7.30	\$13.80	\$0.00	\$71.93
	12/01/2016	\$51.83	\$7.30	\$13.80	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2015	\$39.40	\$7.30	\$13.80	\$0.00	\$60.50
	12/01/2015	\$40.15	\$7.30	\$13.80	\$0.00	\$61.25
	06/01/2016	\$40.90	\$7.30	\$13.80	\$0.00	\$62.00
	12/01/2016	\$41.90	\$7.30	\$13.80	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	06/01/2015	\$41.40	\$7.30	\$13.80	\$0.00	\$62.50
	12/01/2015	\$42.15	\$7.30	\$13.80	\$0.00	\$63.25
	06/01/2016	\$42.90	\$7.30	\$13.80	\$0.00	\$64.00
	12/01/2016	\$43.90	\$7.30	\$13.80	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	08/01/2015	\$31.94	\$10.41	\$9.33	\$0.00	\$51.68
	12/01/2015	\$31.94	\$10.41	\$10.08	\$0.00	\$52.43
	06/01/2016	\$32.44	\$10.41	\$10.08	\$0.00	\$52.93
	08/01/2016	\$32.44	\$10.91	\$10.08	\$0.00	\$53.43
	12/01/2016	\$32.44	\$10.91	\$10.89	\$0.00	\$54.24
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	06/01/2015	\$31.40	\$7.30	\$12.30	\$0.00	\$51.00
	12/01/2015	\$31.90	\$7.30	\$12.30	\$0.00	\$51.50
	06/01/2016	\$32.40	\$7.30	\$12.30	\$0.00	\$52.00
	12/01/2016	\$33.15	\$7.30	\$12.30	\$0.00	\$52.75
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	06/01/2015	\$42.83	\$10.00	\$14.55	\$0.00	\$67.38
	12/01/2015	\$44.08	\$10.00	\$14.55	\$0.00	\$68.63
	06/01/2016	\$44.83	\$10.00	\$14.55	\$0.00	\$69.38
	12/01/2016	\$46.08	\$10.00	\$14.55	\$0.00	\$70.63
	06/01/2017	\$47.08	\$10.00	\$14.55	\$0.00	\$71.63
	12/01/2017	\$48.08	\$10.00	\$14.55	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS &amp; GASFITTERS LOCAL 12 (Local 138)</i>	09/01/2015	\$46.38	\$10.82	\$15.14	\$0.00	\$72.34
	03/01/2016	\$47.53	\$10.82	\$15.14	\$0.00	\$73.49
	09/01/2016	\$48.58	\$10.82	\$15.14	\$0.00	\$74.54
	03/01/2017	\$49.58	\$10.82	\$15.14	\$0.00	\$75.54
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
<b>Op Eng Marine (Dredging Work)</b>						
BOAT OPERATOR <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$25.29	\$5.20	\$2.95	\$0.00	\$33.44
CERTIFIED WELDER <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$26.84	\$5.20	\$3.25	\$0.00	\$35.29
CHIEF WELDER/ CHIEF MATE <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$28.49	\$5.20	\$3.25	\$0.00	\$36.94
DERRICK / SPIDER / SPILLBARGE OPERATOR <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$28.49	\$5.20	\$3.25	\$0.00	\$36.94
DRAG BARGE OPERATOR / WELDER / MATE <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$26.14	\$5.20	\$2.95	\$0.00	\$34.29
ENGINEER / ELECTRICIAN <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$28.49	\$5.20	\$3.25	\$0.00	\$36.94
LICENSED BOAT OPERATOR <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$28.49	\$5.20	\$3.25	\$0.00	\$36.94
LICENSED TUG OPERATOR OVER 1000HP <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$32.89	\$5.20	\$3.25	\$0.00	\$41.34
MAINTENANCE ENGINEER <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$28.49	\$5.20	\$3.25	\$0.00	\$36.94
OILER - MARINE DIVISION <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$21.09	\$5.20	\$2.65	\$0.00	\$28.94
OPERATOR / LEVERMAN <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$32.89	\$5.20	\$3.25	\$0.00	\$41.34
RODMAN / SCOWMAN <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$21.09	\$5.20	\$2.65	\$0.00	\$28.94
SHOREMAN / DECKHAND <i>OPERATING ENGINEERS - MARINE DIVISION</i>	10/01/2011	\$21.09	\$5.20	\$2.65	\$0.00	\$28.94

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

\*\* Multiple ratios are listed in the comment field.

\*\*\* APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.

\*\*\*\* APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

**SECTION A**

**TECHNICAL SPECIFICATIONS**



# **Salem Port Expansion Project**

## **COMMERCIAL MARINA DREDGE**

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#### **TECHNICAL SPECIFICATIONS**

**November 2015**

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## **SECTION 01300**

### **SUBMITTALS**

#### **1. GENERAL**

##### **1.1 SHOP DRAWINGS, MANUFACTURERS' SPECIFICATIONS AND INSTALLATION INSTRUCTIONS, SAMPLES, ETC.**

A. The Contractor shall review and approve all submittals prior to submittal to the Owner. Each submittal shall be numbered serially and marked with the approval of the Contractor.

1. The Contractor shall submit to the Owner for approval, **three copies** plus as many copies as required to be returned, all Shop Drawings as called for under the various headings of these specifications.
2. Each submittal shall be numbered with the project name (abbreviated), specification section and submittal number in consecutive order (Ex NAME-02550-#). Where resubmission is required a letter shall be assigned to designate each resubmission (Ex NAME-02550-#A, NAME-2550-#B, etc.)
3. The Contractor shall submit all Shop Drawings to the Owner in sufficient time for checking and processing. Shop Drawings shall be of sufficient clarity so that copies thereof will be legible.
4. All Shop Drawings submitted by subcontractors for approval shall be sent directly to the Contractor for his approval. The Contractor shall be responsible for their submission to the Owner at the proper time so as to prevent delays in delivery of materials.
5. All submissions shall be referenced properly to indicate clearly the location, service, and function of each particular item and the specification paragraph under which it is being furnished.
6. Submittals that are related to or affect each other shall be forwarded simultaneously as a package to facilitate coordinated review. Uncoordinated submittals will be rejected.
7. The Owner reserves the right to require submittals in addition to those called for in individual sections.
8. The term "Shop Drawings" includes drawings, diagrams, schematics, descriptive literature, illustrations, schedules, performance and test data, calculations and similar materials furnished by Contractor to explain in detail specific portions of the work required by the Contract.
9. The Contractor shall stamp each sheet of each submission with a rubber stamp stating that he has examined and checked the submission as above, and shall date and sign each. Any submission, which, upon examination by the Owner, shows evidence of not having been thoroughly checked will be returned to the Contractor for completion of checking before it will be considered for review.

10. All calculations shall be performed and stamped by a Professionally Licensed Engineer who is authorized to perform engineering design in the location of the proposed work unless directed otherwise. Calculations shall be organized, legible and provide clear indications of the checks being performed, the codes being followed and all assumptions being made.
  11. All details on Shop Drawings submitted for approval shall show clearly the relation of the various parts of the work, and where correct fabrication of the work depends upon field measurements; such measurements shall be made and shall be noted on the Shop Drawings before being submitted for approval.
- B. Approval by the Owner shall not relieve Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with requirements of this Contract, except with respect to variations described and approved in accordance with Paragraph C below.
  - C. If shop drawings show variations from Contract requirements, Contractor shall describe such variations in writing, separate from the drawings, at time of submission. All such variation must be approved by the Owner.
  - D. The Contractor shall distribute approved submittals to job site and record documents files and to suppliers and subcontractors as required.

### 1.3 PROJECT RECORD DOCUMENTS

- A. Keep on file at job site one complete set of up-to-date Contract Documents, including drawings and specifications, addenda, all shop drawings and manufacturer's data, testing data, change orders, field orders and other modifications. Documents shall be neatly and securely stored in files or on racks, clearly indexed by trade activity or specification section, and shall not be used for construction purposes.
- B. Legibly mark significant field changes such as the following, using colored pencils or felt-tipped pens:
  1. Drawings:
    - a. Locations of concealed utilities whether existing or new
    - b. All current horizontal and vertical survey control points
    - c. Field changes including dimension, location and detail,
    - d. Changes resulting from change order or field order,
    - e. Details not on original drawings.
  2. Specifications: manufacturer and model number of equipment actually installed.
  3. Shop Drawings and manufacturers' literature: changes made after the Owner's review.
- C. At completion of work, deliver completed record documents to the Owner as specified with these specifications. Final payment for project will not be made until the Owner reviews and approves these documents.

2.     PRODUCTS                   (Not Applicable).

3.     EXECUTION               (Not Applicable).

4.     MEASUREMENT AND PAYMENT

4.1    METHOD OF MEASUREMENT AND PAYMENT

A.     No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

\*\*\* END OF SECTION \*\*\*

## **SECTION 01500**

### **TEMPORARY FACILITIES AND CONTROLS**

#### **1. GENERAL**

##### **1.1 GENERAL DESCRIPTION**

- A. Work under this shall be the providing the temporary facilities and site controls throughout the construction phase and as required to perform the work specified within the contract documents including but not limited to:
  - a. Site Security
  - b. Material Storage
  - c. Site Safety
  - d. Erosion Control and conformance to regulatory approvals and conditions
  - e. Signage as required

##### **1.2 FACILITY REQUIREMENTS**

- A. Provide Site Security
  - 1. Staging Area: When provided, Contractor shall install secure temporary closures to prevent unauthorized entry to the contractors authorized staging and work area including:
    - a. Temporary 6 foot minimum chain link fence
    - b. Locked gate
  - 2. Furnish, install, and maintain a bulletin board, protected from the elements in a prominent location at the work site, accessible to all employees and workers at the site, on which data of concern to the employees will be posted.
  - 3. Provide marked metal containers with tight-fitting covers for edible debris, enforce their use by employees. Provide on-site dump container for collection of waste material. Periodically remove and legally dispose of waste material off-site. Schedule cleaning operations so that dust and other contaminants resulting from cleaning will not fall on wet, newly-finished surfaces. Dispose of volatile wastes such as mineral spirits, oil or paint thinner in accordance with local and state regulations.
- B. Provide for Material Storage
  - 1. Temporary structures shall be constructed in a structurally-sound, weatherproof manner.
  - 2. Confine storage of materials to within the Limit of Work and areas as may be designated.
  - 3. Provide temporary sheds or other covered facilities for storage of materials subject to weather damage. Number and size of structures shall be subject to Owner's approval. Locate structures to avoid interference with work and relocate as required by progress of work.
  - 4. Remove structures and surplus stored materials at completion of work.
- C. Maintain site, temporary structures, storage areas, temporary fencing, etc., in a neat and orderly manner.

- D. Provide staging, hoists, temporary stairs, ladders, chutes, etc., as required, complying with applicable safety codes.
- E. The Contractor, including all subcontractors, will not be permitted to display any descriptive signs indicating their company names and names of equipment of materials installed in the work beyond the specific requirements established with the contract documents.

### 1.3 FIELD LAYOUT

- A. Contractor shall maintain a level, rod, and total station on job, and shall employ competent personnel for use thereof. The Owner shall have reasonable use of these instruments at all times.
- B. Project survey information has been located on drawings for Contractor's use. Contractor shall establish bench marks in at least two widely separated locations, and shall establish and maintain grades, lines, levels, and other dimensional reference guides as required. Annotate project record documents (specified in SECTION 01300) to indicate all modifications.

### 1.4 EROSION CONTROL AND SITE DRAINAGE

- A. Prior to beginning work, Contractor shall review erosion and sedimentation control requirements as stipulated in the project regulatory approvals and shall coordinate activities to insure proper installation including meetings with regulatory agencies as may be stipulated within the regulatory approvals.
- B. Upon beginning site work, Contractor shall assume complete responsibility for Project Area site erosion and sedimentation control and drainage for duration of Contract, and shall maintain such erosion control measures in a manner which will cause no damage and/or erosion or sedimentation directly or indirectly into waterways or to adjacent areas.
- C. Maintain all erosion control barriers in good functional condition throughout the project. Erosion and sedimentation control measures shall be inspected weekly and after any major storm event.
- D. Take all necessary measures to prevent vehicles leaving site from depositing mud on public ways. Clean up after and repair damage caused by trucks. Comply with applicable ordinances regarding noise control.
- E. Keep excavations, stockpiles and other upland construction activities free of water at all times, including backing up of drains and sewers.
- F. Maintain ground water level (non-tidal) sufficiently below excavation level at all times to maintain stable working platform.

### 1.5 SAFETY AND PROTECTION

- A. Comply with applicable safety regulations, including ANSI Series A10, Safety requirements for Construction and Demolition, and OSHA Part 1926, Construction Safety and Health Regulations. Provide barricades, fences and other protection measures as required.
- B. Minimize storage of flammable materials and ensure that such material is properly handled and stored. Provide fire extinguishers per code requirements and near locations of flammable products. Install prominent signs giving locations of fire alarms. Do not permit use of open fires or salamanders.

- C. Take all necessary precautions to ensure that finished or partially-completed work is properly braced and secured against wind, rain, snow and other adverse weather conditions.
- D. Remove snow and ice from roads, walks, work area, etc., which impedes access or drainage, or presents danger to workmen, public, or property.

#### 1.6 WORK WITHIN NAVIGABLE WATERWAY

- A. Contractor shall keep proper lights each night between sunset and sunrise upon all floating plant and equipment and any other obstructions connected with the work in accordance with CG-169, Rules of the Road, and Code of Federal Regulations, Title 33, Chapter 1, Subchapter C and Chapter 11, Part 207. Contractor shall be required to install and maintain for the duration of the Contract, standard obstruction lights upon all stakes, piles, dolphins, or upon any other obstruction connected with the work which are located in navigable waters. The obstruction light shall consist of a quick flashing white light which shows not less than sixty flashes per minute when viewed from any direction. The light shall have a luminous intensity of not less than a two-mile range.
- B. Contractor will be required to conduct the work in such a manner as to obstruct navigation as little as possible and in case Contractor's plant so obstructs vessels, it shall be promptly moved on the approach of any vessel, to such an extent as may be necessary to afford a safe practicable passage. Upon completion of the work, Contractor shall promptly remove his plant, buoys and other markers placed by him during execution of this Contract.
- C. Should the Contractor, during the progress of the work lose, dump, throw overboard, sink or misplace any materials, plant, machinery, or appliance which in the opinion of the Owner may be dangerous to berthing vessels or obstruct navigation, the Contractor shall recover and remove the same with the utmost dispatch. Should the Contractor refuse, neglect or delay compliance with the above, such obstructions may be removed by the Owner, and the cost of such removal shall be deducted from money due the Contractor.

#### 1.7 TEMPORARY UTILITIES

- A. Maintain strict supervision to enforce conformance with applicable standards and safe practices and prevent abuse of services. Obtain necessary permits, temporary easements, etc.
- B. Light and Power:
  - 1. Provide temporary light and power for construction needs, safety and security throughout construction period. Suitably protect temporary system by fused or circuit breakers. Panelboards, safety switches and electrical outlets shall be enclosed and grounded. Provide meters as required. Entire system shall comply with NEC requirements for temporary wiring.
  - 2. Contractor shall be responsible to make necessary arrangements with power company for installation of temporary service, including temporary poles and transformer.
- C. Heating and Ventilation:
  - 1. Provide temporary heat and ventilation as required to protect against dampness, cold and condensation; provide heat and humidity suitable for curing and installation of materials; provide ventilation adequate for work safety and fire protection. Temporary heaters shall be smokeless portable unit heaters acceptable to Underwriter' Laboratories, local fire department and the Owner.

D. Water and Sanitary Facilities:

1. Provide temporary water for construction purposes, sanitation, drinking, first aid, fire protection and cleaning. Furnish and install all connections, pipes, fittings, meters, etc., necessary for temporary service, and maintain same in good condition. Take necessary precautions to prevent waste of water.
2. PRODUCTS (Not Applicable).
3. EXECUTION (Not Applicable).
4. MEASUREMENT AND PAYMENT
- 4.1 METHOD OF MEASUREMENT AND PAYMENT
  - A. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

\*\*\* END OF SECTION \*\*\*



## **SECTION 01700**

### **PROJECT CLOSEOUT**

#### **1. GENERAL**

##### **1.1 CLEANING**

- A. Use cleaning materials as recommended by product manufacturers and appropriate specification sections. Employ experienced workmen or professional cleaners.
- B. Before inspection for substantial completion, do all necessary cleaning, including the following:
  - 1. Sweep and rinse with clear water exterior finished surfaces, rake clean other site surfaces impacted by construction activities
  - 2. Refer to specification sections for additional requirements for particular surfaces.

##### **1.2 SUBSTANTIAL COMPLETION AND FINAL INSPECTION**

- A. Submit written certification that project, or designated portion of project, is substantially complete, and request, in writing, a final inspection. The Owner will make an inspection within 10 days of receipt of request.
- B. Should the Owner determine that the work is substantially complete, he will prepare a punch list of deficiencies that need to be corrected before final acceptance and issue a notice of substantial completion with the deficiencies noted.
- C. Should the Owner determine that the work is not substantially complete, he will immediately notify Contractor, in writing, stating reasons. After Contractor completes work, he shall re-submit certification and request for final inspection.

##### **1.3 CLOSE-OUT SUBMITTALS**

- A. Refer to EXECUTION portion of each specification section for closeout requirements.
- B. Completed project record documents specified in SUBMITTALS, SECTION 01300.
- C. Certificate of insurance for products and completed operations.
- D. Typed list of major subcontractors and suppliers with addresses and telephone numbers.
- E. Submissions specified elsewhere in Contract Documents, including consent of surety to final payment; affidavit that all bills and indebtedness connected with the Work have been paid; and certification of payment from subcontractors and suppliers, or bond satisfactory to the Owner indemnifying the Owner against liens or other claims.

#### 1.4 ACCEPTANCE OF THE WORK

- A. After all deficiencies have been corrected, a Letter of Final Acceptance will be issued. If only designated portions of the project have been inspected, a Letter of Partial Acceptance will be issued for that portion of the Work.
- B. Acceptance may be given prior to correction of deficiencies that do not preclude operation and use of the facility; however, final payment will be withheld until all deficiencies are corrected.
- C. Until receipt of Letter of Final Acceptance, Contractor shall be responsible for the work of this Contract.

#### 1.5 POST-CONSTRUCTION INSPECTION

- A. Upon completion of dredge activities, a final hydrographic survey shall be provided as documentation that work was completed in accordance with contract requirements.
- B. Survey shall be stamped by a Professional Engineer licensed in the state in which the work was performed.

#### 2. PRODUCTS (Not Applicable).

#### 3. EXECUTION (Not Applicable).

#### 4. MEASUREMENT AND PAYMENT

##### 4.1 METHOD OF MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

\*\*\* END OF SECTION \*\*\*

## **SECTION 02000**

### **SITE PREPARATION**

#### **1 GENERAL**

##### **1.1 DESCRIPTION**

- A. These site preparation requirements shall apply to all project work operations within this Contract.
- B. The work of this Section consists of providing all labor, equipment, materials, incidental work, and construction methods necessary to prepare the site, complete, as indicated on the Contract Documents, as specified, and as follows:
  - 1. Mobilization and demobilization of all equipment, labor, materials, supervision, survey and any incidentals required to satisfactorily complete this project in accordance with these Specifications, the Contract Drawings and as directed by the Owner.
  - 2. Comply fully with all requirements and conditions of all Project Permits including performance of any miscellaneous work required to ensure full compliance and not otherwise covered by individual items in the contract.
  - 3. Perform all other miscellaneous work obviously required to complete the project, but not covered by individual items in the contract.
  - 4. Perform site work operations and the removal of debris and waste materials to assure minimum interference with navigation, streets, walks, parking facilities, buildings and all other adjacent facilities.
  - 5. Obtain governing authorities written permission, when required, to close or obstruct street, walks and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways, when required by governing authorities.
  - 6. Obtainment of written permission from property owners to trespass and/or transgress their properties where an easement has not been granted.
  - 7. Control dust caused by the work. Dampen surfaces as required. Comply with pollution control regulations of governing authorities.
  - 8. Provide debris booms and siltation curtains, as required, to meet regulatory agency conditions.
  - 9. If the Contractor, in the course of excavation, uncovers or otherwise encounters any artifacts, whether historic or prehistoric, he shall bring them to the immediate attention of the Owner, and stop all work in that vicinity of said artifacts until directed by the Owner.
  - 10. If the Contractor, in the course of excavation, uncovers or otherwise encounters any suspected hazardous or unidentified substances, he shall bring them to the immediate attention of the Owner, and stop all work in that vicinity of said until directed by the Owner.

##### **1.2 RELATED WORK UNDER OTHER SECTIONS**

- A. The following items of related work are specified and included in other Sections of the Specifications:

1. Dredging under DREDGING by MECHANICAL METHOD, SECTION 02410

### 1.3 REFERENCES

- A. The following standards shall apply to the work of this Section.
  1. Commonwealth of Massachusetts Highway Department (MHD) Specifications - Standard Specifications for Highways and Bridges

### 1.4 OSHA REQUIREMENTS

- A. Pursuant to M.G.L. c.30, §39S, any person signing a contract to work on a public building or public works project estimated to cost more than \$10,000, must certify under the pains and penalties of perjury that all employees employed on the worksite, or in work subject to the bid, have successfully completed at least ten hours of OSHA approved training. Proof of OSHA certification of all workers onsite will be required by the City prior to the start of work.

### 1.5 SUBMITTALS

- A. Location and phasing plan (if required) of staging areas and schedule for moving staging equipment into those areas shall be submitted for Owner's approval prior to mobilization and related site preparation operations

### 1.6 PROTECTION

- A. Protect existing structures and facilities that are adjacent to the work area from damage caused by the project operations. Repair all damage caused to the satisfaction of the Owner, at the sole expense of the Contractor.
- B. Do not interfere with use of adjacent buildings or facilities. Maintain free and safe passage to and from adjacent buildings and facilities or both and between them and the public way.
- C. Cease operations and notify Owner immediately if safety of adjacent structures, workers, or the general public appears to be endangered. Take precautions to properly support structures and protect workers and general public. Do not resume operations until safety is restored.
- D. The Contractor shall erect a security fence around the limit of work areas as defined in the staging and phasing plan.

### 1.7 MAINTAINING TRAFFIC and MATERIAL DELIVERIES

- A. Do not close or obstruct roadways or other public access areas without authorization or permits.
- B. Conduct operations with minimum interference to public or private roadways. Coordinate with local and state officials, police, and emergency agencies regarding all operations on public roadways including requirements for Police Details.
- C. Contractor shall be aware of any and all limitations of truck access for delivery and removal of material and equipment to/from the site and coordinate all activities as may be required.

## 2 PRODUCTS

### 2.1 MATERIALS

- A. Materials shall be as selected by the Contractor and approved by the Owner, except as indicated on the Contract Drawings and/or in the Specifications.
- B. Construction Fence
  - 1. For all upland staging and work areas, unless otherwise specified on the Construction documents, Contractor shall provide chain link fencing around perimeter to prevent public access and provide public safety. The Fence shall be a minimum of 6' high and constructed of galvanized steel chain link with posts at 8' on center. Fence shall be supported by concrete blocks to receive posts.
  - 2. Fence shall be installed around all areas dedicated for construction activities to prevent public access and provide for public safety prior to any work activities.
- C. Floating Boom with Siltation Curtain
  - 1. When required by regularity approvals, the Contractor shall place a floating boom with siltation curtain, approved by the Owner, around the work area.
    - a. Fabric shall be a minimum at 22 oz. - 500 lb./inch tensile strength vinyl coated fabric.
    - b. Floatation material shall be marine quality expanded polystyrene which provides 50 lb./ft. of buoyancy.
    - c. Ballast shall be provided by an enclosed galvanized chain weighing approximately 1.5 lb./ft. and having a break strength of 10,600 lbs.
    - d. Depth of curtain shall be based on anticipated water elevation with anticipated changes in elevation and actual bottom elevations at the barrier location
  - 2. The boom shall be large enough to enclose the work area the Contractor is working in, and shall be moved into new work areas as the Contractor moves.

## 3 EXECUTION

### 3.1 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. Notify "Dig Safe" and local utilities and services as applicable prior to conducting any work in order to have all known utilities and services marked out before work begins.
- B. Existing structures and utilities shall be suitably protected from damage, including but not limited to existing pavements and curbs, lighting, fencing, concrete vault, manholes, and utility lines.

### 3.2 PROTECTION OF CONSTRUCTION SITE

- A. It is the Contractor's responsibility to secure the construction site, both for the protection of the ongoing work and the protection of the public. The location of construction fencing used for this purpose shall be approved by the Owner.

### 3.3 INSPECTION

- A. The Owner will assign inspectors and/or resident engineers to this project on either a full time or part time basis, as required to cover the work under this Contract, as justified by the Owner. The inspector or resident engineer shall be the Owner's representative for this project.
- B. The Owner must be notified at least 48 hours in advance of all material shipments in order make arrangements for the shipment to be inspected as they arrive to the site.
- C. All materials to be included within the work and have been found not suitable for placement on this project and/or have been rejected by the Owner's representative shall be removed from the site immediately; the cost of the removal of these materials shall be the responsibility of the Contractor.
- D. The Owner shall be permitted at all times to check the lines, grades, elevations, reference marks, batter boards, etc. set by the Contractor. Any errors or discrepancies in theses items discovered by checks shall be corrected by the Contractor. Such checks shall not be construed as to be an approval of the Contractor's work and shall not relieve or diminish in any way the responsibilities of the Contractor for the accurate and satisfactory completion of the entire work. The Contractor shall be available to assist the Owner with these checks as needed.
- E. Contractor shall install clear visible markers at limits of work that are visible at all tides to ensure that unauthorized work does not occur in unapproved areas. Contractor shall review regulatory approvals for conditions.

## 4 MEASUREMENT AND PAYMENT

### 4.1 METHOD OF MEASUREMENT

- A. Measurement for MOBILIZATION shall be made by Unit Price Lump Sum.

### 4.2 METHOD OF PAYMENT

- A. Payment for MOBILIZATION shall be by the Unit Price Lump Sum and shall include mobilization/demobilization of all equipment, movement and/or relocation of equipment, all office and field engineering and survey support, and all other costs not specifically identified but is required to complete the work specified. Mobilization will be paid fifty percent (50%) of the lump sum price upon completion of mobilization at the work site. An additional twenty-five percent (25%) will be paid the Contractor upon the acceptance of his dredge verification survey. The final twenty-five percent (25%) will be paid only after the Contractor has received the written notice from the Owner to proceed with the demobilization and has successfully demobilized to the satisfaction of the Owner.

### 4.3 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02000-1	Mobilization	LS

\*\*\* END OF SECTION \*\*\*

## **SECTION 02320**

### **STEEL SHEET PILE**

#### **1. GENERAL**

##### **1.1 DESCRIPTION**

- A. Provide all labor, materials, equipment and supervision necessary to complete the work specified in this Section.
- B. Scope of work includes but is not limited to furnishing and installing the following:
  - 1. cantilevered steel sheet pile bulkhead system.
  - 2. Excavation, backfill and armor stone reinstallation associated with the bulkhead.
- C. Related work specified elsewhere includes, but is not necessarily limited to, the following:
  - 1. Coating of steel sheet piling, and other associated steel fabrications under COATINGS, SECTION 09800.

##### **1.2 QUALITY ASSURANCE**

- A. Except as noted, work shall conform to the following codes and Standards, latest edition:
  - 1. ASTM - Specifications for the American Society for Testing and Materials
  - 2. ANSI/AASHTO/AWS - Bridge Welding Code D1.5-2010
  - 3. AISC - Specifications of the American Institute of Steel Construction
  - 4. Commonwealth of Massachusetts State Building Code (CMSBC)
- B. Comply with all rules, regulations, laws and ordinances of the State of Massachusetts, and all other federal, state, and local authorities having jurisdiction. All labor, materials, equipment and services necessary to make work comply with such requirements shall be provided without additional cost to Owner.
- C. All welding shall be performed by operators who have been previously qualified by tests as prescribed in the "ANSI/AASHTO/AWS Bridge Welding Code D1.5-2010". Evidence that welders meet qualification requirements shall be submitted to the Engineer before welding is begun.
- D. Field Monitoring
  - 1. All steel sheet piles shall be observed and/or tested prior to installation. Observations and/or testing shall include:
    - a. Checking sheet piles for general straightness: Piles with kinks in local areas along the interlock or that have excessive bowing or camber shall be rejected.
    - b. Gauging all pile interlocks: Thumbs of interlocks shall be of the proper size to fit into the corresponding interlock openings. Piles whose interlocks are not within acceptable tolerance shall be rejected.
    - c. Checking piles for lamination flaws or gas pockets: Piles showing evidence of lamination flaws shall be rejected.

### 1.3 SUBMITTALS

- A. Submit for approval by Owner the following items:
  - 1. Steel sheeting, specifications and certifications.
  - 2. Driving plan, sequence and schedule for installation of the steel sheeting.
  - 3. Manufacturers' operational data on pile driving equipment.
  - 4. Erection details of driving equipment, collars, shoes, driving template, helmet and cushion.
  - 5. Templates and falsework to be used for support and layout of sheet piles during driving.
  - 6. Steel sheet piling layout including quantities, special fabricated corners and cut-outs details for bulkhead penetrations.
  - 7. Shop drawings of all shop welding submitted for review prior to fabrication.
  - 8. Welder qualifications
  - 9. Materials and methods for temporary lateral support of existing structures during sheet pile installation if required
- B. Certificates
  - 1. Certify that materials are new and meet or exceed specification requirements by submitting a notarized copy of chemical and physical tests results.

### 1.4 JOB CONDITIONS

- A. Site and Subsurface Conditions
  - 1. Subsurface investigation data is contained on the drawings. Prior to submitting the bid, the Contractor shall review the data provided. The subsurface investigation data is made available to the Contractor for information on factual data only and shall not be interpreted from written text, boring logs or other data.
  - 2. The Contractor shall protect existing adjacent property, public utilities and structures, and completed work from damage associated with the sheet pile installation. Damage done during sheet pile installation shall be repaired by the Contractor at his own expense.

### 1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. The Contractor shall deliver steel sheet piles in a timely manner to assure continuity of pile driving.
- B. Sheet piles shall be handled, transported, stacked and protected to prevent damage to coatings and steel.
- C. Materials shall be stored in areas on site as designated by the Owner.

### 1.6 LINES AND GRADES



- A. The Contractor shall establish sheet pile locations and all elevations required. A baseline and benchmark located on or close to the site will be provided by the Owner. The Contractor shall be responsible for maintenance and protection of the baseline and benchmark, and all pile location markers.

## 2. PRODUCTS

### 2.1 MATERIALS

- A. Material and components used shall be new and shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly or structure. Materials not specified herein shall be of the same or higher quality used for the intended purpose in commercial practice.
- B. Steel sheet piling shall meet the following requirements
  - 1. Manufactured by hot rolled steel process
  - 2. Meet the steel requirements of ASTM A-572, Grade 50
- C. Steel sheet piling shall have the following properties
  - 1. Sheet Piling - Cantilever Sheet Piling
    - a. AZ-18 as produced by Arbed or equivalent
    - b. Minimum Section Modulus 33.5 cubic inches per linear foot of wall
    - c. Minimum Thickness 0.375 inches

## 3. EXECUTION

### 3.1 ERECTION OF STEEL PILE BULKHEAD

- A. Coordinate work with that of all other trades affecting or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.
- B. Steel sheet piling for the proposed steel sheet pile bulkhead shall be installed at the locations as shown on the Drawings.
- C. Driving equipment and method shall be reviewed by the Engineer prior to commencement of installation. No jetting will be permitted, except as may be necessary to remove obstructions. Jetting must be approved by the Engineer prior to its application.
- D. Sheet piles shall be driven within an approved falsework or approved template to be reviewed by the Engineer during the Submittal phase. In planning driving arrangements, the Contractor shall take into account site conditions.
- E. Sheet piles shall be driven plumb and true to line. Maximum deviation from the intended wall line shall not exceed 3 in. over the entire length.
- F. Sheet piles shall be driven to elevations specified on the Drawings.
- G. No pile splicing will be permitted.

- H. Touchup of all damage to coatings shall be in accordance with COATINGS, SECTION 09800.

### 3.2 ALTERNATE PROCEDURES

- A. The Contractor may propose alternative bulkhead installation procedures and construction sequences to improve installation efficiency. Alternative procedures shall be used only with the approval of the Engineer, and must provide both temporary lateral support and a completed installation that will meet specification requirements.

## 4. MEASUREMENT AND PAYMENT

### 4.1 METHOD OF MEASUREMENT

- A. Measurement of the STEEL SHEET PILE shall be by the Contract Unit Price Lump Sum.

### 4.2 METHOD OF PAYMENT

- A. Payment for the work of STEEL SHEET PILE shall be at the Contract Unit Price of Lump Sum. Compensation shall include payment for all labor, equipment, trucking, materials, survey, supervision and any incidentals necessary for the supply and installation of the steel sheet pile system, connections, and work associated with excavation, backfill and stone reinstallation per the Contract Documents and as specified.

### 4.3 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02320-1	STEEL SHEET PILE	LS

\*\*\* END OF SECTION \*\*\*

## **SECTION 02410**

### **DREDGING BY MECHANICAL METHOD (To Mass Bay Disposal Site)**

#### **1 GENERAL**

##### **1.1 DESCRIPTION**

- A. Provide all labor, materials, equipment, and supervision necessary to complete the work specified in this Section.
- B. The work under section shall include:
  - 1. Dredging by mechanical method of the proposed work area to the depths shown on the Contract Drawings, transportation of dredged material by dump scow to the Massachusetts Bay Disposal Site (MBDS) in conformance with USACE requirements.
  - 2. The protection of area identified as Archaeologically Significant within the dredge footprint.
- C. To the extent that may be required,
  - 1. The removal and proper disposal of Class B Rock, abandoned moorings and other obstructions as defined within these specifications.
  - 2. The separation and proper disposal of material unsuitable for disposal at the MBDS.
- D. No dredging shall occur from February 15th to June 30th as conditioned in the regulatory approvals. .
- E. The supplying of any and all labor, materials, tools, equipment, dredging equipment, barges, disposal of unsuitable materials, permits, survey, supervision and any incidentals necessary to complete the work as specified herein, as shown on the Contract Drawings, identified in the regulatory approvals and as directed by the Owner.

##### **1.2 QUALITY ASSURANCE**

- A. The Contractor shall comply with all applicable local, state and federal requirements, as well as standard industry standards and practices regarding materials, methods of work, proper disposal, trucking, removal of excessive waste and materials, safety of the workers and safety of the public.
- B. The Contractor is hereby made aware that the dredging and disposal of materials is subject to conditions set forth by permits, licenses, etc., issued by (but not limited to) the following:
  - 1. The Army Corps of Engineers: Section 404 of the Clean Water Act.
  - 2. Salem Conservation Commission: Order of Conditions.
  - 3. MA DEP Water Pollution Control: 401 Water Quality Certificate.
  - 4. MA DEP Wetland and Waterways: Chapter 91 License/Permit
- C. Copies of the regulatory approvals and conditions for performing the work are included within the Appendix A of the Contract Documents. The Contractor shall be responsible for the understanding and implementation of the stipulated conditions as a condition of this contract.

- D. Dragging shall not be permitted within the project work area. The dragging technique is a violation of environmental regulations and any enforcement and/or fines will be the responsibility of the Contractor.
- E. All of the Contractor's dredging equipment and dredge scows are be in good working condition and suitable for the work intended.
- F. Barges, plants, tow boats or any vessel used during this project shall not be permitted to sit on the bottom within or adjacent to the project work area; this is a violation of environmental regulations and any enforcement and/or fines will be the responsibility of the Contractor.
- G. Dredging and disposal will only be allowed during specified times established in the Environmental Permits. Contractor shall be responsible for adhering to all local, state and federal requirements for endangered and threatened water mammals and other marine life set forth in the permits.
- H. Should it become necessary for work under this section to extend into the no dredging/disposal windows, the Contractor will be responsible, at his expense, to obtain approvals for any time extensions or changes that may be necessary under the Environmental Permits issued for this project.

### 1.3 SUBMITTALS

- A. Name, address and 24 hour emergency contact information of the person who will be in responsible charge of the dredging and disposal operation.
- B. Name, address and 24 hour emergency contact information of any and all sub contractors who will be involved in the project.
- C. Identification and list of dredge equipment to be used. Contractor shall certify that all of the Contractor's dredging equipment and dredge scows are be in good working condition and suitable for the work intended. All equipment is subject to inspection and approval prior to utilization on the project.
- D. Siltation Curtain materials and method of installation. Submittal shall include deployment and phasing plan(s).
- E. The Contractor must supply the Owner with a written Sequence of Operations for review and approval.
- F. Contractor shall submit copies of all notifications and associated documentation that the notification was received by the appropriate authorities.
- G. Dredge area and dredge disposal location monitoring.

The Contractor is responsible for adhering to the USACE Dredge Quality Management (DQM) System Requirements (previously the Silent Inspector System) and for ensuring that the system is operational throughout the project and that project data will be submitted to National DQM Support Center in accordance with the USACE permit and website <http://dqm.usace.army.mil>. It is the responsibility of the Contractor to notify and request the exact coordinates for the disposal of the dredged materials from USACE at least ten (10) days prior to the start of the project. The disposal coordinates from USACE shall be submitted to the Authority prior to proceeding with the dredging.

- H. The Contractor's hydrographic surveys, when performed, shall be provided at the same size and scale as the Contract Drawings and pre-dredge plans provided by the Owner and shall show the final elevations of the dredged area with all pertinent data, landmarks, baseline and shall be based on the datum established for the project on the Contract Drawings. Submittal shall include hard copies as well as supporting electronic files. All surveys shall be performed utilizing the same horizontal coordinate system and vertical datum which based on Mean Low Water Datum unless otherwise noted.
- I. Surveys submitted for consideration shall have an original stamp by a licensed professional land surveyor or licensed professional engineer. Survey firm shall be on the MA DCR Waterways Master Services Approved List. Stamped plans shall be on paper copies and may be submitted for the following purposes:
1. Disagreement with pre-dredge condition – must be submitted at least 1 week prior to performing any dredge activities.
  2. Requests for partial payment of dredge activities
  3. Verification survey to confirm work is done prior to Owner's Post-Dredge Survey.
  4. Disagreement with post-dredge condition and payment volumes
- J. Dredge Water Quality Monitoring
1. Contractor shall retain and independent firm to perform water quality monitoring as required within this specifications.
  2. Monitoring shall be performed in conformance with the regulatory approvals.
  3. Contractor's monitoring firm shall be required to perform water quality monitoring at three (3) different times during the dredge activities. Monitoring shall include:
    - a. Initial background water quality determination 750 feet upcurrent from dredge activities. Sampling shall be taken at El -5.0 feet. Turbidity and dissolved oxygen will be measured at the start of each monitoring day with three rounds of baseline samples taken. If a potential source of upcurrent turbidity is identified additional sampling will be done.
    - b. Measurements during dredging will be taken approximately 20' from the silt curtain during an outgoing tide, downcurrent of construction activities. Measurements will be taken at El. -5.0 feet, along the downcurrent boundary of the silt curtain. Measurements will be taken every hour during dredging operations.
    - c. If turbidity readings at the border of the silt curtain reach 25 NTU above background, the dredging contractor shall notify the dredging operator to implement measures to reduce turbidity including but not limited to:
      - i. ensuring the silt curtain is properly deployed and intact,
      - ii. increasing the bucket cycle time for retrieving the full bucket and minimizing bucket suspension over the water.
      - iii. Monitoring will resume at increased frequencies (every 15 min over an hour) to verify that conditions have returned to less than 25 NTU above baseline. Explanatory details shall be made on the data sheet.
    - d. Field Documentation
      - i. A data reporting sheet will be filled out for each monitoring day. Information recorded shall include date, time, location and type of construction activity, names of sampling team members, notes on weather, tide, last rainfall event and other relevant activities as well as a comment section for any visual observations that may aid in data interpretation.

- ii. A base map will be developed prior to sampling to allow for the recording of visual events such as plumes or sheens relative to the transect run. The presence and extent of any visible sheen will be sketched on the base plan, regardless if criteria limits have not been exceeded. Also the locations of the monitoring points and construction activities will be provided daily.
- iii. Direction of current will be based on standard tide tables for Salem Harbor and will be verified by field observations.
- iv. A summary report shall be prepared and submitted to the DEP within 30 days of completion of the project.

K. Reports and Plans

- 1. The Contractor is required to plot the locations of all rock, boulders and moorings encountered during the progress of his work on the progress plan and on the weekly reports, whether they are encountered inside or outside of the proposed dredging limits.
- 2. Within seven (7) calendar days from the date of the Notice To Proceed or at the pre-construction meeting, whichever occurs first, the Contractor shall submit to the Owner for approval, a refueling and material control plan which will be utilized to prevent and/or mitigate and fuel and material spillage.
- 3. The Contractor shall submit to the Owner, prior to the pre-dredge survey, his survey control plan which shall include a written sequence of operations, location of survey controls and locations of rigid markers. The Contractor shall submit, with this plan, the material and installation procedures for the rigid markers.

L. Progress Plans

- 1. The Contractor is required to keep a progress plan on-site and update it on a daily bases. This plan shall be colorized and show the locations dredged and the date of the work.
- 2. The Contract shall update the Owner representative's progress plan each day that the Owner's representative is on-site.
- 3. This plan is a supplement to the weekly progress plan submitted noted below in section 1.3.L.4.

M. Certificate of Compliance

- 1. The Contractor shall provide name and contact information for the Registered Land Surveyor and/or Registered Professional Engineer, experienced in hydrographic surveys, to perform its verification survey and prepare the required plan. Upland Surveys and Hydrographic Surveys shall be performed by firm approved and list on the MA-DCR Master Services Agreement of accepted firms
- 2. The Contractor's verification survey shall be the same size and scale as the Contract Drawings and pre-dredge plans provided by the Owner, and shall show the final elevations of the dredged area with all pertinent data, landmarks, baseline and shall be based on the Datum established for the project.
- 3. The Contractor's verification survey is not to be considered for payment purposes but it must be sufficient in detail and accuracy to satisfy the Owner that the Owner's final survey can be ordered.
- 4. The Contractor will be required to maintain daily records of both dredging and disposal operations on the approved forms. A plan will be marked and colored coded showing daily progress, and a sketch of this progress plan indicating the work accomplished for that period will be drawn on the back of these forms. The record

forms shall be submitted to the Owner on a weekly basis. The progress plans will be turned over to the Owner at the completion of work.

5. Throughout the performance of this Contract, the Contractor shall supply the Owner, on a weekly basis, a copy of all dump and scow reports by the Dredge Disposal Inspector. This shall include as documents submitted to USACE in compliance with use of the MBDS.

N. Upland Staging Site

1. Contractor shall submit location of upland staging site for the material handling and ultimate disposal of material not suitable for disposal at the MBDS.

O. Agreements

1. Where a Dredge Disposal Inspector is utilized, the Contractor shall submit to the Owner, upon its execution, a copy of the agreement between the Contractor and the Dredge Disposal Inspector. No disposal shall be allowed without a copy of this document has been received by the Owner.

#### 1.4 NOTIFICATIONS

- A. Contractor shall perform all notifications as required within the regulatory permits and approvals.
- B. It is the Contractor's responsibility to notify the Owner at least 48 hours before any survey is performed. Failure to notify the Owner may cause the survey to be voided.
- C. At least ten (10) working days in advance of the start date, the First Coast Guard District, Aids to Navigation Office, Aids to Navigation Office, (617) – 223 -8355, shall be notified of the location and estimated duration of the dredge and disposal area.
- D. It is the Contractor's responsibility to notify the United States Coast Guard, Sector Boston, Waterways Management Division, at (617) 223-5750 prior to the start of this project.
- E. The Contractor shall notify The Department of Environmental Protection, attention Kin Chin (617)-292-5893, one week prior to the start of work.
- F. It is the responsibility of the Contractor to notify and request the exact coordinates for the disposal of the dredged materials from USACE at least ten (10) days prior to the start of the project. Copies of the request and the information from USACE shall be submitted to the Owner prior to proceeding with the dredging.
- G. If the Owners Representative is not present on-site, it is the Contractor's responsibility to notify the Owner immediately of any changes in the site or if any rock is removed in order to have the Owner Representative inspect the conditions.
- H. Upon completing the dredging the Contractor shall perform a verification survey by a Registered Land Surveyor or a Registered Professional Engineer. This survey shall be submitted to the Owner with a letter notifying the Owner that the work is complete and the final Owner survey can be ordered.

#### 1.5 JOB CONDITIONS

- A. Project Staging: No specific upland area will be available for the dredge contractor staging and for material handling and disposal associated with material not suitable for disposal at the MBDS site. Any use of the upland area for these areas shall be subject to the review and approval of the City of Salem Harbormaster. Otherwise the Contractor shall provide site for this activities.

- B. Site information: Data on indicated subsurface conditions are not intended as representations or warrants of continuity of such conditions between soil borings and samples. It is expressly understood that the Owner will not be responsible for interpretations or conclusions drawn there from by the Contractor. Data is made available for the convenience of the Contractor.
  - 1. Boring and sample locations are illustrated on the Contract Drawings, and logs are also on the Contract Drawings.
  - 2. Additional test borings and other exploratory operations may be made by the Contractor at no cost to the Owner.
- C. Use of explosives:
  - 1. Use of explosives is prohibited.
- D. Contractor shall coordinate all work with the Harbormaster, abutters and active construction projects at the Salem Wharf Project Site.
  - 1. An active marine construction project utilizing floating equipment is scheduled throughout the period of this project.
  - 2. Dredge Contractor shall give preference to the existing Marine Contractor schedule of work for the scheduling and performance of dredge activities. Both contractors shall work in corporation and in harmony with each other throughout the project.
- E. Protection of persons and property:
  - 1. Barricade or secure equipment staging areas occurring as part of this work and post with warning lights.
  - 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
  - 3. Protect structures, utilities, pavements, and other facilities from damage caused by equipment, undermining, washout, transportation, disposal and other hazards created by dredging and disposal operations.
  - 4. The Contractor shall perform the work in a manner not to disturb any tidal flats or natural resource beds outside of the dredging limits.

## 2 PRODUCTS

- A. No materials are to be provided to the Owner under this specification.

## 3 EXECUTION

### 3.1 SCOPE OF WORK

- A. General
  - 1. The Contractor shall dredge to the depths shown on the Contract Drawings. The proposed depths required shall include the over-dredge payment limit depth as shown on the plans. No work outside the payment limit shall be considered for compensation. Dredging within the Archaeological Significant Area shall NOT extend below El-5.0.
  - 2. The Owner shall perform a Pre-Dredge survey of the project area before any work by the contractor is started. The Pre-Dredge Survey shall be the basis of pre-dredge conditions for payment purposes instead of the Contract Drawings.
  - 3. The Contractor shall place and maintain rigid markers:



- a. In conformance with the regulatory approvals including but not necessarily limited to:
  - i. At each corner of the dredge area.
  - ii. At 1,000 L.F. intervals along straight runs or at the mid-point for distances greater than 500 L.F. and less than 2,000 L.F.
  - iii. At boundary of Archaeological Significant Area.

**B. Site Mobilization & Demobilization**

1. Mobilization of all the Contractor's dredging plant, work boats, scows, barges, tugs, cranes, and all other equipment to the work site to commence dredging and disposal operations
2. Relocating and moving cranes, dredge plant and related equipment from one work location to another work location(s) within the project limits.
3. Included in this item will be the Contractor's cost for all survey for layout, placement and maintenance of rigid markers, as well as the verification survey. Survey control baseline(s), rigid markers and tideboards shall be established and maintained at all times during the project for the dredging area.
4. Demobilization of all the Contractor's dredging plant, work boats, scows, barges, tugs, cranes, and all other equipment from the work site upon completion of the dredging operations and after receiving approval from the Owner for the demobilization.
5. The Contractor shall have a motorboat and operator available to assist the Inspector and Owners Representative on inspection and survey control throughout the duration of the project.

**C. Dredging by Mechanical Method**

1. The proposed dredging is for new dredging. The material encountered is believed to consist primarily of loose to dense soft silt, silt-sand and clay. Bidders are expected to examine the work site and decide for themselves the character of the materials to be removed. The Contractor is required to remove all materials within the design footprint.
2. Should the contractor encounter debris or old structures or their debris that cannot be removed using onsite equipment, he shall document the obstruction and notify the owner. If, after review by the owner it is determined that removal of the obstruction is beyond the scope of the original contract an addendum for obstruction removal may be issued.
3. No dragging operations of any sort will be allowed for the purpose of attaining the required depth or allowable over-depth.
4. The Contractor shall dredge, by use of tight closing bucket dredging equipment, the areas shown on the plan or as laid out to the approval of the Owner in the field to the depths indicated on the plans.
5. The dredged material shall be placed in watertight scows with fast rate hopper door release and disposed of at the Massachusetts Bay Disposal Site (MBDS) determined by USACE prior to the disposal.
6. The quantity shown on the plans are estimated based on the soundings. The actual amount removed will be dependent on the amount of material the Contractor removes to the payment limit from within the dredging area. By computing the

volume between the bottom surface shown by sounding of the last Owner survey made before dredging, and the bottom surface shown by sounding of the final Owner survey made within one week or otherwise as soon as practicable, after the entire work specified, has been completed.

7. The Contractor shall dredge to the depths shown on the Contract Drawings. The proposed depths required include a one-foot over dredge payment limit. No work outside the payment limit shall be considered for compensation.
8. The work also includes dredging around an area of archeological significant with an absolute depth limit not to be exceeded. The Contractor will be penalized for any volume found dredged below this limit with a deduction from the pay quantity of the volume at twice the contract unit price.

D. Class B Rock

1. Rock, boulders or moorings in excess of one (1) cubic yard in volume and less than five (5) cubic yards in volume, which are entirely removed from the dredged area deposited at a location approved by the Owner.

E. Unsuitable Material

1. Material that is dredged within the dredged footprint but is unsuitable for disposal as determined by USACE dredge permit at the MBDS, shall be separated and placed in a separate suitable material dumpster. Unsuitable materials placed in the dumpster shall be free of excessive dredge spoil and water. All such material shall be disposed at a government approved facility by the contractor.

### 3.2 GENERAL OPERATIONS

- A. The Contractor shall be required to conduct his operations in such a manner as to present the least amount of interference with boating interests whether recreational, commercial or fishing in and around the proposed work site. Contractor shall specifically coordinate all work with:
  1. Salem Harbormaster.
  2. Brewer Hawthorne Cove Marina
- B. The Contractor shall have full responsibility for all phases of the dredging and disposal operations.
- C. All tow boats used for towing scows to the disposal areas shall be equipped with LORAN-C navigational equipment (or other equipment approved by the U.S. Coast Guard and the U.S. Army Corps of Engineers), radar, gyrocompass, direction finder and depth sounding equipment. This equipment is to be maintained in operating condition during each tow.
- D. Particular attention is called to proper closure and water-tightness of the scow pocket doors to eliminate any seepage or leakage of material. The use of plastic material or other non-approved materials to cover cracks in scow pockets will not be allowed.
- E. The Contractor will be required to provide and maintain a walkie-talkie communication system, or other system approved by the Owner, between the Owner's Representative and the dredge plant, and between the towboat and the scow.
- F. After the dredging is completed and all areas identified as needing additional work have been remedied; the Contractor shall have a verification survey made by a Registered Land Surveyor or Registered Professional Engineer. This survey is to be submitted to the Owner

with notification that the project's dredging is complete and the final Owner post dredge payment survey may proceed.

- G. Barges, plants, tow boats or any vessel used during this project shall not be permitted to sit on the bottom within or adjacent to the project work area; this is a violation of environmental regulations and any enforcement and/or fines will be the responsibility of the Contractor.

### 3.3 DREDGING

- A. Dredging will only be allowed during specified times established in the Environmental Permits.
- B. No dredging operations can be performed within the window of February 15 to June 30th.
- C. Should it become necessary for work under this section to extend into the no dredging/disposal windows, the Contractor will be responsible, at his expense, to obtain approvals that may be necessary under the Environmental Permits issued for this project.
- D. The Contractor shall dredge, by use of tight closing bucket dredging equipment, the areas shown on the plan or as laid out to the approval of the Owner in the field to the depths indicated on the plans.
- E. The material will be dredged by mechanical means, clamshell or backhoe, and placed on a barge. Dredge material placed onto the barge and shipped to the MBDS location by a bottom dumping scow.
- F. The dredge area must be sloped downward into the waterway so as to maximize tidal flushing and create no slopes of over fifty percent. Dredging shall not undermine adjacent seawalls.
- G. Dredge materials may undergo dewatering on site but not while on the scow used during the transport of materials to the MBDS location for disposal.
- H. The dredge and barges must be surrounded by a siltation curtain while work is being performed. Siltation curtain shall extend to mudline.
- I. Scow overflow is not permitted.

### 3.4 OBSTRUCTIONS

- A. Only Class B Rock removed from within the proposed dredging area will be considered for payment as an obstruction. Payment will not be made for rock, boulders and/or moorings found below the proposed dredging pay limit or outside the proposed dredged slope. If any rock and/or boulders are found partially inside the proposed dredging limit and partially outside the dredging limit, and is removed and disposed of, only the portion within the proposed dredging limit will be considered for payment. The determination of the portion to be paid will be made by the Owner.
- B. Class B Rock shall be defined as Rock or boulders in excess of one (1) cubic yard in volume and less than five (5) cubic yards in volume, which are entirely removed from the dredged area deposited at a location approved by the Owner
- C. No rock, boulders and/or mooring, of sizes between one and five (1 - 5) cubic yards (Class B Rock), shall be disposed of before the Owner's Representative has measured them. If the Owner's Representative is not present at the time in which the rock, boulders and/or moorings are removed from proposed dredging area, the Contractor will place them in an area accessible to the Owner's Representative for his measurements before disposal. Any

rock, boulders and/or mooring disposed of before measurement by the Owner's Representative will not be paid for.

- D. When performing this work, the Contractor shall make the bottom of the excavation as smooth and level as possible at or slightly below the plane of the required depths. All bumps, shoals, pinnacles or any other obstruction above the design depth are to be removed. No payment will be made for any material dredged from more than one (1) foot below the design dredge depths as determined from information obtained from surveys made under the direction of the Owner. The one (1) foot below the design dredge depth is the Over-Dredge limit. All survey will be performed upon completion of all work covered by this Contract.
- E. The method used to obtain a smooth and level bottom shall be selected by the Contractor with the approval of the Owner before such method is implemented.
- F. Particular attention is directed to the fact that the proposed dredging limits as shown on the plans may be in close proximity to existing structures which may be protruding above or buried beneath the harbor bottom. The Contractor shall take necessary precautions to protect these structures from damage. The Contractor shall bear full responsibility for any damage of any nature to these structures caused by his workers and/or equipment, and such damage shall be satisfactorily remedied at the sole expense of the Contractor to the approval of the Owner.

### 3.5 DISPOSAL

- A. Notwithstanding the following requirements, all transport and disposal activities shall be in compliance with the USACE issued permit and all conditions specified within this approval.
- B. Any material that is disposed of other than in places designated and/or approved by the Owner will not be paid for, and the Contractor may be required to remove such misplaced material and deposit it where directed at his own expense.
- C. The contractor shall coordinate a meeting with the Owner and USACE for a pre-construction scheduling meeting as well as a pre-construction conference. At this time the contractor shall demonstrate the method of locating and orientation of the scow over the MBDS.
- D. The Contractor is responsible to adhering to the USACE Dredge Quality Management System Requirements and for ensuring that the system is operational throughout the project and that project data will be submitted in accordance with the USACE permit. If any component of the system is inoperable, disposal may not take place unless otherwise authorized by the USACE Point of Contact.
- E. From February 1 through May 30 of any year the contractor is responsible for ensuring that disposal vessels including tug, barges, and scows transiting between the dredge site and the MBDS shall operate in accordance to the requirements of the USACE in reference to marine mammals and that a marine mammal observer is present.
- F. The USACE project engineer shall be notified at least one week prior to any authorized work. Failure to adhere to notification may result in rescheduling time allotted for MBDS disposal or revocation of the State Assent.
- G. The Contractor shall provide a name and 24 hour contact information of a person who can legally bind the Contractor. This information will be available to the USACE. This person will be the contact for schedule changes or other project issues that effect use of the MBDS

as a disposal for dredge material. This will be in addition to the Owner's 24 hour contact representative for the USACE.

- H. The contractor shall have the estimated volume and the method of determination of volumes approved prior to any dredging operations. The hydrographic survey and survey methodology shall be approved by the USACE prior to any dredging work. The survey work shall be accordance with Special Order Surveys, EM-1110-2-1003 Hydrographic Survey manual. All volumes and hydrographic survey methods shall be certified by a Registered Professional Engineer.
- I. All scows shall be bottom-dump and have been inspected and approved by the USACE.
- J. Any dump scows used to transport material shall be in good operating condition and shall contain the sediment and water placed in it so that NO discharge of sediment or water occurs until the barge has been transported to the MBDS.
- K. No debris shall be disposed of in the MBDS. The USACE shall inspect the scow prior to any dumping. All debris not allowed in the MBDS shall be legally disposed of separately in accordance with State and Federal regulations.
- L. Dump reports shall be faxed to the USACE and the Owner within 48 hours of the dump, failure to provide the reports within this timeframe will subject the applicant to a potential cease and desist order for the entire project.
- M. Transport, monitoring and disposal of dredge material shall be in accordance with all regulatory requirements as stipulated within the permits and the contractor shall be solely responsible for proper disposal of material.
- N. The Contractor shall bear full responsibility for resolution of issues arising from the transport, monitoring and disposal of dredge material, in violation of the permits, including but not limited to meetings, surveys, environmental studies and mitigation. No additional compensation from the Owner shall be made to address permit violations.

### 3.6 INSPECTIONS

- A. If the post-dredge survey performed by the Owner shows areas that have shoaled or have not been dredged to the proper depth; the Contractor shall complete the work required as directed by the Owner and shall pay for the additional Owner survey(s) required to show the completed work. The Contractor will be assessed an initial cost of the additional survey(s) at the rate of \$5,000.00 per survey. These costs will be deducted from the next payment prepared for this project.
- B. If the Owner's Representative is not present on-site, it is the Contractor's responsibility to notify the Owner immediately of any changes in the site or if any rock is encountered in order to have the Owner's Representative inspect the conditions.
- C. The Owner will notify the Contractor in writing upon the receipt and approval of the final Owner survey that the Contractor may demobilize from the work site. The Contractor shall not leave the work site without the required written approval from the Owner.

## 4 MEASUREMENT AND PAYMENT

### 4.1 METHOD OF MEASUREMENT

- A. MASSACHUSETTS BAY DISPOSAL SITE

1. Material dredged & disposed by mechanical method and disposed of at the MBDS shall be measured by the cubic yards of material dredged and properly disposed of by computing the volume between the bottom surface shown by sounding of the last Owner survey made before dredging, and the bottom surface shown by sounding of the final Owner survey made within one week or as otherwise is practicable, after the entire work specified, has been completed.
2. No measurement will be made for material dredged beyond the payment limit indicated on the plan. The costs in connection with inspections of the disposal operations and mobilization and demobilization will be paid for by the Contractor and shall be included in his unit price.
3. The work also includes dredging around an area of archeological significant with an absolute depth limit not to be exceeded. The Contractor shall be penalized for any volume found dredged below this limit with a deduction from the pay quantity of the volume at twice the contract unit price.
4. Under no circumstances will the Contractor leave the site until the Owner has completed it's survey and has notified the Contractor in writing that he may demobilize from the site, or unless otherwise authorized in writing by the Owner. If any work has not been completed, including complete demobilization, or, if any shoals exist within the work area the Contractor will be ordered to return to the site to complete said work without delay. If the Contractor does not return to the site all monies owed the contractor shall be retained by the Owner to complete the work, any funds not utilized to complete the work will be paid to contractor.

**B. CLASS B ROCK – Removal and Disposal**

1. Class B rock for mechanical dredging shall be for rock or boulders over one (1) cubic yard but less than five (5) cubic yards and as determined by the Owner from measurements made in the field by the Owner's Representative. The volume of work will be based upon such measurements. The Contractor should be present for all measurements made for this Item.
2. Only rock, boulders and/or moorings removed from within the proposed dredging area and classified as Class B rock shall be paid for. Payment will not be made for rock; boulders and/or moorings found below the proposed dredging pay limit, or outside the proposed dredged slope. If any rock, boulders and/or moorings are found partially inside the proposed dredging limit and partially outside the dredging limit, and is removed and disposed of, only the portion within the proposed dredging limit will be considered for payment. The determination of the portion to be paid will be made by the Owner.
3. Compensation will not be made for rocks, boulders or moorings that are lowered so that they are below the required depth of the proposed dredging, unless approved by the Owner prior to the performance of the work

**C. DISPOSAL OF UNSUITABLE MATERIAL**

1. Material that is dredged within the dredged footprint but is unsuitable for disposal at the MBDS, as defined by the USACE Permit shall be separated and placed in a separate suitable material dumpster. Unsuitable materials placed in the dumpster shall be free of excessive dredge spoil and water. All such material shall be disposed at a government approved facility by the contractor.

2. Contractor shall be responsible for payment of actual costs for tipping fees and associated trucking by the material hauler of unsuitable material with no markup. Contractor shall be required to provide actual receipts for disposal costs per ton including tipping fees.
  3. All other costs of material handling shall be included in Contractor's unit price for dredging.
- D. The work under the items of this Section shall be paid for at the Contract Unit Bid Price for each item as indicated on the Contract Bid Form.
- E. Compensation shall include payment for all labor, equipment, trucking, disposal, permits, materials, survey, supervision, federal dredging inspectors, marine mammal observers mobilization and demobilization, costs associated with meeting regulatory requirements and any incidentals necessary to satisfactorily complete the work as specified herein, as shown on the Contract drawings and/or sketches and as directed by the Department.
- F. Periodic payments for dredging shall be estimated to the design depth only. Payment of materials dredged within the one foot over-dredge allowance area shall be considered only after the post dredge survey has been approved by the Owner.

#### 4.2 METHOD OF PAYMENT

- A. Payment for DREDGING WITH MBDS DISPOSAL including over-dredge depth. Shall be by the CUBIC YARD and shall include payment of all labor, equipment, transportation, disposal, permits, materials, survey, supervision, site restoration and any incidentals necessary to satisfactorily complete the work as specified herein, to the pay limits as shown on the Contract Drawings and as directed by the Owner. No payment will be made for material beyond the payment limits indicated on the plan. Contractor shall be penalized for dredging beyond the pay limit in area of archeological significance.
- B. Payment for CLASS B ROCK - REMOVAL AND DISPOSAL associated with mechanical dredging shall be by the CUBIC YARD and shall include payment of all labor, equipment, transportation, trucking, disposal, permits, materials, survey, supervision, site restoration and any incidentals necessary to satisfactorily complete the work. Quantity will be determined by the Owner from measurements made in the field by the Owner's Representative. The volume of work will be based upon such measurements. The Contractor shall be present for all measurements made for this Item.
- C. Compensation for UNSUITABLE MATERIAL DISPOSAL shall be paid by the unit price per TON which shall include the actual cost for trucking from dredge site (or other acceptable site for transfer from the contractor's dredge plant to landside) and disposal at a state and federally approved disposal site including tipping fees but with no contractor markup.

#### 4.3 PAYMENT ITEMS

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02410-1	Dredging with MBDS Disposal	CY
02410-2	Class B Rock – Removal and Disposal	CY
02410-3	Unsuitable Material Disposal	TON

\*\*\* END OF SECTION \*\*\*

## **SECTION 09800**

### **COATINGS**

#### **1. GENERAL**

##### **1.1 DESCRIPTION**

- A. The work of this Section includes, but is not limited to providing all labor, equipment, materials, incidental work, supervision and construction methods necessary, as indicated on the Contract Documents, as specified for preparation and application of the following coating types:
  - 1. Epoxy Coating for:
    - a. All steel sheet piles.
  - 2. Hot Dipped Galvanized:
    - a. All hardware and fasteners shall be hot dipped galvanized by the hot dip method according to ASTM specifications A-123 and A-153, unless noted otherwise on the Contract Documents.
- B. Related work specified elsewhere includes:
  - 1. Steel Sheet Piles under STEEL SHEET PILES, SECTION 02320.

##### **1.2 QUALITY ASSURANCE**

- A. Except as noted, work shall conform to the latest editions of the following codes specifications and standards:
  - 1. Steel Structures Painting Council (SSPC): Surface Preparations Specifications, specifications and standards herein referred to.
  - 2. American Society for Testing and Materials (ASTM): specifications and standards herein referred to.

##### **1.3 SUBMITTALS**

- A. Manufacturer's literature and recommended application instructions. Certification that materials meet specification requirements.
- B. Method for obtaining walking surface slip resistance with samples as may be required.
- C. Name and address of a licensed testing service for approval by Engineer.
- D. Test reports including:
  - 1. Surface preparation verification
  - 2. Holiday detection.
  - 3. Adhesion tests.
  - 4. Thickness measurements.

##### **1.4 FIELD TESTING**

- A. Contractor shall provide an independent testing company having at least 10 years of experience on similar types of construction to perform all testing.



- B. Coatings may be inspected by the Engineer using holiday detectors, field adhesion test, or a combination of both.

## 1.5 PRODUCT HANDLING

- A. All coated materials shall be delivered, stored, and handled with care to prevent damage to the coating.
- B. All coated materials, especially steel sheeting and piles, shall be installed in such a manner that minimizes damage to the coating.
- C. Materials with damaged coatings will be rejected at the sole discretion of the Engineer and the materials replaced, unless otherwise agreed to by the Engineer, at no additional cost to the Owner.

## 2. PRODUCTS

### 2.1 MATERIALS

- A. Coating on all metal fabrications and structural steel shall be Amercoat 235, Devoe Bar rust 235, Sherwin Williams Seaguard 5000 HS two part epoxy with 68% solids, or approved equal. There shall be a minimum of two coats with a final dry film thickness of 14 mils (minimum, not average). There shall be a strip coat over sharp edges, cutouts and welds. Color shall be as approved by Owner.

## 3. EXECUTION

### 3.1 SHOP SURFACE PREPARATION

- A. General
  - 1. All surfaces shall be thoroughly prepared for coating application in strict accordance with the coating manufacturer's recommendation and these specifications. All cleaning and coating work must be performed in a heated building. Preceding grit blasting, steel must be heated to at least 100 degrees F. to eliminate possibility of moisture on the surfaces to be cleaned and coated.
  - 2. Grit blasting shall be to clean grey metal, at least equivalent to a Near White as defined by SSPC Specification SP-10. All work blasted in one day must be coated on that day.
  - 3. Any areas of the surface which show traces of oil, grease, or other organic matter shall be removed prior to coating. The contamination shall be removed by using either a solvent or spot blasting.
  - 4. All surfaces to be coated must be completely dry, free of moisture, soil, dust and grit and the time the coating is applied.
  - 5. The Engineer shall have access to each part of the process and shall have the right and opportunity to witness any of the quality control test and/or perform such test himself on a random sampling basis.

### 3.2 APPLICATION OF COATING

- A. High Solids Epoxy (Shop Coat)
  - 1. All coating shall be applied by brush or spray using commercially available spray equipment. The coatings shall exhibit reasonable leveling without excessive sagging when applied at the required film thickness. Proper adhesion between coats shall be ensured, depending on method of coating application, without undue

restrictions concerning timing, temperature or other conditions associated with application. Coating manufacturer's recommendations and these specifications shall be adhered to. The temperature of the coating shall be within 15 degrees F. of the temperature of the steel at the time of application of the coating.

2. Where coating on any type of surface has commenced, the complete coating operation, including priming and finishing coats when multiple coats are used on that portion of the work, shall be completed as soon as practicable, without prolonged delays. Where necessary, sufficient time shall elapse between successive coats to permit them to dry properly for recoating and this period shall be modified as necessary to suit curing conditions.
3. Coating Thickness
  - a. A minimum thickness (not average) of 14 mils dry film is required on all exterior surfaces to be coated and 12 mils dry film on all interior surfaces.
  - b. Where two coats are required to achieve the recommended film build, the interval between coats should be as short as possible. To ensure maximum intercoat adhesion, it is recommended that:
    - 1) The next coat be applied as soon as possible after the previous coat has undergone final curing.
    - 2) If the previous coat has cured for more than the recoat time specified by the manufacturer, wash with fresh water, then brush blast to provide an adequate mechanical bond before recoating.
4. Final Curing Time: Coated surfaces shall be permitted as long a drying time as practicable, but in any event the minimum requirements shall be in accordance with the coating manufacturer's recommendations.
5. Thinning: Whenever possible the material shall be applied without thinning. Where thinning must be done, it shall be as recommended by the coating manufacturer. If the material is thinned, it may be necessary to apply more than the standard 1 or 2 coats to attain the required minimum (not average) dry film thickness of 14 mils.
6. Appearance of Finished Coating
  - a. The finished coating shall be generally smooth and free of sharp protuberances which could be removed by abrasion. A minor amount of sags, dimpling, or curtaining which does not exceed 2 to 3 percent of the surface will not be considered cause for rejection unless they present sharp edges which might be removed by abrasion.
  - b. Sharp protuberances shall be cut off using a sharp wood chisel laid flat against the surface. The area from which material has been removed shall be recoated to smooth the surface.

### 3.3 FIELD COATING

- A. Epoxy Coating (High Solids) Touch Up
  1. The touch up of High Solids Epoxy coating shall be with the same High Solids Epoxy coating system utilized during shop coating and with the same coating manufacturer.
  2. Application of field coating shall be as recommended by the manufacturer and cleaning and curing criteria prior to installation shall be strictly adhered to.

### 3.4 CARE OF EXISTING WORK

- A. Existing work shall be protected from spillage and spattering during application of coatings.
- B. All spillages and splatterings shall be cleaned up immediately. Contractor is responsible to leave existing areas free of all such foreign materials.

### 3.5 DEFECTIVE MATERIALS

- A. Coating which, in the opinion of the Engineer, does not meet acceptance due to improper coating, storage, handling, installation or other damage shall be rejected. The rejected materials shall be, at the sole discretion of the Engineer, either replaced with coated new material or completely cleaned to base material and re-coated in accordance with these specifications for shop coating of materials. This work shall be done at no additional cost the Owner.

## 4. MEASUREMENT AND PAYMENT

### 4.1 METHOD OF MEASUREMENT AND PAYMENT

- A. No separate measurement or payment shall be made for the work in this Section. Measurement and Payment for this item shall be included within the work it is associated with.

\*\*\* END OF SECTION \*\*\*

## **SECTION B**

### **REGULATORY APPROVALS**

Order of Conditions #64-567  
401 Water Quality Certificate #X262080  
Chapter 91 License - DRAFT #W14-4148  
US Army Corps of Engineers Permit #CENAE-R-NAE-2005-1095



# CITY OF SALEM CONSERVATION COMMISSION

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May 9, 2014

Kathleen Winn  
City of Salem Department of Planning & Community Development  
120 Washington Street, 3<sup>rd</sup> floor  
Salem, MA 01970

**Re: Order of Conditions—DEP #64-567—10 Blaney Street Marina**

Dear Ms. Winn:

Enclosed, please find the Order of Conditions for the above-referenced project. Following the 10-business-day appeal period (from May 9, 2014), this document must be recorded at the Southern Essex County Registry of Deeds (Shetland Park, 45 Congress Street, Suite 4100 Salem, Massachusetts). Once recorded, please return a copy of Page 12 of the Order, which will indicate to the Commission that the document has been recorded.

If you have any further questions, please feel free to contact me at 978-619-5685.

Sincerely,

Tom Devine  
Conservation Agent/ Staff Planner

Enclosures

CC: DEP Northeast Regional Office



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

**WPA Form 5 – Order of Conditions**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

64-567

MassDEP File #

eDEP Transaction #

Salem

City/Town

**A. General Information**

Please note:  
this form has  
been modified  
with added  
space to  
accommodate  
the Registry  
of Deeds  
Requirements

Important:  
When filling  
out forms on  
the  
computer,  
use only the  
tab key to  
move your  
cursor - do  
not use the  
return key.



1. From: Salem  
Conservation Commission

2. This issuance is for  
(check one): a. ☒ Order of Conditions b. ☐ Amended Order of Conditions

3. To: Applicant:

Kathleen Winn

a. First Name b. Last Name

City of Salem

c. Organization

120 Washington Street

d. Mailing Address

Salem MA 01970

e. City/Town f. State g. Zip Code

4. Property Owner (if different from applicant):

a. First Name b. Last Name

City of Salem

c. Organization

93 Washington Street

d. Mailing Address

Salem MA 01970

e. City/Town f. State g. Zip Code

5. Project Location:

10 Blaney Street Salem

a. Street Address b. City/Town

41 278

c. Assessors Map/Plat Number d. Parcel/Lot Number

Latitude and Longitude, if known: d m s d m s

d. Latitude e. Longitude



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

**WPA Form 5 – Order of Conditions**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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**A. General Information (cont.)**

- 6 Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):

Essex South

a. County

23825

c. Book

b. Certificate Number (if registered land)

116

d. Page

- 7 Dates
- a. Date Notice of Intent Filed 4/23/2014
- b. Date Public Hearing Closed 5/8/2014
- c. Date of Issuance 5/9/2014

- 8 Final Approved Plans and Other Documents (attach additional plan or document references as needed)

See attached

a. Plan Title

b. Prepared By

c. Signed and Stamped by

d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

**B. Findings**

- 1 Findings pursuant to the Massachusetts Wetlands Protection Act

Following the review of the above-referenced Notice of intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply.

- a. ☐ Public Water Supply
- b. ☒ Land Containing Shellfish
- c. ☐ Prevention of Pollution
- d. ☐ Private Water Supply
- e. ☒ Fisheries
- f. ☒ Protection of Wildlife Habitat
- g. ☐ Groundwater Supply
- h. ☒ Storm Damage Prevention
- i. ☒ Flood Control

- 2 This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. ☒ the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

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**B. Findings (cont.)**

Denied because:

- b. ☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. ☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
3. ☐ Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a)                      a. linear feet

**Inland Resource Area Impacts:** Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. <input type="checkbox"/> Bank	<u>                    </u> a. linear feet	<u>                    </u> b. linear feet	<u>                    </u> c. linear feet	<u>                    </u> d. linear feet
5. <input type="checkbox"/> Bordering Vegetated Wetland	<u>                    </u> a. square feet	<u>                    </u> b. square feet	<u>                    </u> c. square feet	<u>                    </u> d. square feet
6. <input type="checkbox"/> Land Under Waterbodies and Waterways	<u>                    </u> a. square feet	<u>                    </u> b. square feet	<u>                    </u> c. square feet	<u>                    </u> d. square feet
	<u>                    </u> e. c/y dredged	<u>                    </u> f. c/y dredged		
7. <input type="checkbox"/> Bordering Land Subject to Flooding	<u>                    </u> a. square feet	<u>                    </u> b. square feet	<u>                    </u> c. square feet	<u>                    </u> d. square feet
Cubic Feet Flood Storage	<u>                    </u> e. cubic feet	<u>                    </u> f. cubic feet	<u>                    </u> g. cubic feet	<u>                    </u> h. cubic feet
8. <input type="checkbox"/> Isolated Land Subject to Flooding	<u>                    </u> a. square feet	<u>                    </u> b. square feet		
Cubic Feet Flood Storage	<u>                    </u> c. cubic feet	<u>                    </u> d. cubic feet	<u>                    </u> e. cubic feet	<u>                    </u> f. cubic feet
9. <input type="checkbox"/> Riverfront Area	<u>                    </u> a. total sq. feet	<u>                    </u> b. total sq. feet		
Sq ft within 100 ft	<u>                    </u> c. square feet	<u>                    </u> d. square feet	<u>                    </u> e. square feet	<u>                    </u> f. square feet
Sq ft between 100-200 ft	<u>                    </u> g. square feet	<u>                    </u> h. square feet	<u>                    </u> i. square feet	<u>                    </u> j. square feet





Massachusetts Department of Environmental Protection  
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**B. Findings (cont.)**

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. <input checked="" type="checkbox"/> Land Under the Ocean	<u>46950</u> a. square feet	<u>46950</u> b. square feet		
	<u>11520</u> c. c/y dredged	<u>11520</u> d. c/y dredged		
12. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. <input checked="" type="checkbox"/> Coastal Beaches	<u>300</u> a. square feet	<u>300</u> b. square feet	<u>    </u> c. nourishment	<u>    </u> d. nourishment
14. <input type="checkbox"/> Coastal Dunes	<u>    </u> a. square feet	<u>    </u> b. square feet	<u>    </u> c. nourishment	<u>    </u> d. nourishment
15. <input checked="" type="checkbox"/> Coastal Banks	<u>14</u> a. linear feet	<u>14</u> b. linear feet		
16. <input type="checkbox"/> Rocky Intertidal Shores	<u>    </u> a. square feet	<u>    </u> b. square feet		
17. <input type="checkbox"/> Salt Marshes	<u>    </u> a. square feet	<u>    </u> b. square feet	<u>    </u> c. square feet	<u>    </u> d. square feet
18. <input type="checkbox"/> Land Under Salt Ponds	<u>    </u> a. square feet	<u>    </u> b. square feet		
	<u>    </u> c. c/y dredged	<u>    </u> d. c/y dredged		
19. <input type="checkbox"/> Land Containing Shellfish	<u>    </u> a. square feet	<u>    </u> b. square feet	<u>    </u> c. square feet	<u>    </u> d. square feet
20. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	<u>    </u> a. c/y dredged	<u>    </u> b. c/y dredged		
21. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	<u>    </u> a. square feet	<u>    </u> b. square feet		



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**B. Findings (cont.)**

\* #22 If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5 c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here

22. ☐ Restoration/Enhancement \*:

a. square feet of BVW

b. square feet of salt marsh

23. ☐ Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

**C. General Conditions Under Massachusetts Wetlands Protection Act**

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
  - a. the work is a maintenance dredging project as provided for in the Act; or
  - b. the time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on 5/9/2014 unless extended in writing by the Department
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.
8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.



Massachusetts Department of Environmental Protection  
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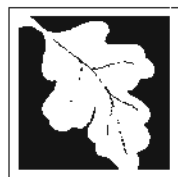
Salem

City/Town

**C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)**

9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,  

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]  
"File Number                      64-567                      "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.
17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

**WPA Form 5 – Order of Conditions**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP

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**C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)**

18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.

**NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS**

19. The work associated with this Order (the "Project") is (1) ☐ is not (2) ☒ subject to the Massachusetts Stormwater Standards. If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.

b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:

- i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
- ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
- iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;
- iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;
- v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion



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**C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)**

- c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following: *i.*) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and *ii.*) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.
- d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.
- e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.
- f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



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**C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)**

- g) The responsible party shall:
1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
  2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
  3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.
- h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.
- i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.
- j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.
- k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.
- l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document)



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**D. Findings Under Municipal Wetlands Bylaw or Ordinance**

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No
2. The Salem Conservation Commission hereby finds (check one that applies):

- a. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

1. Municipal Ordinance or Bylaw

2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. ☒ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

Wetlands Protection & Conservation Ordinance

c. 50

1. Municipal Ordinance or Bylaw

2. Citation

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

Attached special conditions are issued under the Wetlands Protection Act and are sufficient for compliance with the local ordinance.



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### E. Signatures

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key



This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance

Please indicate the number of members who will sign this form

This Order must be signed by a majority of the Conservation Commission

5/9/2014  
1. Date of Issuance

5  
2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy must be mailed, hand delivered or filed electronically at the same time with the appropriate MassDEP Regional Office.

Signatures

*[Handwritten signatures]*

*[Handwritten signature]*

☒ by hand delivery on

5/9/2014  
Date

☐ by certified mail, return receipt requested, on

Date

### F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request of Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.





Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

## WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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### G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

Project Location

MassDEP File Number

Has been recorded at the Registry of Deeds of:

County

Book

Page

for:

Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant



## SALEM CONSERVATION COMMISSION

DEP FILE #64-567

10 Blaney Street Marina  
City of Salem, Massachusetts

### ADDITIONAL FINDINGS

Based on the Estimated Habitats of Rare Wildlife and Certified Vernal Pools Map (5/1/2014) from Natural Heritage & Endangered Species Program (NHESP) of the Massachusetts Division of Fisheries and Wildlife, it has been determined that this project does not occur near any habitat of state-listed rare wildlife species nor contains any vernal pools.

This Order permits the construction of a marina and associated improvements at the above location per Notice of Intent and plans submitted 4/23/2014 (narrative revised 5/1/2014). As mitigation for the impact of this project, applicant shall remove debris from surrounding beach area by hand.

### GENERAL CONDITIONS

1. This Order of Conditions must be recorded in its entirety (**including all 5 pages of Special Conditions**) at the Essex County Registry of Deeds or the Land Court for the district in which the land is located, after the expiration of the 10-day appeal period and within 30 days of the issuance. **A copy of the recording information must be submitted to the Salem Conservation Commission before any work approved in this Order commences.**
2. Approval of this application does not constitute compliance with any law or regulation other than M.G.L Chapter 131, Section 40, Wetlands Regulations 310 CMR 10.00 and the City of Salem Wetlands Protection Ordinance, Salem Code Chapter 50.
3. All work shall be performed in accordance with this Order of Conditions and approved site plan(s). No alteration of wetland resource areas or associated buffer zones, other than that approved in this Order, shall occur on this property without prior approval from the Commission.
4. Prior to any work commencing on site, a DEP Sign showing **DEP File #64-567** must be installed at the entrance to the site and seen from the public way, but not placed on a living tree.
5. No work approved in this Order may commence until the ten (10) business day appeal period has lapsed from the date of the issuance of this Order.
6. With respect to this Order, the Commission designates the Conservation Agent as its agent with powers to act on its behalf in administering and enforcing this Order.
7. The Commission or its Agent, officers, or employees shall have the right to enter and inspect the property at any time for compliance with the conditions of this Order, the Wetlands Protection Act MGL Chapter 131, Section 40, the Wetlands Regulations 310 CMR 10.00, and shall have the right to require any data or documentation that it deems necessary for that evaluation.



8. The term "Applicant" as used in this Order of Conditions shall refer to the owner, any successor in interest or successor in control of the property referenced in the Notice of intent, supporting documents and this Order of Conditions. The Commission shall be notified in writing within 30 days of all transfers of title of any portion of the property that takes place prior to issuance of the Certificate of Compliance.
9. It is the responsibility of the applicant to procure all other applicable federal, state and local permits and approvals associated with this project. These permits may include but are not necessarily limited to the following:
  - (1) Section 404 of the Federal Water Pollution Control Act (P.L. 92-500, 86 stat. 816), U.S. Army Corps of Engineers.
  - (2) Water Quality Certification in accordance with the Federal Water Pollution Control under authority of sec. 27(5) of Chapter 21 of the Massachusetts General Laws as codified in 314 CMR 9.00.
  - (3) Sewer Extension Permit from the DEP Division of Water Pollution Control under G. L. Ch. 21A ss7 and 314 CMR 7.00. Any Board of Health permit for septic system design for any portion of the septic system within 100 feet of wetlands shall be submitted to the Commission prior to construction initiation.
  - (4) Design Requirements for Construction in Floodplains under the State Building Code (780 CMR 744.).
10. If there are conflicting conditions within this Order, the stricter condition(s) shall rule.
11. All work shall be performed so as to ensure that there will be no sedimentation into wetlands and surface waters during construction or after completion of the project.
12. The Commission or its Agent shall have the discretion to modify the erosion/siltation control methods and boundary during construction if necessary.
13. The Commission reserves the right to impose additional conditions on portions of this project or this site to mitigate any actual or potential impacts resulting from the work herein permitted.
14. The work shall conform to the following attached plans and special conditions:

***Final Approved Plans***

Proposed Conditions, Salem Port Expansion, Commercial Marina &amp; Dredge, sheets 1 &amp;2

---

*(Title)*

4/11/2014

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*(Dated)*

Ronald R. Bourne

---

*(Signed and Stamped by)*

City of Salem Conservation Commission

---

*(On file with)*

15. Any proposed changes in the approved plan(s) or any deviation in construction from the approved plan(s) shall require the applicant to file a Notice of Project Change with the Commission. The Notice shall be accompanied by a written inquiry prior to their implementation in the field, as to whether the change(s) is substantial enough to require filing a new Notice of Intent or a request to correct or amend this Order of Conditions. A copy of such request shall at the same time be sent to the Department of Environmental Protection.



16. In conjunction with the sale of this property or any portion thereof before a Certificate of Compliance has been issued, the applicant or current landowner shall submit to the Commission a statement signed by the buyer that he/she is aware of an outstanding Order of Conditions on the property and has received a copy of the Order of Conditions.
17. [Reserved]

#### PRIOR TO CONSTRUCTION

18. **Prior to the commencement of any activity on this site other than activities listed above, there must be a Pre-Construction Meeting** on site between the project supervisor, the contractor responsible for the work, and the Conservation Agent and/or a member of the Conservation Commission to ensure that the requirements of the Order of Conditions are understood. The staked erosion control line shall be adjusted, if necessary, during the pre-construction meeting. **Please contact the Conservation Agent at (978) 619-5685 at least forty-eight (48) hours prior to construction to arrange for the Pre-Construction Meeting.**
19. Prior to the pre-construction meeting and commencement of any activity on this site, sedimentation and erosion control barriers shall be installed as shown on the approval plan(s) and detail drawings. The Commission and/or its Agent **shall inspect and approve such installation at the pre-construction meeting.**
20. No clearing of vegetation, including trees, or disturbance of soil shall occur prior to the pre-construction meeting. Minimal disturbance of shrubs and herbaceous plants shall be allowed prior to the pre-construction meeting if absolutely necessary in order to place erosion control stakes where required.
21. Adequate additional erosion and sediment controls shall be stored onsite to be used for emergency purposes.

#### EROSION CONTROL

22. Appropriate erosion control devices shall be in place prior to the beginning of any phase of construction, and shall be maintained during construction in any wetland resource area and/or buffer zones. The erosion control measures shown on the approval plan(s) and provisions in the Order will be the minimum standards for this project; the Commission or its Agent may require additional measures.
23. All debris, fill and excavated material shall be stockpiled a location far enough away from the wetland resource areas to prevent sediment from entering wetland resource areas.
24. Erosion and sedimentation control devices shall be inspected after each storm event and repaired or replaced as necessary. Any accumulated silt adjacent to the barriers shall be removed.
25. The area of construction shall remain in a stable condition at the close of each construction day.
26. Any de-watering of trenches or other excavation required during construction shall be conducted so as to prevent siltation of wetland resource areas. All discharge from de-watering activities shall be filtered through hay bale sediment traps, silt filter bags or other means approved by the Commission or its Administrator.



27. Within thirty (30) days of completion of construction on any given portion of the project, all disturbed areas in the completed portion of the site shall be permanently stabilized with rapidly growing vegetative cover, using sufficient top soil to assure long-term stabilization of disturbed areas.
28. If soils are to be disturbed for longer than two (2) months, a temporary cover of rye or other grass should be established to prevent erosion and sedimentation. If the season is not appropriate for plant growth, exposed surface shall be stabilized by other appropriate erosion control measures, firmly anchored, to prevent soils from being washed by rain or flooding.

#### **DURING CONSTRUCTION**

29. A copy of this Order of Conditions and the plan(s) approved in this Order shall be available on site at all times when work is in progress.
30. No alteration or activity shall occur beyond the limit of work as defined by the siltation barriers shown on the approved plan(s).
31. All waste products, grubbed stumps, slash; construction materials, etc. shall be deposited at least 100 feet from wetland resource areas and 200 feet from river.
32. Cement trucks shall not be washed out in any wetland resource or buffer zone area, nor into any drainage system. Any deposit of cement or concrete products into a buffer zone or wetland resource area shall be immediately removed.
33. All exposed sub-soils shall be covered by a minimum of three (3) inches of quality screened loam topsoil prior to seeding and final stabilization.
34. Immediately following drainage structure installation all inlets shall be protected by silt fence, haybale barriers and/or silt bags to filter silt from stormwater before it enters the drainage system.
35. There shall be no pumping of water from wetland resource areas.
36. All equipment shall be inspected regularly for leaks. Any leaking hydraulic lines, cylinders or any other components shall be fixed immediately.
37. During construction, all drainage structures shall be inspected regularly and cleaned as necessary.
38. The applicant is hereby notified that failure to comply with all requirements herein may result in the issuance of enforcement actions by the Conservation Commission including, but not limited to, civil administrative penalties under M.G.L Chapter 21A, section 16.

#### **AFTER CONSTRUCTION**

39. Upon completion of construction and final soil stabilization, the applicant shall submit the following to the Conservation Commission to request a Certificate of Compliance (COC):
  - (1) A Completed Request for a Certificate of Compliance form (WPA Form 8A or other form if required by the Conservation Commission at the time of request).
  - (2) A letter from a Registered Professional Engineer certifying compliance of the property with this Order of Conditions.
  - (3) An "As-Built" plan signed and stamped by a Registered Professional Engineer or Land Surveyor showing post-construction conditions within all areas under the jurisdiction of the Massachusetts Wetlands Protection Act. This plan shall include at a minimum:



- (a) All wetland resource area boundaries with associated buffer zones and regulatory setback areas taken from the plan(s) approved in this Order of Conditions;
  - (b) Locations and elevations of all stormwater management conveyances, structures and best management designs, including foundation drains, constructed under this Order within any wetland resource area or buffer zone;
  - (c) Distances from any structures constructed under this Order to wetland resource areas - "structures" include, but are not limited to, all buildings, septic system components, wells, utility lines, fences, retaining walls, and roads/driveways;
  - (d) A line delineating the limit of work - "work" includes any filling, excavating and/or disturbance of soils or vegetation approved under this Order;
40. When issued, the Certificate of Compliance must be recorded at the Essex County Registry of Deeds and a copy of the recording submitted to the Salem Conservation Commission.
41. If the completed work differs from that in the original plans and conditions, the report must specify how the work differs; at which time the applicant shall first request a modification to the Order. Only upon review and approval by the Commission, may the applicant request in writing a Certificate of Compliance as described above.
42. Erosion control devices shall remain in place and properly functioning until all exposed soils have been stabilized with final vegetative cover and the Conservation Commission and/or its Agent has authorized their removal.

#### **ADDITIONAL CONDITIONS**

43. As recommended by the Massachusetts Division of Marine Fisheries (5/8/2014 letter from N. Tay Evans), all in-water, silt-producing work shall be confined to February 15 to June 30 of any year to minimize impacts on vulnerable marine species. No exception to this restriction may be made without the explicit approval of the Conservation Agent.



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker  
Governor

Matthew A. Beaton  
Secretary

Karyn E. Polito  
Lieutenant Governor

Martin Suuberg  
Commissioner

July 23, 2015

Kathleen Winn  
City of Salem  
120 Washington Street  
Salem, MA 01970

TRANSMITTAL # X262080  
DEP File # 064-0567  
EEA # 14234

RE: 401 WATER QUALITY CERTIFICATION  
Application for: BRP WW 07  
WATER QUALITY CERTIFICATION FOR DREDGING – MAJOR PROJECT

AT: 10 Blaney Street – Salem  
Salem Harbor Wharf Embayment  
North Coastal Watershed

Dear Ms. Winn:

The Department of Environmental Protection (“MassDEP”) has reviewed your application for a Water Quality Certification (“WQC”), as referenced above. In accordance with the provisions of Section 401 of the Federal Clean Water Act as amended (33 U.S.C. §1251 et seq.), MGL c.21, §§ 26-53, and 314 CMR 9.00, MassDEP has determined there is reasonable assurance the project or activity will be conducted in a manner which will not violate applicable water quality standards (314 CMR 4.00) and other applicable requirements of state law.

The waters of Salem Harbor are designated in the Massachusetts Surface Water Quality Standards as Class SB. Such waters are intended “as habitat for fish, other aquatic life and wildlife, and for primary and secondary contact recreation.” Anti-degradation provisions of these Standards require that “existing uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.” In addition, this area has been designated for Shellfishing pursuant to 314 CMR 4.00.

The above-referenced project involves the improvement dredging of approximately 13,565 cubic yards of sediment in the Salem Harbor Wharf Embayment for the creation of a commercial marina for local lobstermen and fishing boats. A 60 foot long gangway, 6,165 square feet of floating docks, 29 mooring piles, and a sheet pile wall will be installed as part of this project. The material will be removed via mechanical dredge and loaded onto dump scows, which will transport the spoils to the Massachusetts Bay Disposal Site (“MBDS”).

Alternatives Analysis: This project is the next phase in the redevelopment of the North Commercial Waterfront and was included in the 2008 revision to the Salem Port Expansion (“SPE”) Project. The preferred alternative accepted by the Secretary of Energy and Environmental Affairs (the “Secretary”) in the Environmental Notification Form (“ENF”) Certificate [EEA # 14234] issued on July 11, 2008 included 41,600 square feet of intertidal dredging. However, through avoidance, minimization, and mitigation efforts, the intertidal impacts have been reduced from 41,600 square feet to 200 square feet.

Sediment Sampling Data: For the SPE Project, the Army Corps of Engineers (the “Corps”) issued a Suitability Determination on February 29, 2008 allowing the sediment to be disposed of at the MBDS. Since that determination is only valid for 3 years, an update was required before this project could proceed. On March 25, 2015, the Corps issued an updated Suitability Determination once again approving the disposal of the sediment at the MBDS.

In general, the results of the gradation analysis reveal that the sediment is primarily fine gravel and sand.

Dredged Material Dewatering: The dredged material will not be dewatered at the dredge site.

Dredged Material Disposal or Reuse: The dredged material will be disposed of at the MBDS.

Rare Species and Wildlife Habitat: The site is not located within the Priority Habitat of Rare Species and Estimated Habitats of Rare Wildlife as indicated in the Massachusetts Natural Heritage Atlas, 13<sup>th</sup> Edition.

Time of Year Restrictions for In-Water Work: In accordance with letters dated July 23, 2014 from the Division of Marine Fisheries (“DMF”) and April 9, 2015 from the National Marine Fisheries Service (“NMFS”), the Time of Year (“TOY”) restrictions for any in-water, silt-producing work associated with this project are from January 15 through June 30 and from May 1 through September 30.

Public Notice: The 401 WQC Application public notice was published in the Salem News on July 25, 2014. No comments were received by MassDEP during the 21-day public comment period, which ended on August 15, 2014.

Section 61 Findings: Pursuant to M.G.L. Chapter 30, Sections 61 to 62H inclusive [the Massachusetts Environmental Policy Act (“MEPA”)], the project, as referenced in Water Quality Certification Application, DEP Transmittal # X262080, is a portion of the larger SPE Project that was required to file an ENF. The City of Salem (the “Proponent”) filed the ENF for the construction of the SPE Project under EEA # 14234 and noticed the ENF in the Environmental Monitor (the “Monitor”) on April 23, 2008. In the Certificate issued on July 11, 2008, the Secretary determined that the impacts of the SPE Project “did not warrant the preparation of an EIR,” that “no further MEPA review is required,” and that “the proponent may resolve any remaining issues during the state and local permitting processes.” MassDEP has reviewed the findings in the ENF Certificate and confirms that based on the avoidance, minimization, and mitigation measures



undertaken by the Proponent, in conjunction with the requirements set forth in this Certification, all outstanding issues have been addressed satisfactorily.

**Therefore, based on information currently in the record, MassDEP grants a 401 Water Quality Certification for this project subject to the following conditions to maintain water quality, to minimize impact on waters and wetlands, and to ensure compliance with appropriate state law. MassDEP further certifies in accordance with 314 CMR 9.00 that there is reasonable assurance the project or activity will be conducted in a manner which will not violate applicable water quality standards (314 CMR 4.00) and other applicable requirements of state law. Finally, MassDEP has determined that upon satisfying the conditions and mitigation requirements of this approval, the project provides a level of water quality necessary to protect existing uses and accordingly finds that the project to be implemented satisfies the Surface Water Quality Standards at 314 CMR 4.00.**

1. The Contractor shall take all steps necessary to assure that the proposed activities will be conducted in a manner that will avoid violations of the anti-degradation provisions of the Massachusetts Surface Water Quality Standards that protect all waters, including wetlands.
2. Prior to the start of work, or for any portion of the work thereafter, MassDEP shall be notified of any change(s) in the proposed project or plans that may affect waters or wetlands. MassDEP will determine whether the change(s) requires a revision to this Certification.
3. Dredging in accordance with this Certification may begin following the 21-day appeal period and once all other permits have been received.
4. All work shall be performed in accordance with the following documents and plans:
  - Application for Water Quality Certification received June 17, 2014, Transmittal Form # X262080, as revised through July 7, 2015, with attachments.
  - Plan entitled "Marina Installation, Locus Plan, Salem Harbor," consisting of one (1) sheet [sheet 1 of 4], scale 1"=1000', dated June 16, 2014, not signed or stamped, prepared by Bourne Consulting Engineering, PC.
  - Plan entitled "Marina Installation, Existing Conditions, Salem Harbor," consisting of one (1) sheet [sheet 2 of 4], scale 1"=70', dated June 16, 2014, not signed or stamped, prepared by Bourne Consulting Engineering, PC.
  - Plan entitled "Marina Installation, Proposed Marina Layout, Salem Harbor," consisting of one (1) sheet [sheet 3 of 4], scale 1"=70', dated August 7, 2014, not signed or stamped, prepared by Bourne Consulting Engineering, PC.
  - Plan entitled "Marina Installation, Proposed Marina Section, Salem Harbor," consisting of one (1) sheet [sheet 4 of 4], various scales, dated August 7, 2014, not signed or stamped, prepared by Bourne Consulting Engineering, PC.

- Order of Conditions issued pursuant to the Massachusetts Wetlands Protection Act (M.G.L. Chapter 131, § 40) by the Salem Conservation Commission for DEP File Number 064-0567, dated May 9, 2014.
5. MassDEP shall be notified, attention Derek Standish [617-654-6611], one week prior to the start of in-water work so that MassDEP staff may inspect the work for compliance with the terms and conditions of this Certification.
  6. This Certification remains in effect for the same duration as the federal permit that requires it or five years from the date of issuance of this Certification, whichever comes first.
  7. Future maintenance dredging may be conducted as necessary for the duration of this Certification, provided that:
    - a. the initial project and any subsequent dredging has been conducted satisfactorily with no violations of the terms and conditions of this Certification;
    - b. information has been submitted to MassDEP regarding chemical characteristics and final end use/disposal of the dredged material for review and approval. Under no circumstances may future maintenance dredging commence without obtaining end use/disposal approval from MassDEP; **or** an updated Suitability Determination issued by the Army Corps of Engineers for unconfined ocean disposal at the MBDS;
    - c. coordinates of the maintenance dredge footprint are the same as the authorized dredge footprint;
    - d. a due-diligence evaluation is done to determine that no known spills of oil or other toxic substances have occurred which could have contaminated the sediment in the dredge area and submit the evaluation to MassDEP;
    - e. a bathymetric survey has been submitted to MassDEP in compliance with Condition # 14;
    - f. the volume of future maintenance dredging does not exceed 13,565 cubic yards;
    - g. MassDEP is notified prior to commencement of maintenance dredging.
  8. Dredging shall be conducted using a closed, environmental bucket.
  9. Best Management Practices ("BMPs") such as a silt curtain shall be deployed surrounding the dredge area to minimize turbidity. At a minimum, the silt curtain shall be bottom-weighted to minimize the degree of lifting/flailing and shall be of suitable material/grade appropriate with the velocity of the current at the site. Intermediate vertical floats shall be placed on the silt curtain to lift the bottom of the silt curtain at low tide so that the bottom edges of the curtain remain close to the mudline at low tide but do not rake the sediment in areas subject to tidal influence.
  10. The applicant shall submit a turbidity and dissolved oxygen monitoring plan to MassDEP for acceptance within eight weeks of the effective date of this Certification or four weeks prior to the commencement of the dredging operations whichever comes first.
  11. Dredge scow overflow is prohibited at the dredge site and within waters of the Commonwealth.

12. Neither the barge nor the dredge scow shall be allowed to ground.
13. Disposal of any volume of dredged material at any location in tidal waters is subject to approval by MassDEP and the Massachusetts Coastal Zone Management office.
14. Within 30 days of the completion of the dredging, a bathymetric survey of the Salem Harbor Wharf Embayment depicting post-dredge conditions shall be conducted. At a minimum, the survey shall include an overlay of the dredge footprint (i.e. top of slope) with sufficient coordinates in the Massachusetts State Plane (e.g. longitude and latitude) that clearly delineates the dredge footprint. The survey shall be sent within five working days after its completion to MassDEP and a copy shall be sent to the Massachusetts Office of Coastal Zone Management, attention: Robert Boeri.
15. For the protection of winter flounder, no in-water or silt producing work, including, but not limited to dredging, shall occur from January 15<sup>th</sup> to June 30<sup>th</sup>.
16. For the protection of shellfish, no in-water or silt producing work, including, but not limited to dredging, shall occur from May 1<sup>st</sup> to September 30<sup>th</sup>.
17. In-water and/or silt producing work shall occur from October 1<sup>st</sup> to January 14<sup>th</sup>.
18. The applicant, or its contractor, shall make every feasible effort to complete the project within the permitted timeframe. Should the applicant, or their contractor, fail to complete the project and wish to request an amendment to the Certification for incursion into the no-dredge period, the written request shall be received by MassDEP by January 1<sup>st</sup>. The following information shall be included in the request:
  - a. project location and transmittal number,
  - b. the date on which dredging started,
  - c. the number of days and hours per day the dredge operated,
  - d. expected daily average production rate and the actual daily average production rate,
  - e. an explanation of why the project failed to remain on schedule,
  - f. an account of efforts made to get the project back on schedule,
  - g. a plan depicting the areas that remain to be dredged,
  - h. the number of cubic yards that remain to be dredged,
  - i. an accurate estimate of the number of days required to complete the project,
  - j. an evaluation of the impact of continued dredging on the species of concern,
  - k. a description of any efforts that will be made to minimize the impacts of the project on the species of concern, and a realistic assessment of any societal/financial effects of a denial of permission to continue dredging.

MassDEP will share the information with other resource agencies and a decision to grant or deny the amendment shall be made by January 15<sup>th</sup>. Requests for amendment received after January 1<sup>st</sup> will be considered at MassDEP's discretion.

19. No later than four weeks after issuance of this Certification, the applicant shall submit a notification procedure outlining the reporting process to MassDEP for incidents relating to dredging activities that impact surrounding resource areas and habitats including, but not limited to, observed dead or distressed fish or other aquatic organisms, observed oily sheen on the surface of the water, a sediment spill, a turbidity plume beyond the deployed BMPs, and a barge or equipment accident/spill. If at any time during implementation of the project such an incident occurs, all site related activities impacting the water shall cease until the source of the problem is identified and adequate mitigating measures are deployed to the satisfaction of MassDEP.

Failure to comply with this Certification is grounds for enforcement, including civil and criminal penalties, under MGL c.21 §42, 314 CMR 9.00, MGL c. 21A §16, 310 CMR 5.00, or other possible actions/penalties as authorized by the General Laws of the Commonwealth.

This Certification does not relieve the applicant of the obligation to comply with other appropriate state or federal statutes or regulations. Any changes made to the project as described in the previously submitted Notice of Intent, 401 WQC Application, or supplemental documents will require further notification to MassDEP.

## NOTICE OF APPEAL RIGHTS

### A) Appeal Rights and Time Limits

Certain persons shall have a right to request an adjudicatory hearing concerning certifications by MassDEP when an application is required:

- a. the applicant or property owner;
- b. any person aggrieved by the decision who has submitted written comments during the public comment period;
- c. any ten (10) persons of the Commonwealth pursuant to M.G.L. c.30A where a group member has submitted written comments during the public comment period; or
- d. any governmental body or private organization with a mandate to protect the environment, which has submitted written comments during the public comment period.

Any person aggrieved, any ten (10) persons of the Commonwealth, or a governmental body or private organization with a mandate to protect the environment may appeal without having submitted written comments during the public comment period only when the claim is based on new substantive issues arising from material changes to the scope or impact of the activity and not apparent at the time of public notice. To request an adjudicatory hearing pursuant to M.G.L. c.30A, § 10, a Notice of Claim must be made in writing, provided that the request is made by certified mail or hand delivery to MassDEP, with the appropriate filing fee specified within 310 CMR 4.10 along with a DEP Fee Transmittal Form within twenty-one (21) days from the date of issuance of this Certificate, and addressed to:

Case Administrator  
Department of Environmental Protection  
One Winter Street, 2<sup>nd</sup> Floor  
Boston, MA 02108

A copy of the request shall at the same time be sent by certified mail or hand delivery to the issuing office of the Wetlands and Waterways Program at:

Department of Environmental Protection  
One Winter Street, 5<sup>th</sup> Floor  
Boston, MA 02108

**B) Contents of Hearing Request**

A Notice of Claim for Adjudicatory Hearing shall comply with MassDEP's Rules for Adjudicatory Proceedings, 310 CMR 1.01(6), and shall contain the following information pursuant to 314 CMR 9.10(3):

- a. the 401 Certification Transmittal Number and DEP Wetlands Protection Act File Number;
- b. the complete name of the applicant and address of the project;
- c. the complete name, address, and fax and telephone numbers of the party filing the request, and, if represented by counsel or other representative, the name, fax and telephone numbers, and address of the attorney;
- d. if claiming to be a party aggrieved, the specific facts that demonstrate that the party satisfies the definition of "aggrieved person" found at 314 CMR 9.02;
- e. a clear and concise statement that an adjudicatory hearing is being requested;
- f. a clear and concise statement of (1) the facts which are grounds for the proceedings, (2) the objections to this Certificate, including specifically the manner in which it is alleged to be inconsistent with MassDEP's Water Quality Regulations, 314 CMR 9.00, and (3) the relief sought through the adjudicatory hearing, including specifically the changes desired in the final written Certification; and
- g. a statement that a copy of the request has been sent by certified mail or hand delivery to the applicant, the owner (if different from the applicant), the conservation commission of the city or town where the activity will occur, the Department of Environmental Management (when the certificate concerns projects in Areas of Critical Environmental Concern), the public or private water supplier where the project is located (when the certificate concerns projects in Outstanding Resource Waters), and any other entity with responsibility for the resource where the project is located.

**C) Filing Fee and Address**

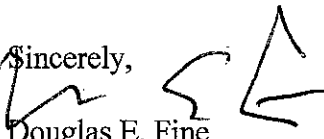
The hearing request along with a DEP Fee Transmittal Form and a valid check or money order payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100) must be mailed to:

Commonwealth of Massachusetts  
Department of Environmental Protection  
Commonwealth Master Lockbox  
P.O. Box 4062  
Boston, MA 02211

The request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority. MassDEP may waive the adjudicatory-hearing filing fee pursuant to 310 CMR 4.06(2) for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file an affidavit setting forth the facts believed to support the claim of undue financial hardship together with the hearing request as provided above.

Should you have any questions relative to this permit, please contact Derek Standish at (617) 654-6611.

Sincerely,

  
Douglas E. Fine

Assistant Commissioner  
Bureau of Water Resources

cc: Salem Conservation Commission, City Hall, 93 Washington Street, Salem, MA 01970  
ecc: Ronald R. Bourne, Bourne Consulting Engineering, PC, 3 Bent Street, Franklin, MA 02038  
Rachel Freed, MassDEP - NERO, 205B Lowell Street, Wilmington, MA 01887  
Robert Boeri, Office of Coastal Zone Management, 251 Causeway Street, Suite 800, Boston, MA 02114  
Jillian Carr and Tay Evans, Division of Marine Fisheries, 30 Emerson Avenue, Gloucester, MA 01930  
Karen Adams, Department of the Army, New England District, Corps of Engineers, 696 Virginia Road, Concord, MA 01742-2751



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker  
Governor

Karyn E. Polito  
Lieutenant Governor

Matthew A. Beaton  
Secretary

Martin Suuberg  
Commissioner

October 26, 2015

Kathleen Winn  
City of Salem DPCD  
120 Washington Street  
Salem, Massachusetts 01970

**RE: Draft Waterways License - Waterways License Application №:W14-4148  
Salem Commercial Marina & Dredging, Salem Harbor, Salem, Essex County**

Dear Ms. Winn:

The Department of Environmental Protection has tentatively approved the above referenced Waterways License Application. Pursuant to 310 CMR 9.14(2)(b), a Draft Waterways License is enclosed with a copy being sent to the following party as required by 310 CMR 9.14(6)(d):

Massachusetts Division of Marine Fisheries

A valid Waterways License shall be issued twenty-one (21) days from the date of the issuance of this Draft License if the Department has not received a written request, by certified mail, for an adjudicatory hearing pursuant to 310 CMR 9.17(2).

### NOTICE OF APPEAL RIGHTS

#### **Who has the right to appeal?**

The following persons shall have the right to an adjudicatory hearing concerning this decision by the Department to grant or deny a license or permit, in accordance with 310 CMR 9.17(1): (a) an Applicant who has demonstrated property rights in the lands in question, or which is a public agency; (b) any person aggrieved by the decision of the Department to grant a license or permit who has submitted written comments within the public comment period; (c) ten (10) residents of the Commonwealth who, pursuant to M.G.L. Chapter 30A, § 10A, have submitted comments within the public comment period with at least 5 of the 10 residents residing in the municipality(s) in which the license or permitted activity is located. The appeal shall clearly and specifically state the facts and

grounds for the appeal and the relief sought, and each appealing resident shall file an affidavit stating the intent to be part of the group and to be represented by its authorized representative; (d) the municipal official in the affected municipality who has submitted written comments within the public comment period; and (e) CZM, for any project identified in 310 CMR 9.13(2) (a) for CZM participation or, in an Ocean Sanctuary, if it has filed a notice of participation within the public comment period.

#### **How can I request an adjudicatory hearing?**

A person requesting an adjudicatory hearing must submit a "Notice of Claim" to the Department, with a copy of the MassDEP Adjudicatory Hearing Fee Transmittal Form and include the details specified below, within twenty-one (21) days of the date of issuance of this decision. The MassDEP Adjudicatory Hearing Fee Transmittal Form is available at the following website: <http://www.mass.gov/eea/docs/dep/service/adr/adj/herfm.doc> The Notice of Claim must be made in writing and sent by certified mail or hand delivery to:

MassDEP  
Case Administrator  
One Winter Street, 2nd Floor  
Boston, MA 02108

A copy of the complete Notice of Claim must be sent at the same time by certified mail or hand delivery to: (1) the Applicant, (2) the municipal official of the city or town where the project is located, and (3) the issuing office of the MassDEP, which in this case is located at:

MassDEP  
Waterways Regulation Program  
One Winter Street, 5th Floor  
Boston, MA 02108

The MassDEP Adjudicatory Hearing Fee Transmittal Form and a valid check payable to "The Commonwealth of Massachusetts" in the amount of one hundred dollars (\$100) must be mailed to:

MassDEP  
Commonwealth Master Lockbox  
P.O. Box 4062  
Boston, MA 02211

#### **What information must be included in the hearing request?**

Pursuant to 310 CMR 9.17(3), any Notice of Claim requesting an adjudicatory hearing must include the following information:

- (a) the MassDEP Waterways Application File Number;
- (b) the complete name, address, fax number and telephone number of the Applicant;
- (c) the address of the project;
- (d) the complete name, address, fax number, and telephone number of the party filing the request and, if represented by counsel, the name, address, fax number, and phone number of the attorney;
- (e) if claiming to be a person aggrieved, the specific facts that demonstrate that the party satisfies the definition of "aggrieved person" found in 310 CMR 9.02;
- (f) a clear statement that a formal adjudicatory hearing is being requested;

- (g) a clear statement of the facts which are the grounds for the proceedings, the specific objections to the MassDEP's written decision, and the relief sought through the adjudicatory hearing, including specifically the changes desired in the final written decision; and
- (h) a statement that a copy of the request has been sent to: the Applicant and the municipal official of the city or town where the project is located.

**Dismissal of request**

The request for appeal will be dismissed if the filing fee is not paid, unless the appellant is exempt or is granted a waiver.

**Exemptions**

The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

**Waiver**

The Department may waive the adjudicatory hearing filing fee pursuant to 310 CMR 4.06(2) for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file an affidavit setting forth the facts believed to support the claim of undue financial hardship together with the hearing request as provided above.

Please feel free to contact Frank Taormina of the Waterways Regulation Program at (617) 292-5551 or [frank.taormina@state.ma.us](mailto:frank.taormina@state.ma.us) if you have any questions.

Sincerely,



Ben Lynch  
Program Chief  
Waterways Regulation Program

Cc: Mayor Kimberley Driscoll, City of Salem  
Salem City Council  
Salem Planning Board  
Salem Harbormaster  
Salem Conservation Commission  
Massachusetts Division of Marine Fisheries

Ecc: Ron Bourne, Bourne Consulting Engineers, P.C.



DRAFT WATERWAYS LICENSE  
AND SPECIAL CONDITIONS

The City of Salem

of -- Salem -- in the County of -- Essex -- and Commonwealth aforesaid, has applied to the Department of Environmental Protection for license to -- construct and maintain a 6,165 square foot commercial marina and the dredging and offshore disposal of 13,565 cubic yards of dredged material, as further detailed below -----

and has submitted plans of the same; and whereas due notice of said application has been given, as required by law, to the -- Mayor and City Council -- of the -- City of Salem; -----

NOW, said Department, having heard all parties desiring to be heard, and having fully considered said application, hereby, subject to the approval of the Governor, authorizes and licenses the said -----

City of Salem -- subject to the provisions of the ninety-first chapter of the General Laws, and of all laws which are or may be in force applicable thereto, to -- construct and maintain a 6,165 square foot commercial marina (approximately 328 feet long x 128 feet wide) consisting of 29 mooring piles, 1 gangway, and 19 floats of varying sizes as depicted on Sheet 2 of 3 of Draft License Plan No. W14-4148, and installation and maintenance of a sheetpile wall as depicted on Sheet 3 of 3 of said Plans. Also, dredging a 46,950 square foot sub-tidal area to a depth of -9 feet mean low water (MLW) with -1 foot overdredge and a 300 square feet inter-tidal area to a depth of -3 feet MLW with a -1 foot overdredge as depicted on Sheet 2 of 3 of said plans, resulting in a total of 13,565 cubic yards of dredged material to be disposed offshore at the Massachusetts Bay Disposal Site -----

in flowed tidelands of -- Salem Harbor -- at -- 10 Blaney Street -- in the -- City of Salem -- and in accordance with the locations shown and details indicated on the accompanying Draft License Plans for Waterways Application No. W14-4148, Sheets 1-3, dated August 7, 2014 and revised on October 19, 2015, prepared by Bourne Consulting Engineering, P.C. -----

Specific Legislative Authorizations and Licenses issued previously at the project site include: Harbor and Lands Commission License No. 3615 issued in 1911, Department of Public Works (DPW) License No. 174 issued in 1921, DPW License No. 4548 issued in 1962, Department of Environmental Protection (DEP) License No. 4916 issued in 1996, and DEP License No. 10973

issued in 2006. These authorized structures and fill shall be maintained in accordance with the terms and conditions of said licenses and plans.

The structures authorized hereby shall be limited to the following uses: commercial docking facility and boat access to navigable waters.

The structures authorized pursuant to this License are valid for an unlimited term pursuant to 310 CMR 9.15(1)(c).

The dredging component of this project is only valid for a term of five (5) years from the date of issuance.

**Therefore, based on information currently in the record, the Department intends on granting a Chapter 91 Waterways License for said project subject to the following Special Conditions and Standard Conditions:**

Special Condition 1: Issuance of this authorization does not relieve the Licensee of the obligation to comply with all other applicable State or Federal statutes or regulations. Any changes made to the project as described in Waterways License Application No. W14-4148, license plans, or supplemental documents will require further notification and approval by the Department in accordance with 310 CMR 9.22(3) or 9.24.

Special Condition 2: The Licensee shall adhere strictly to the conditions, plans, and referenced documents in the Water Quality Certification No. X262080.

Special Condition 3: The Licensee, or its contractor, shall not perform any in-water sediment producing work during the time of year restrictions, from January 15th to June 30th and from May 1st to September 30th of any year, as required by the Massachusetts Division of Marine Fisheries and the National Marine Fisheries Services in order to protect spawning and juvenile development of marine fisheries resources. The installation of mooring piles authorized pursuant hereto can occur during said time of year restrictions.

Special Condition 4: Licensee shall notify the Brewer Hawthorne Cove Marina, the Salem Harbormaster, and the Department in writing at least three (3) days prior to commencement of dredging activities of the start date, duration, and a brief description of the dredging operation.

Special Condition 5: Dredging shall be performed by mechanical means and conducted in a manner that will cause no unnecessary obstruction with vessel navigation.

Special Condition 6: Licensee shall utilize the United States Army Corps of Engineers methods and procedures to document dredge origin, transport, and disposal of dredged material at the approved offshore disposal site.

Special Condition 7: After completion of the work hereby authorized, the Licensee shall furnish to the Department a suitable plan showing the depths at mean low water over the area dredged.

Special Condition 8: No maintenance dredging is permitted under this License.

Special Condition 9: The Department authorizes a reconfiguration zone within the commercial marina area (328 feet long by 128 feet wide), as depicted on Sheet 2 of 3 of Draft License Plan No. W14-4148. Accordingly, the reconfiguration of any licensed docking facility structures, including pile or bottom anchored floats, finger piers, mooring piles, etc., within the reconfiguration zone may be authorized without further licensing provided the Licensee adheres to the provisions at 310 CMR 9.39(1)(b).

Special Condition 10: All work authorized herein shall be completed within five (5) years of the date of license issuance. Said construction period may be extended by the Department for one or more one year periods without public notice, provided that the Applicant submits to the Department thirty (30) days prior to the end of the construction period, a written request to extend the period and provides adequate justification for said extension.

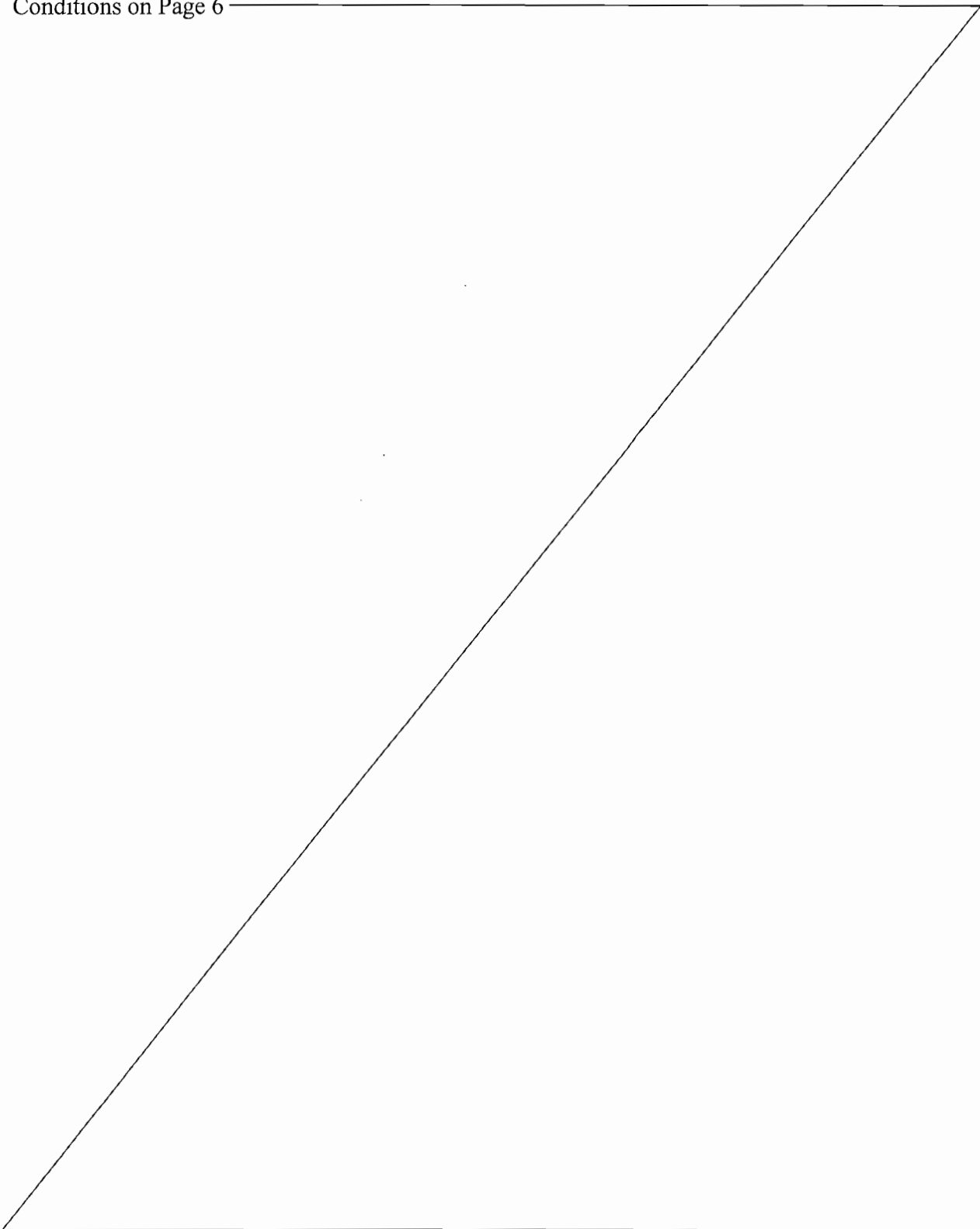
Special Condition 11: This License and accompanying plans shall be recorded at the Registry of Deeds within the chain of title of the affected properties within sixty (60) days of the date of issuance, pursuant to 310 CMR 9.18. Failure to record the License and accompanying plans within sixty (60) days will render said License void.

Special Condition 12: All structures authorized under this License shall be constructed to meet the Engineering and Construction Standards pursuant to 310 CMR 9.37 and 9.39.

Special Condition 13: The Licensee shall allow agents of the Department to enter the Project Site to verify compliance with the conditions of this License.

Special Condition 14: Within sixty (60) days of completion of the licensed project, the Licensee shall request in writing that the Department issue a Certificate of Compliance in accordance with 310 CMR 9.19. The request shall be accompanied by a certification by a registered professional engineer licensed in the Commonwealth that the project was completed in accordance with the License.

Please see following Standard License Conditions on Page 5 and following Standard Dredging Conditions on Page 6



Duplicate of said plan, Waterways Application No. W14-4148, is on file in the office of said Department, and original of said plan accompanies this License and is to be referred to as a part hereof.

### STANDARD WATERWAYS LICENSE CONDITIONS

1. Acceptance of this Waterways License shall constitute an agreement by the Licensee to conform to all terms and conditions stated herein.
2. This License is granted upon the express condition that any and all other applicable authorizations necessitated due to the provisions hereof shall be secured by the Licensee prior to the commencement of any activity or use authorized pursuant to this License.
3. Any change in use or any substantial structural alteration of any structure or fill authorized herein shall require the issuance by the Department of a new Waterways License in accordance with the provisions and procedures established in Chapter 91 of the Massachusetts General Laws. Any unauthorized substantial change in use or unauthorized substantial structural alteration of any structure or fill authorized herein shall render this Waterways License void.
4. This Waterways License shall be revocable by the Department for noncompliance with the terms and conditions set forth herein. This license may be revoked after the Department has given written notice of the alleged noncompliance to the Licensee and those persons who have filed a written request for such notice with the Department and afforded them a reasonable opportunity to correct said noncompliance. Failure to correct said noncompliance after the issuance of a written notice by the Department shall render this Waterways License void and the Commonwealth may proceed to remove or cause removal of any structure or fill authorized herein at the expense of the Licensee, its successors and assigns as an unauthorized and unlawful structure and/or fill.
5. The structures and/or fill authorized herein shall be maintained in good repair and in accordance with the terms and conditions stated herein and the details indicated on the accompanying license plans.
6. Nothing in this Waterways License shall be construed as authorizing encroachment in, on or over property not owned or controlled by the Licensee, except with the written consent of the owner or owners thereof. The Licensee stated that the City of Salem was the property owner at the time the application was submitted.
7. This Waterways License is granted subject to all applicable Federal, State, County, and Municipal laws, ordinances and regulations including but not limited to a valid final Order of Conditions issued pursuant to the Wetlands Protection Act, M.G.L. Chapter 131, § 40.
8. This Waterways License is granted upon the express condition that the use of the structures and/or fill authorized hereby shall be in strict conformance with all applicable requirements and authorizations of the DEP.
9. This License authorizes structure(s) and/or fill on:  
  

X Private Tidelands - In accordance with the public easement that exists by law on private tidelands, the licensee shall allow the public to use and to pass freely upon the area of the subject property lying between the high and low water marks, for the purposes of fishing, fowling, navigation, and the natural derivatives thereof.

X Commonwealth Tidelands - The Licensee shall not restrict the public's right to use and to pass freely, for any lawful purpose, upon lands lying seaward of the low water mark. Said lands are held in trust by the Commonwealth for the benefit of the public.

\_\_\_\_\_ a Great Pond of the Commonwealth - The Licensee shall not restrict the public's right to use and to pass freely upon lands lying seaward of the high water mark for any lawful purpose.

\_\_\_\_\_ Navigable River or Stream - The Licensee shall not restrict the public's right to use and to pass freely, for any lawful purpose, in the waterway. No restriction on the exercise of these public rights shall be imposed unless otherwise expressly provided in this license.
10. Unless otherwise expressly provided by this license, the licensee shall not limit the hours of availability of any areas of the subject property designated for public passage, nor place any gates, fences, or other structures on such areas in a manner that would impede or discourage the free flow of pedestrian movement thereon.

STANDARD WATERWAYS DREDGING CONDITIONS

1. This Waterways License is issued subject to all applicable federal, state, county, and municipal laws, ordinances, bylaws, and regulations including but not limited to a valid final Order of Conditions issued pursuant to the Wetlands Protection Act, M. G. L. Chapter 131, §. 40. In particular, this issuance is subject to the provisions of Sections 52 to 56, inclusive, of Chapter 91 of the Federal Laws, which provides, in part, that the transportation and dumping of the dredge material shall be done under the supervision of the Department, and, when required, the permittee shall provide at his/her expense a dredge inspector approved by the Department. When said inspector is required, a report certified by the dredge inspector shall be submitted to the Department within 30 days after the completion of the dredging. The report shall include daily logs of the dredging operation indicating volume of dredge material, point of origin, point of destination and other appropriate information.
2. This Waterways License is issued upon the express condition that the dredging and transport and disposal of dredged material shall be in strict conformance with the Water Quality Certificate №: X262080 issued by MassDEP on July 23, 2015.
3. All subsequent maintenance dredging and transport and disposal of this dredged material during the term of this License shall conform to all standards and conditions applied to the original dredging operation performed under this License.
4. The dredging under this License shall be conducted so as to cause no unnecessary obstruction of the free passage of vessels. In doing the dredging authorized, care shall be taken to cause no shoaling. If, however, any shoaling is caused, the Licensee shall, at his/her expense, remove the shoal areas. The permittee shall pay all costs of supervision, and if at any time the Department deems necessary a survey or surveys of the area dredged, the permittee shall pay all costs associated with such work.
5. Nothing in this License shall be construed to impair the legal rights of any person, or to authorize dredging on land not owned by the Licensee without consent of the owner (s) of such property.
6. The Licensee shall include in any contract with any person or other legal entity to perform dredging services, a provision requiring said person or legal entity to assume and pay all claims and demands arising in any manner from the work authorized herein, and shall save harmless and indemnify the Commonwealth of Massachusetts, its officers, employees, and agents from all claims, suits, damages, costs and expenses incurred by reason thereof.
7. Whosoever violates any provision of this License shall be subject to a fine of up to \$25,000 per day for each day such violation occurs or continues, or by imprisonment for not more than one year, or both such fine and imprisonment; or shall be subject to civil penalty not to exceed \$25,000 per day for each day such violation occurs or continues.
8. After completion of the work hereby authorized, the Licensee shall furnish to the Department a suitable plan showing the depths at mean low water over the area dredged.

~~The amount of tidewater displaced by the work hereby authorized has been ascertained by said Department, and compensation thereof has been made by the said -- City of Salem -- by paying into the Treasury of the Commonwealth -- two dollar and zero cents (\$2.00) -- for each cubic yard so displaced, being the amount hereby assessed by said Department -- (\$0.00, exempt pursuant to 310 CMR 9.16(2)(c) and 310 CMR 9.16(4)(a)).~~

Nothing in this License shall be so construed as to impair the legal rights of any person.

This License shall be void unless the same and the accompanying plan are recorded within 60 days from the date hereof, at the Registry of Deeds for the -- South District -- of the County of -- Essex --

IN WITNESS WHEREAS, said Department of Environmental Protection have hereunto set their hands this \_\_\_\_ day of \_\_\_\_\_ in the year two thousand and fifteen.

~~Commissioner~~ \_\_\_\_\_

Program Director \_\_\_\_\_

*Department of  
Environmental Protection*

~~Program Chief~~ \_\_\_\_\_

#### THE COMMONWEALTH OF MASSACHUSETTS

~~This license is approved in consideration of the payment into the treasury of the Commonwealth by the said -- City of Salem -- the further sum of -- zero dollars and zero cents (\$0.00, exempt pursuant to 310 CMR 9.16(4)(a)) -- the amount determined by the Governor as a just and equitable charge for rights and privileges hereby granted in the land of the Commonwealth.~~

BOSTON,

*Approved by the Governor.*

\_\_\_\_\_  
Governor

# LIST OF PRIOR LICENSES

LICENSE NO. 3615, 1911, BUILD A SEAWALL & FILL SOLID IN SALEM HARBOR  
 LICENSE NO. 174, 1921, BUILD & MAINTAIN A SEAWALL & PILE & TIMBER  
 BULKHEAD & TO SOLID FILL IN SALEM HARBOR.  
 LICENSE NO. 4548, 1962, DREDGE BASIN, PLACE FILL, & BUILD A RIP RAP IN SALEM HARBOR.  
 LICENSE NO. 4916, 1996, PLACING & MAINTAINING FILL IN & AND OVER SALEM HARBOR.  
 LICENSE NO. 10973, 2006, TIMBER PLATFORMS, GANGWAYS, AND STEEL FLOATS

FOOTPRINT POWER  
 SALEM HARBOR REAL ESTATE LP

## EXISTING CONDITIONS

SCALE: 1"=120'-0"

SALEM HARBOR  
 OCEANSTRUCTURES & DREDGING PREVIOUSLY PERMITTED  
 UNDER DEP LIC. NO 12422

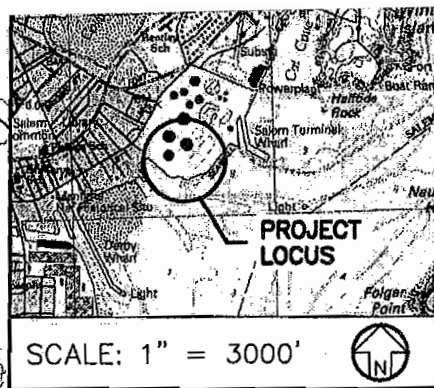
FLOWED  
 TIDELANDS

SENSITIVE RESOURCE AREA

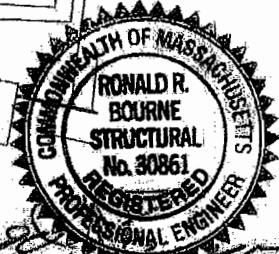
COASTAL BEACH

HAWTHORNE COVE MARINA  
 (BHCN INC)

100 YR FLOOD	+16.2
HTL	+11.0
MHW	+8.9
NGVD	+4.2
MLW	0.0



## LOCUS PLAN

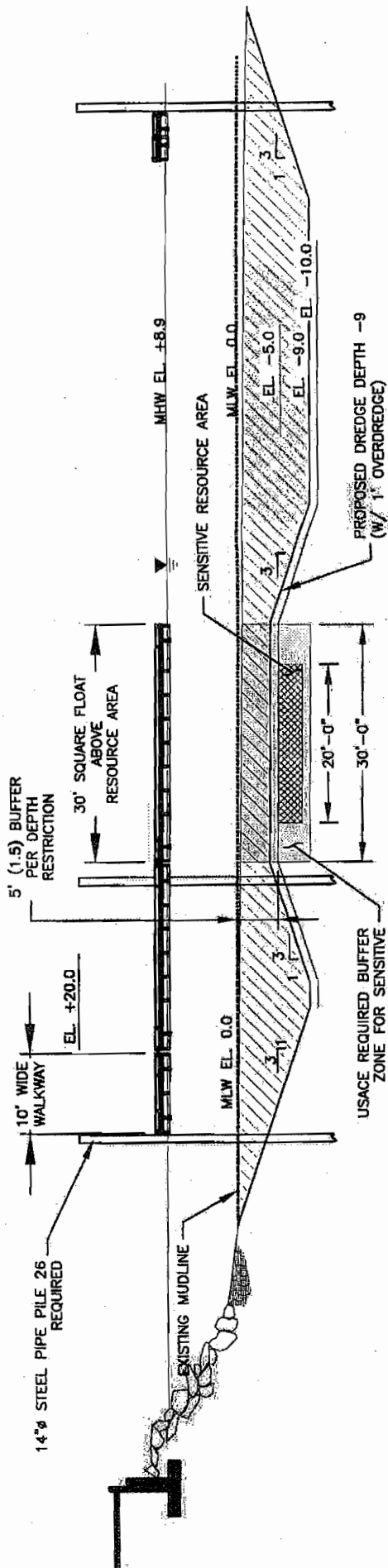


SHEET 1 OF 3

PLANS ACCOMPANYING PETITION OF  
 CITY OF SALEM FOR MARINA INSTALLATION  
 AT 10 BLANEY ST, SALEM, MA IN SALEM  
 HARBOR.

PREPARED BY  
 BOURNE CONSULTING ENGINEERING, P.C.  
 FRANKLIN, MA

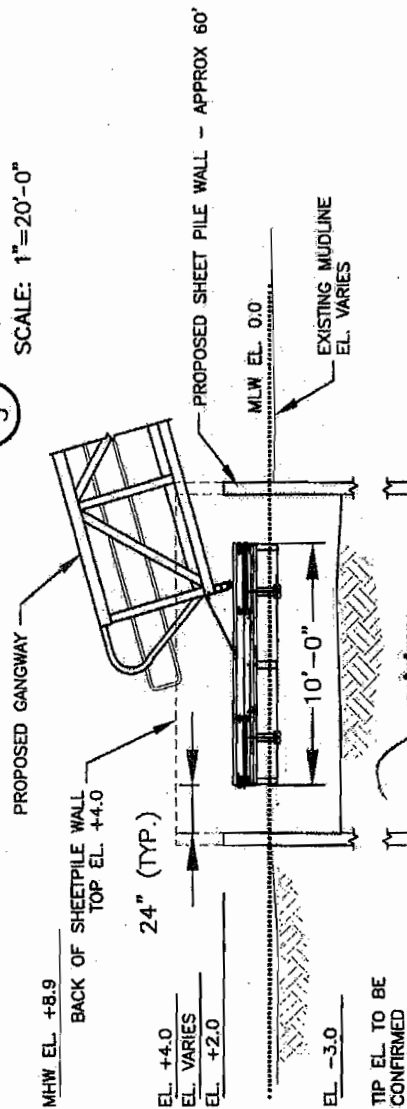




### PROPOSED SECTION

SCALE: 1"=20'-0"

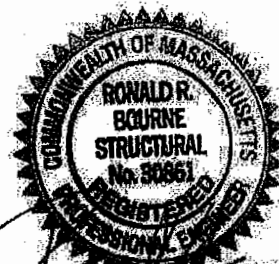
A 3



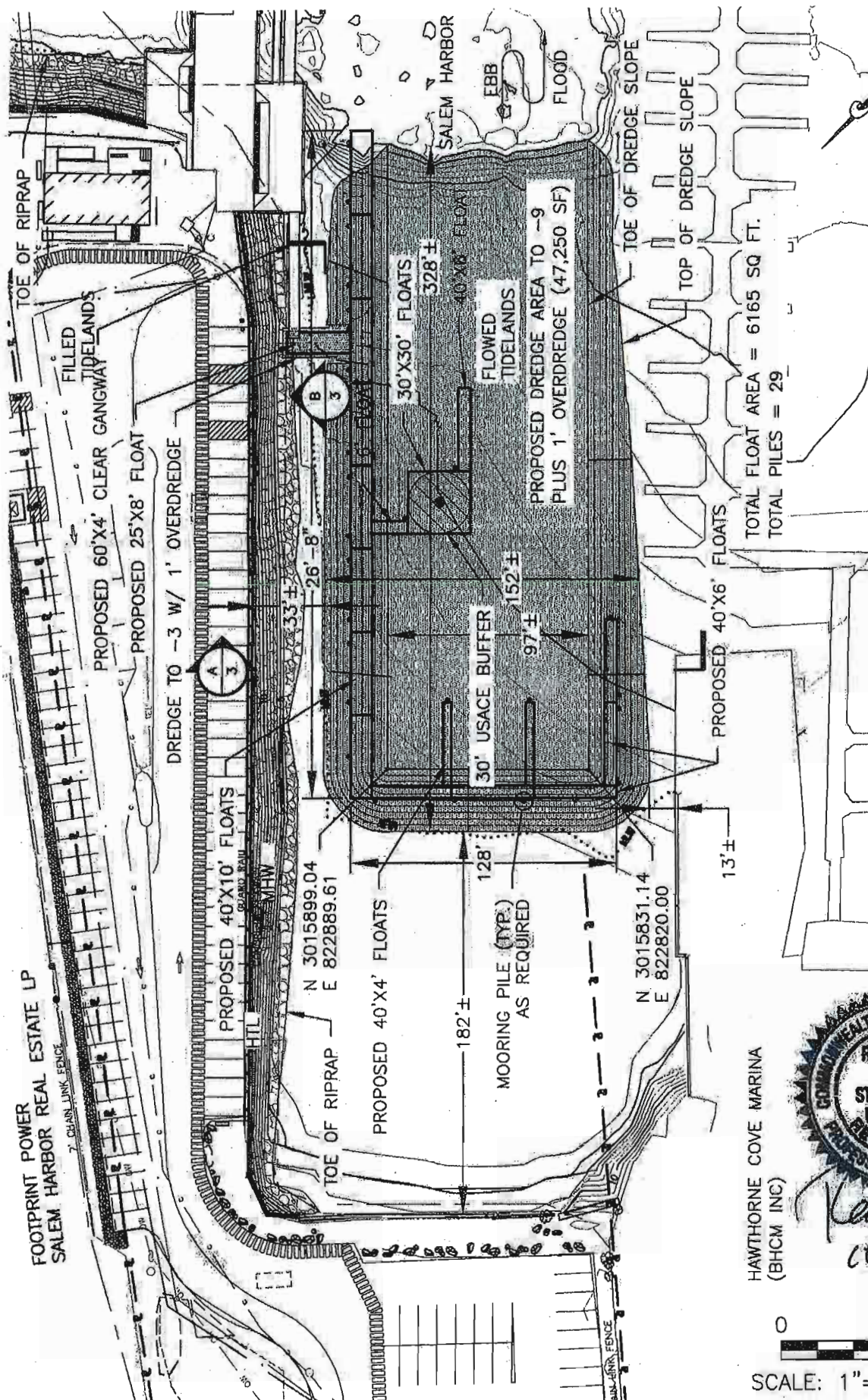
### PROPOSED SECTION

SCALE: 1/8"=1'-0"

B 3



10/19/15



HAWTHORNE COVE MARINA  
(BHCM INC.)

0 70  
SCALE: 1"=70'-0"

A  
2

# PROPOSED MARINA LAYOUT

SCALE: 1" = 70'-0"

**NOTE:**

The Following USACE PERMIT #CENAE-R-NAE-2005-1095 was previously issued for the Salem Port Expansion Project with Mass Bay Disposal. Permit did not include Commercial Marina Dredge area.

City of Salem is in the process of obtaining USACE approval and it is anticipated to be issued by end of November, 2015. Conditions set forth in previous permit are not expected to change.





DEPARTMENT OF THE ARMY  
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS  
696 VIRGINIA ROAD  
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO:  
ATTENTION OF:

November 19, 2009

Regulatory Division  
CENAE-R-PEA  
Permit Number: NAE-2005-1095

Honorable Kimberly Driscoll  
Mayor, City of Salem  
93 Washington Street  
Salem, Massachusetts 01970



Dear Mayor Driscoll:

Enclosed are two copies of a Department of the Army permit authorizing the work described therein. Your signature is necessary to execute this permit. The authorized work cannot start until the City has insured that they have complied with Special Condition 4, regarding the steps necessary to insure that historic resources at the project site are identified and protected. If the conditions are acceptable, please sign both copies and return one signed copy of the entire permit to "Regulatory Division" at the address above.

You are also required to complete and return these enclosed forms to this office:

- a. Preliminary Jurisdictional Determination Form to be submitted along with your signed copy of the permit.
- b. Compliance Certification Form within one month following the completion of the authorized work.

This permit is a limited authorization containing a specific set of conditions. Please read the permit thoroughly to familiarize yourself with those conditions. If a contractor does the work for you, both you and the contractor are responsible for ensuring that the work is done in compliance with the permit's terms and conditions, as any violations could result in civil or criminal penalties. If you need to change the plans or construction methods (i.e., for work in our jurisdiction), please contact us immediately to discuss modifying your permit prior to undertaking these changes.

The Corps of Engineers has consulted with the National Marine Fisheries Service (NMFS) regarding the effects of your project on Essential Fish Habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act. The NMFS provided EFH conservation recommendations, which you addressed by agreeing not to dredge to depths greater than -16' m.l.w. in order to protect winter flounder spawning habitat. We also have included time of year restrictions for doing the in-water work in order to prevent adverse impacts to winter flounder spawning and a provision that the wave attenuator system is high enough off of the bottom so it will not impact the bottom habitat or currents. These limitations are set forth in the attached special conditions #'s 6, 20, and 21.

All dredged material must be released at a specified buoy or set of coordinates within the disposal site. Please notify the Marine Analysis Section, Regulatory Division by phone at (978) 318-8292 at least ten working days in advance of the time that disposal operations will begin so that specific coordinates for your project can be sent to you.

Please note that the Department of the Army permit process does not supersede any other federal, state, and/or local agency's jurisdiction.

This letter contains a preliminary jurisdictional determination for your subject site and a proffered permit for your proposed project. If you object to this proffered permit decision, you may request an administrative appeal under Corps regulations at 33 CFR 331. A combined Notification of Appeal Process (NAP) and Request for Appeal (RFA) form and flow chart explaining the appeals process and your options are enclosed with this letter. If you desire to appeal, you must submit a completed RFA form along with any supporting or clarifying information to Michael G. Vissichelli, Administrative Appeals Review Officer, North Atlantic Division, Corps of Engineers, North Atlantic Fort Hamilton Military Community, Bldg. 301, General Lee Avenue, Brooklyn, NY 11252-6700. Additional contact info for Mr. Vissichelli is (718) 765-7163 (phone) and [michael.g.vissichelli@usace.army.mil](mailto:michael.g.vissichelli@usace.army.mil).

In order for the Corps to accept an RFA, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP.

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://per2.nwp.usace.army.mil/survey.html>

If you have any questions regarding this correspondence, please contact Mr. Brian Valiton at (978) 318-8166, (800) 343-4789, or use (800) 362-4367 within Massachusetts.

Sincerely,

  
Jennifer L. McCarthy  
Chief, Regulatory Division

Attachments:  
JD Form  
NAAO-RFA Form

Copy Furnished:

Ron Bourne, Bourne Consulting Engineering, Inc., 3 Bent Street, Franklin, Massachusetts 02038  
Brona Simon, SHPO, Mass. Historical Commission, 220 Morrissey Boulevard, Boston,  
Massachusetts 02125

Bettina Washington, Wampanoag Tribal Historic Preservation Officer, 20 Black Brook Road,  
Aquinnah, Massachusetts 02535

Victor Mastone, Bureau of Underwater Archaeology, 251 Causeway Street, Boston,  
Massachusetts

Ken Chin, Bureau of Resource Protection, Mass DEP, 1 Winter Street, Boston, Massachusetts  
02108

Ed Reiner, U.S. EPA, Region 1, Boston, Massachusetts, [reiner.ed@epa.gov](mailto:reiner.ed@epa.gov)

Christopher Boelke, National Marine Fisheries Service, Gloucester, Massachusetts,  
[christopher.boelke@noaa.gov](mailto:christopher.boelke@noaa.gov)

Steve Pothier, First Coast Guard District (dpw-2), Boston, Massachusetts,  
[steven.r.pothier@uscg.mil](mailto:steven.r.pothier@uscg.mil)

Vin Malkoski, ILF Program, MA Division of Marine Fisheries, Boston, Massachusetts,  
[Vincent.malkoski@state.ma.us](mailto:Vincent.malkoski@state.ma.us)

Robert Boeri, Coastal Zone Management, Boston, Massachusetts [Robert.Boeri@state.ma.us](mailto:Robert.Boeri@state.ma.us)

David Slagle, Waterways Regulation Program, MA DEP, One Winter Street, Boston,  
Massachusetts 02108 (DEP license # 12422)

## DEPARTMENT OF THE ARMY PERMIT

Permittee City of Salem (Salem Wharf Project)

Permit No. NAE - 2005 - 01095

Issuing Office New England District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

### Project Description:

To perform the following work, including dredging with ocean disposal of the material, and including the construction and maintenance of certain structures as follows:

- a. to perform new dredging/excavation of up to approx. 65,530 cu. yds. of silty/fine sandy material from a sub-tidal area totaling a maximum of approx. 211,950 sq. ft. to a depth of either - 11' m.l.w. or to a maximum depth of - 16' m.l.w. (as shown on the drawings), with ocean disposal of the material at the Massachusetts Bay Disposal Site (MBDS);
- b. to construct a new fixed steel pile-supported 'L' shaped main pier extending out a total of 350' seaward from the mean high water line. The main pier is 32' wide by 280' long out to a trapezoidal shaped end section 30' wide at the north end and 70' wide at the south end and approx. 165' long (total of approx. 17,210 sq. ft.);

(Project Description continued on page 4)

### Project Location:

Salem Harbor off of property at 10 Blaney Street, Salem, Massachusetts. The dredged material will be disposed of at the Massachusetts Bay Disposal Site (MBDS) which is outside of Massachusetts waters approx. 22 km southeast of Gales Point, Manchester, Massachusetts.

### Permit Conditions:

#### General Conditions:

19 November 2012

1. The time limit for completing the work authorized ends on \_\_\_\_\_. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

**Special Conditions:**

1. The permittee shall ensure that a copy of this permit is at the work site whenever work is being performed and that all personnel performing work at the site of the work authorized by this permit are fully aware of the terms and conditions of the permit. This permit, including its drawings and any appendices and other attachments, shall be made a part of any and all contracts and sub-contracts for work which affects areas of Corps of Engineers jurisdiction at the site of the work authorized by this permit. This shall be done by including the entire permit in the specifications for work.

**(Special Conditions continued on Page 4)**

**Further Information:**

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

☒ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).

☐ Section 404 of the Clean Water Act (33 U.S.C. 1344).

☒ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1414).

2. Limits of this authorization.

a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

b. This permit does not grant any property rights or exclusive privileges.

c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.



- e. Damage claims associated with any future modification, suspension, or revocation of this permit.
4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.
5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:
- a. You fail to comply with the terms and conditions of this permit.
  - b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).
  - c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.


6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

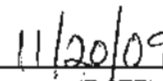
Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

\_\_\_\_\_  
(PERMITTEE)

\_\_\_\_\_  
(DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

  
\_\_\_\_\_  
Philip T. Feir  
Colonel, Corps of Engineers  
District Engineer

  
\_\_\_\_\_  
(DATE)

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

\_\_\_\_\_  
(TRANSFEE)

\_\_\_\_\_  
(DATE)

**(Project Description continued from Page 1)**

- c. to construct two new 60' gangways leading to five (5) 40' by 10' floats on the north side of the new pier for the docking of vessels (total of 2000 sq. ft. of floating docks);
- d. to relocate and connect to the pier two 50' by 20' ferry barges (2000 sq. ft.) and six (6) 40' by 10' floating docks (2400 sq. ft.) and three 60' gangway connecting to the new pier all on the south side of the main pier for ferry landings and vessel docking;
- e. to construct a pile-supported public walkway 12 feet wide (the harborwalk) and a portion of the pile-supported building (totaling 188 sq. ft.) out beyond the mean high water line and over the waterway; and,
- f. to construct a vertical timber wave barrier (wave attenuator) along the centerline of the fixed pier.

During permit processing previously unknown submerged archaeological resource areas were discovered within the project area. A Phase II archaeological survey is needed to determine if these areas are eligible for listing in the National Register of Historic Places (NRHP). As a result and to facilitate permit issuance, the City has modified its application so that it will construct the pier and perform dredging in a manner and in locations that avoids and does not impact these archaeological resource areas. However, the City would like to have the option to revert to its earlier proposal if the archaeological sites are determined to "not be eligible" for listing in the NRHP. Therefore, the permitted work is to be done as shown on the attached plans entitled, "PURPOSE: PORT EXPANSION APPLICATION BY: CITY OF SALEM IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA", on 8 sheets by Bourne Consulting Engineering, and dated "8/17/09."

If the Phase II survey reveals that the archaeological resources are not eligible for listing in the NRHP the work will be done as shown on the attached plans entitled, "PURPOSE: PREFERRED ALTERNATIVE - PORT EXPANSION APPLICATION BY: CITY OF SALEM IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA", on 8 sheets numbered 1A through 8A by Bourne Consulting Engineering, and dated "8/21/08 with a revision dated 03/13/09."

The location of the MBDS is shown on the attached drawing entitled Massachusetts Bay Disposal Site on one sheet and with no date.

**(Special Conditions continued from Page 2)**

If the permit is issued after the construction specifications but before receipt of bids or quotes, the entire permit shall be included as an addendum to the specifications. If the permit is issued after receipt of bids or quotes, the entire permit shall be included in the contract or sub-contract as a change order. The term "entire permit" includes permit amendments. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions of the entire permit, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

2. The permittee shall complete and return the enclosed Compliance Certification Form within one month following the completion of the authorized work.

3. Notify U.S. Coast Guard, Sector Boston, Waterways Management Division, at (617) 223-5750 prior to the start of this project.
4. A marine archaeological survey of the aquatic area that would be impacted during construction of the project as proposed specifically identified one potential submerged ancient site and two historical period maritime sites that may meet the Criteria of Eligibility for listing in the NRHP. Accordingly a Memorandum of Agreement (MOA) has been entered into between the Massachusetts State Historic Preservation Officer, the City of Salem, the Corps, the Massachusetts Board of Underwater Archaeological Resources, and the Wampanoag Tribe of Gay Head (Aquinnah) that requires that a Phase II archaeological study be completed prior to the initiation of any construction activities under this permit. Therefore, written approval from the Corps must be obtained before any construction can proceed under the permit in order to give the Corps and the appropriate agencies time to review the results of the Phase II survey. This MOA and its attachments are incorporated into this permit.
5. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structures or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
6. No in – water silt producing activities will occur in Salem Harbor between February 15 th and June 30 th of any year to avoid adverse impacts to winter flounder spawning and juvenile development.
7. Periodic maintenance dredging to the area and depth limits described herein is authorized for ten years from the date of issuance of this permit, provided disposal of the dredged material is at an upland site. However, the permittee must notify this office, in writing, 60 days before the intended date of any such dredging and shall not begin such dredging until written authorization has been obtained. This 60-day notification is not required for the initial new and/or maintenance dredging authorized by this permit. A separate authorization shall be required for such dredging if the material to be dredged is to be deposited in open or ocean waters and/or wetlands.
8. At least ten working days in advance of the start date, the First Coast Guard District, Aids to Navigation Office, (617) 223-8355, shall be notified of the location and estimated duration of the dredging and disposal operations.
9. For the initiation of disposal activity and any time disposal operations resume after having ceased for one month or more, the permittee or the permittee's representative must notify the Corps of Engineers, New England District, Regulatory Division, PATS Branch (CENAE-R-PT) at (978) 318-8292 or (978) 318-8338 at least ten working days before the date disposal operations are expected to begin or resume. The information to be provided in this notification is: permit number, permittee name, address and phone number, dredging contractor name,

address and phone number, name, address and phone number of towing contractor, estimated dates dredging is expected to begin and end, name of all disposal vessels to be employed in the work and copies of their certification documents, name of the disposal site, and estimated volume of material to be dredged. Disposal operations shall not begin or resume until the Corps issues a letter authorizing the initiation or continuation of open-water disposal. The letter will include disposal point coordinates to use for this specific project at that time. These coordinates may differ from those specified for other projects using the same disposal site or even from those specified earlier for this project. It is not necessary to wait ten days before starting disposal operations. They may start as soon as this letter is issued. For each dredging season during which work is performed, the permittee must notify the Corps upon completion of dredging for the season by completing and submitting the form that the Corps will supply for this purpose when disposal-point coordinates are specified.

10. Except when directed otherwise by the CENAE-R-PT DAMOS Program Manager for site management purposes, all disposal of dredged material shall adhere to the following. These requirements must be followed except when doing so will create unsafe conditions because of weather or sea state, in which case disposal with the scow moving only fast enough to maintain safe control (generally less than one knot) is permitted. Disposal is not permitted if these requirements cannot be met due to weather or sea conditions. In that regard, special attention needs to be given to predicted conditions prior to departing for the disposal site.

a. The permittee shall release the dredged material at a specified set of coordinates within the disposal site with the scow at a complete halt.

b. When a disposal buoy is present at the specified coordinates, disposal shall occur with the side of the scow at least 100 feet and no greater than 200 feet from the buoy to minimize collisions with the buoy.

#### 11. Silent Inspector System Requirements

a. Every discharge of dredged material at the disposal site requires monitoring by the contractor. This disposal monitoring of dredging projects must be performed using the Silent Inspector (SI) software and hardware system developed by the Corps. The SI system must have been certified by the Corps within a year of the disposal activity. Questions regarding certification should be addressed to the SI support team at (251) 690-3011 or to the SI Point of Contact at CENAE-R-PT [Norm Farris, (978) 318-8336]. Additional information about SI can be found at <https://si.usace.army.mil/>.

b. The permittee is responsible for ensuring that the system is operational throughout the project and that project data are submitted to the SI center in accordance with the specifications provided at the aforementioned website. If any component of the system is inoperable, disposal may not take place unless otherwise authorized by the CENAE-R-PT SI Point of Contact.

c. The SI system used by the permittee must be capable of providing the information necessary for the Scow Monitoring Profile Specification. The permittee is also responsible to provide CENAE-R-PT with a record of estimated barge volume for each trip. If barge volume information is not provided through the SI system utilized, the permittee must submit a weekly report to CENAE-R-PT that provides estimated volume (cubic yards), date and disposal time for

each trip. The data collected by the SI system shall, upon request, be made available to CENAE-R-PT.

12. If any material is released beyond the limits specified in this permit, the Captain or the permittee must notify CENAE-R-PT immediately by calling (978) 318-8292 or (978) 318-8338. Information provided shall include disposal coordinates, permit number, volume disposed, date and time of disposal, circumstances of incident, disposal vessel name, name of caller, and phone number of caller. If no person is reached at the number above, a voice message with the relevant information should be provided. In addition, a detailed written report must be provided to the Corps within 48 hours following any such incident.

13. Unless otherwise directed, the address, phone and fax for all submittals and coordination related to these special conditions are: PATS Branch, Regulatory Division, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, MA 017420-2751; PHONE - (978) 318-8292 or (978) 318-8338; and FAX - (978) 318-8303.

14. From February 1 through May 30 of any year, disposal vessels including tugs, barges, and scows transiting between the dredge site and the Massachusetts Bay Disposal Site shall operate at speeds not to exceed 5 knots after sunset, before sunrise, or in daylight conditions where visibility is less than one nautical mile. Disposal shall not be permitted if these requirements cannot be met due to weather or sea conditions. In that regard, the permittee and contractor should be aware of predicted conditions before departing for the disposal site. The intent of this condition is to reduce the potential for vessel collisions with endangered species, including right whales.

15. From February 1 through May 30 of any year, an approved marine mammal observer (i.e. meeting the attached National Marine Fisheries Service (NMFS) criteria on observer qualifications, including the specified skill sets for sea turtles and whales) must be present aboard disposal vessels transiting between the dredge site and the Massachusetts Bay Disposal Site during daylight hours. The permittee shall submit to the Corps of Engineers for approval a statement of qualifications for each observer.

16. When threatened or endangered species are observed to be present, the vessel captain shall, except when precluded by safety considerations, follow the advice of the marine mammal observer to avoid harassment of or direct impact to individual animals. The observer shall be contracted and paid for by the permittee.

17. The permittee shall ensure that a separate Corps of Engineers Marine Mammal Observation Report is fully completed by the observer for every sighting and that this report is received by the CENAE-R-PT, (978) 318-8303 fax, within one week of the trip date. The permittee shall require the observer to maintain contact with NMFS, Habitat and Protected Resources Division, (508) 281-9328 and other recognized experts to provide and receive information regarding the presence and distribution of threatened and endangered species in Massachusetts Bay. The intent of this condition is to reduce the potential for vessel collisions with threatened and endangered species, including right whales, and to minimize potential impacts of dredged material disposal on threatened and endangered species.

18. Marine mammal observers shall use the following guidelines to minimize conflicts with threatened or endangered species:

a. A marine mammal observer shall be posted on lookout at all times during daylight hours when disposal vessels have left the harbor and are underway or at the disposal site.

b. Disposal vessels shall not approach threatened or endangered species closer than 100 feet (see additional condition below for approaching right whales).

c. Disposal vessels shall adhere to the attached NMFS regulations for approaching right whales, 50 CFR Part 222.32, which restrict approaches within 500 yards of a right whale and specify avoidance measures for vessels that encounter right whales.

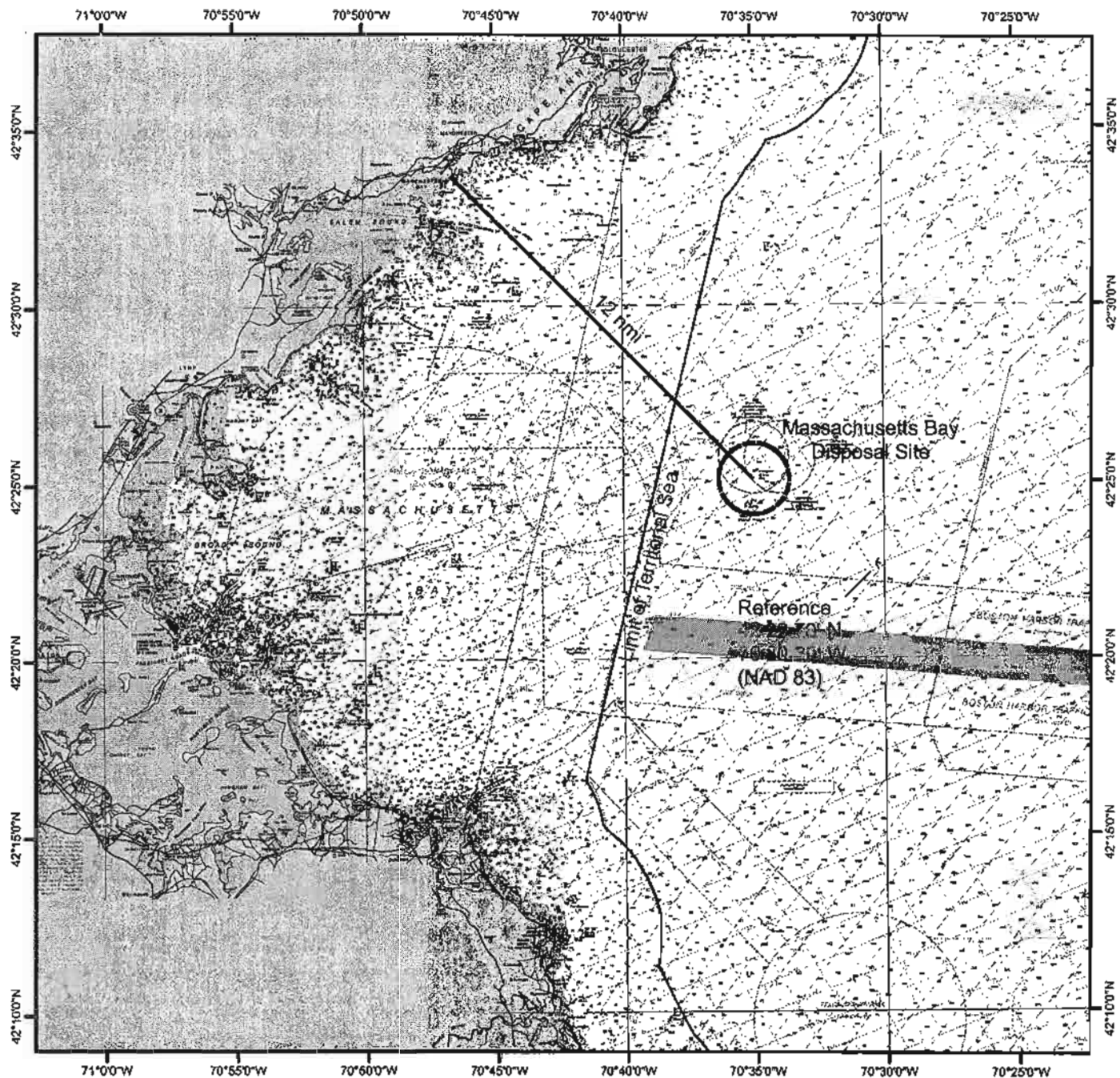
d. If threatened or endangered species are sighted within 500 feet from the disposal point, dredged material shall not be released. In this case, the vessel captain may elect to wait until the animals move away from the disposal point prior to disposal, or, subject to the judgment of the observer, may dispose at a Corps-authorized alternative disposal location under the same restrictions noted herein for disposal at the primary disposal location.

e. If threatened or endangered species are sighted between 500 feet and 1500 feet from the disposal point, the observer shall note the animals' behavior, relative position, and direction and speed of movement to determine if release of dredged material is likely to harass or endanger the animals. For example, whales actively feeding at or near the disposal point are more likely than resting whales to interact with released sediments. If the observer judges that disposal is likely to harass or endanger the animals, the observer shall inform the vessel captain and disposal shall be delayed until the animals change their behavior or move away such that the observer judges that no danger to the animals will result from disposal.

19. As prescribed by 33 CFR, Section 165.116(a)(3), all workers within that security zone must comply with Section 165.116(c) of that same regulation, coordinating, when ships are present at the power station, all vessel movements into the zone with the Captain of the Port Boston office at (617) 223-5761.

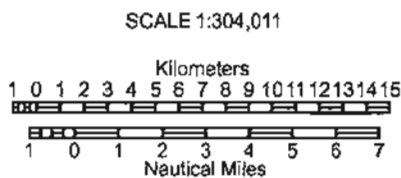
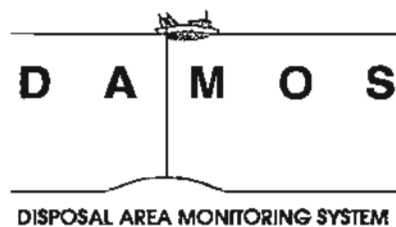
20. In order to avoid permanent loss of winter flounder egg EFH, the maximum extent of dredging shall not exceed a depth of ~ 16 ft. M.L.W. This maximum depth must include any potential over-depth dredge requirements of the dredge plant. Dredge depths shall conform to the proposed dredge plan reflected on Sheet 6 of 8 (drawings dated 8/17/09) prepared by Bourne Consulting Engineering. A post dredge survey shall be submitted to NMFS within 60 days of the completion of the dredging activities.

21. In order to avoid impacts on EFH the wave attenuator system shall be constructed so that it is a minimum of five feet off the harbor bottom. The terminal six feet of the fence shall be of permeable construction. Wave fence construction should conform to the proposed pier section reflected on sheet 5 of 8 (drawings dated 8/17/09) prepared by Bourne Consulting Engineering.

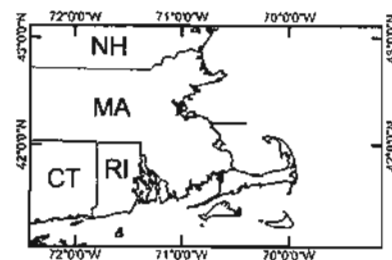


## MASSACHUSETTS BAY DISPOSAL SITE

**Description:** The Massachusetts Bay Disposal Site (MBDS), a 2.0 nmi (3.7 km) diameter circular area centered at 42° 25.106' N, 70° 34.969' W (NAD 83), is located 12 nmi (22 km) southeast of Gales Point, MA. Water depths range from 269 to 302 ft (82 to 92 m). The authorized disposal point (within the overall disposal area) is specified for each dredging project in other project documents.



NOTE: This chart is not intended for use in navigation.



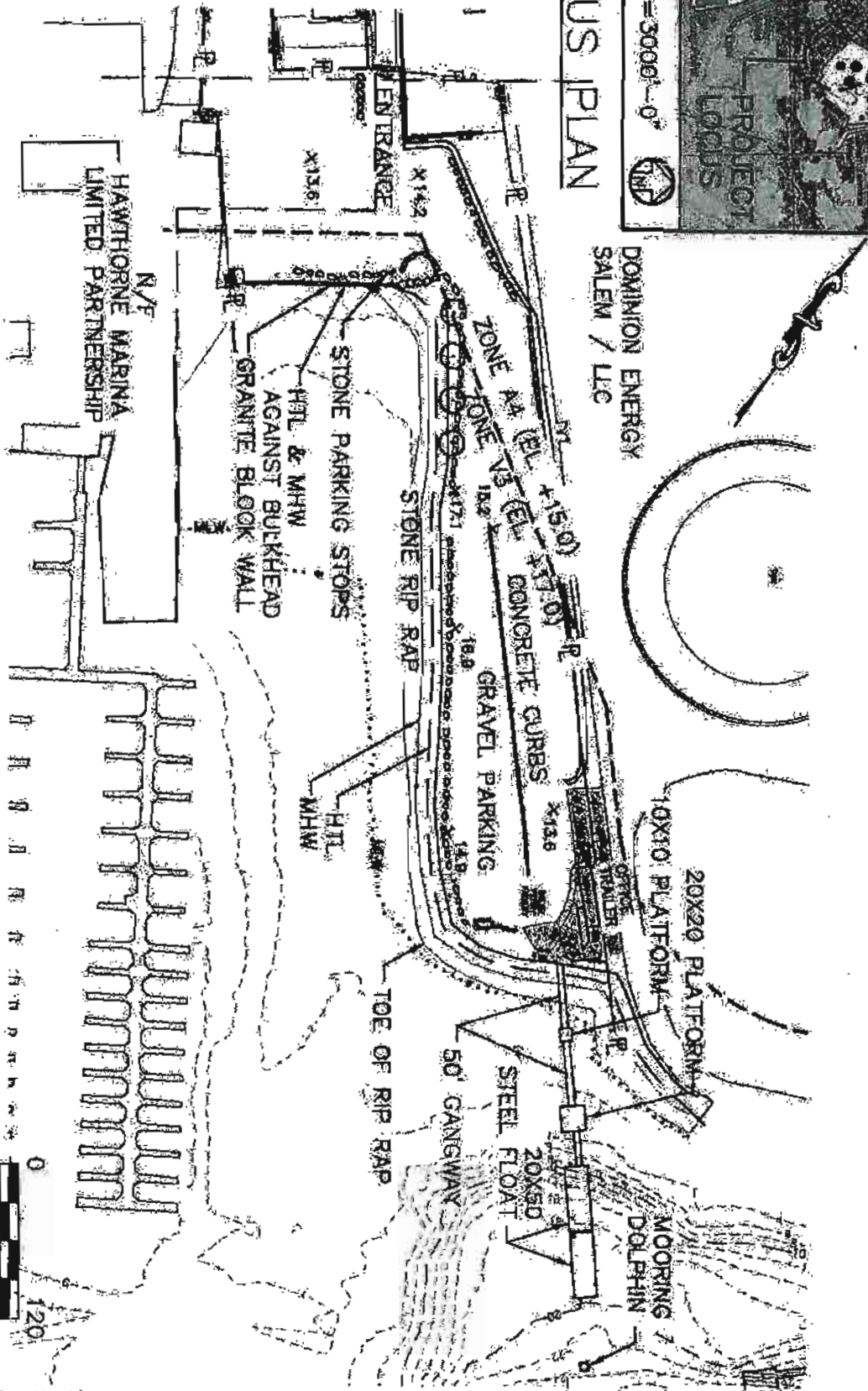




SCALE: 1" = 3000'-0"

# LOCUS I PLAN

DOMINION ENERGY  
SALEM / LLC



HAWTHORNE MARINA  
LIMITED PARTNERSHIP

100 YR FLOOD  
HITL +13.8  
MHW +6.9  
NGVD  
MLW  
+4.2  
0.00

TITLE

EXISTING  
CONDITIONS

IN SALEM  
AT SALEM HARBOR  
COUNTY, ESSEX  
STATE, MA

**BCE**  
Boston Consulting Engineering  
1151  
1000  
1000

PURPOSE:  
PORT EXPANSION

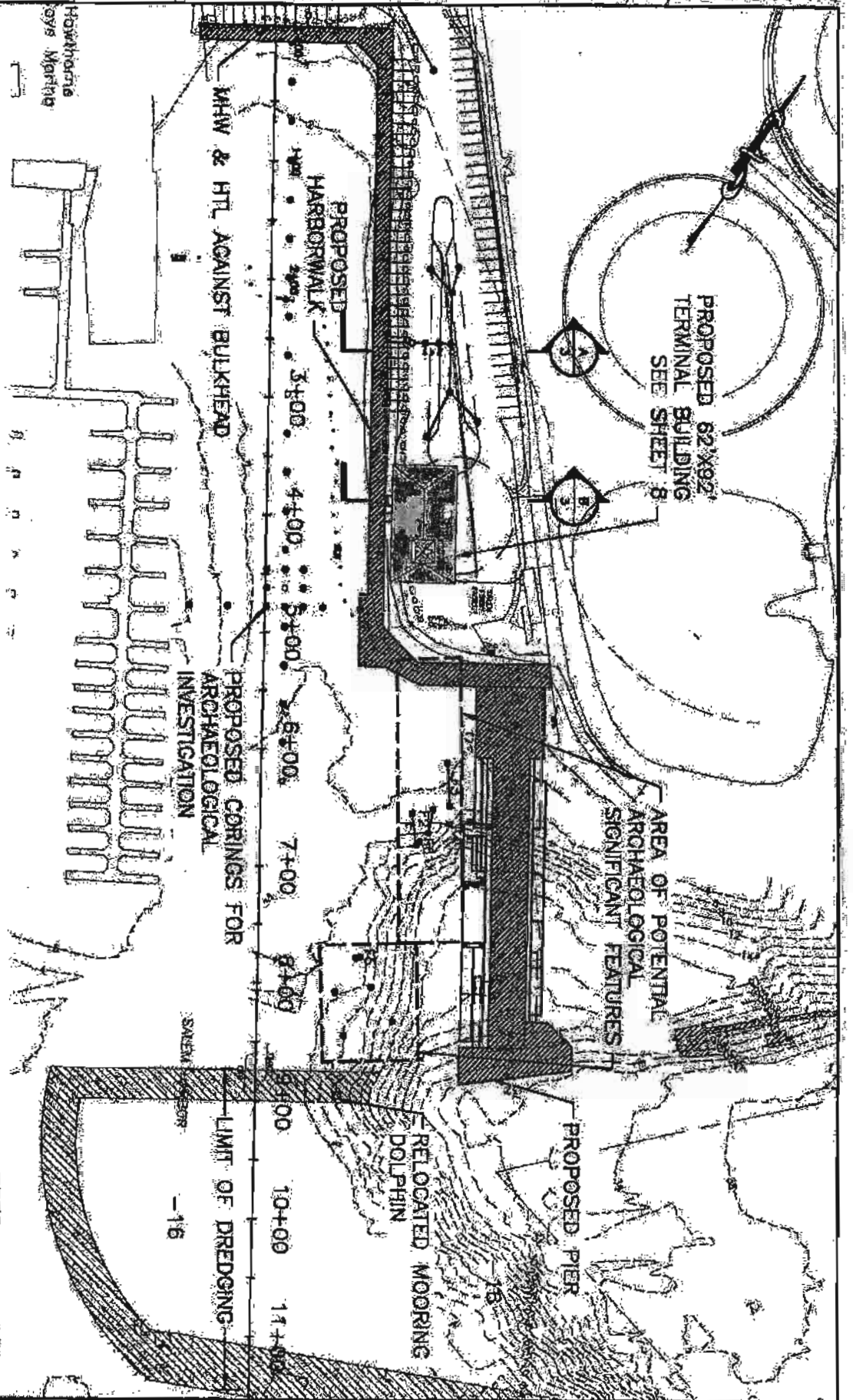
APPLICATION BY:  
CITY OF SALEM

SHEET 1 OF 8  
DATE: 08/17/08

SCALE: 1" = 120'-0"

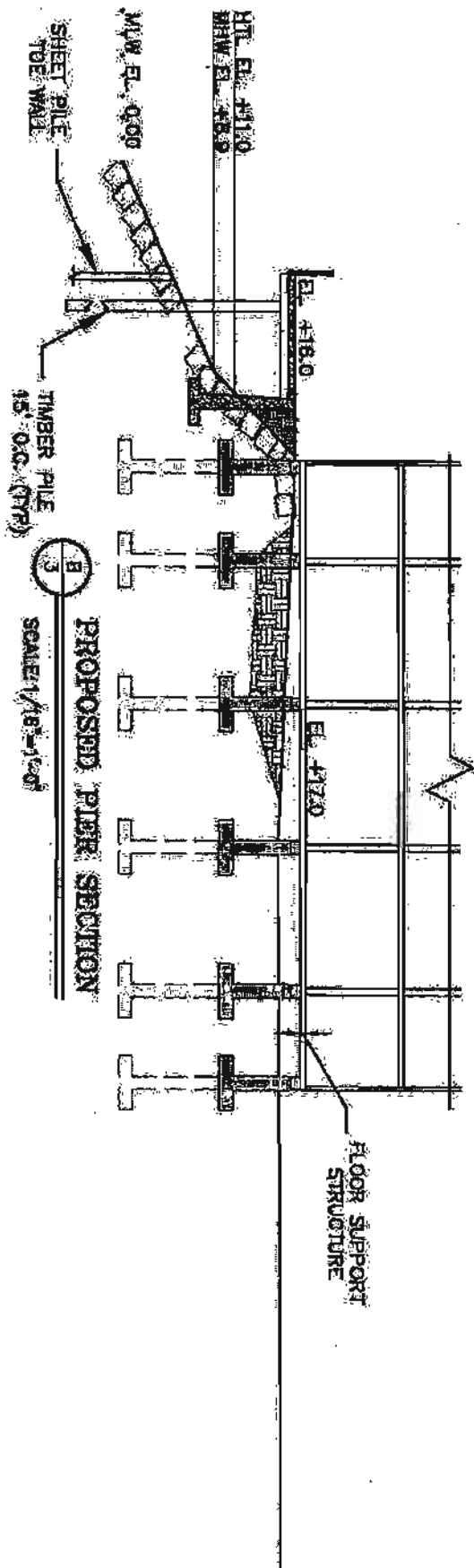
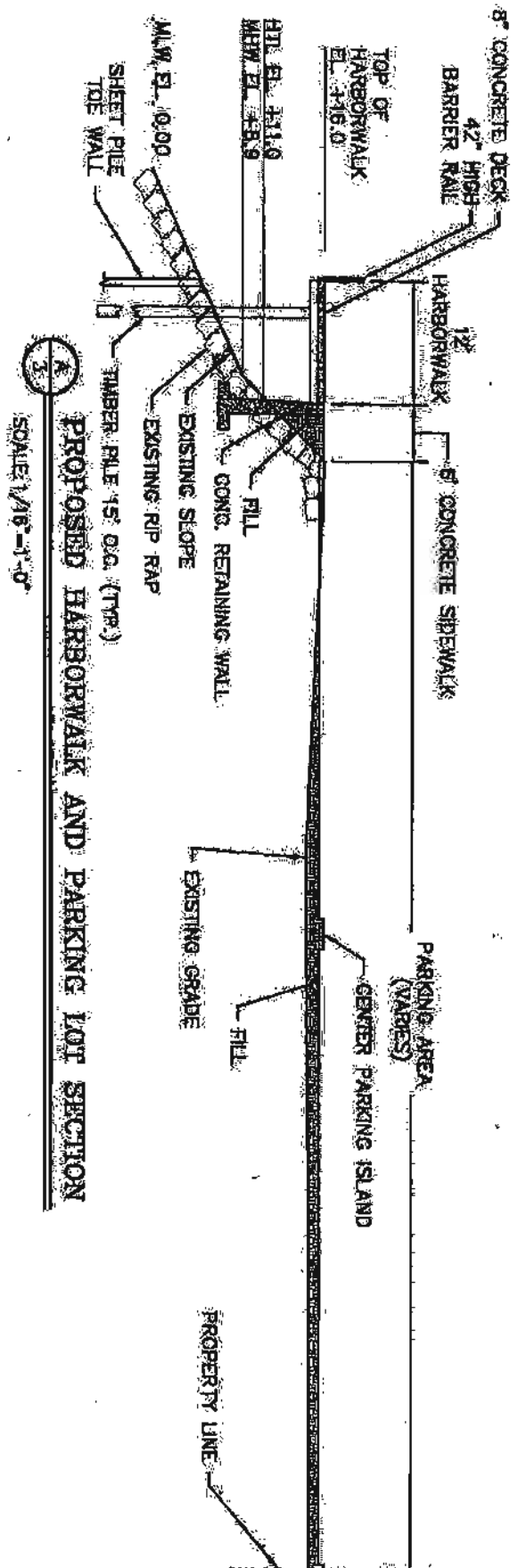




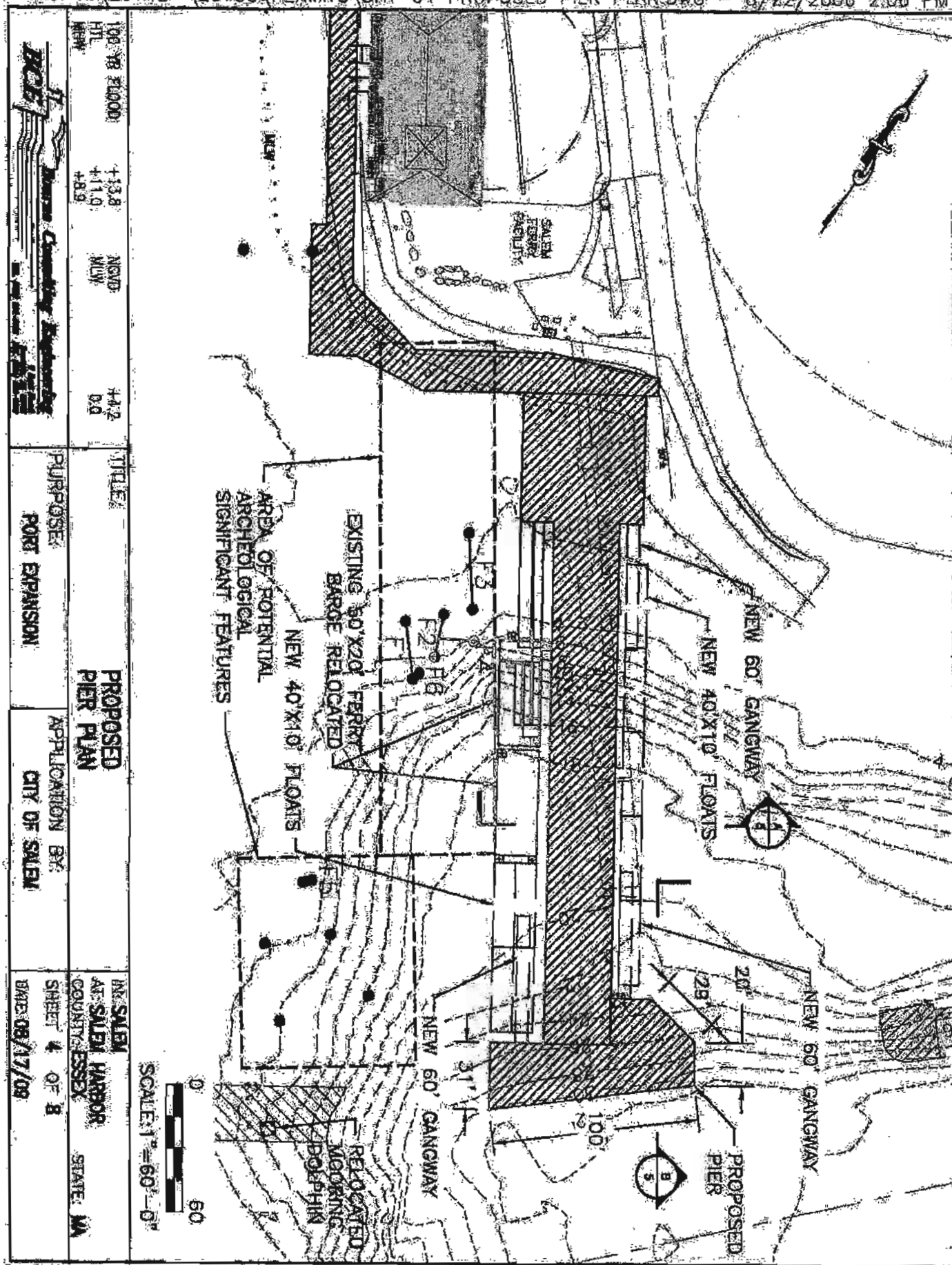


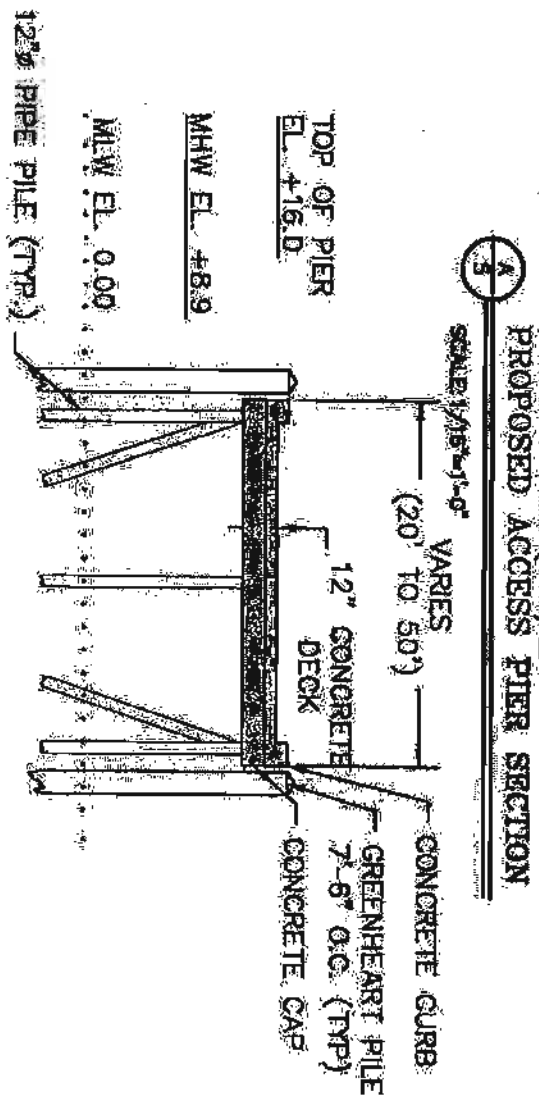
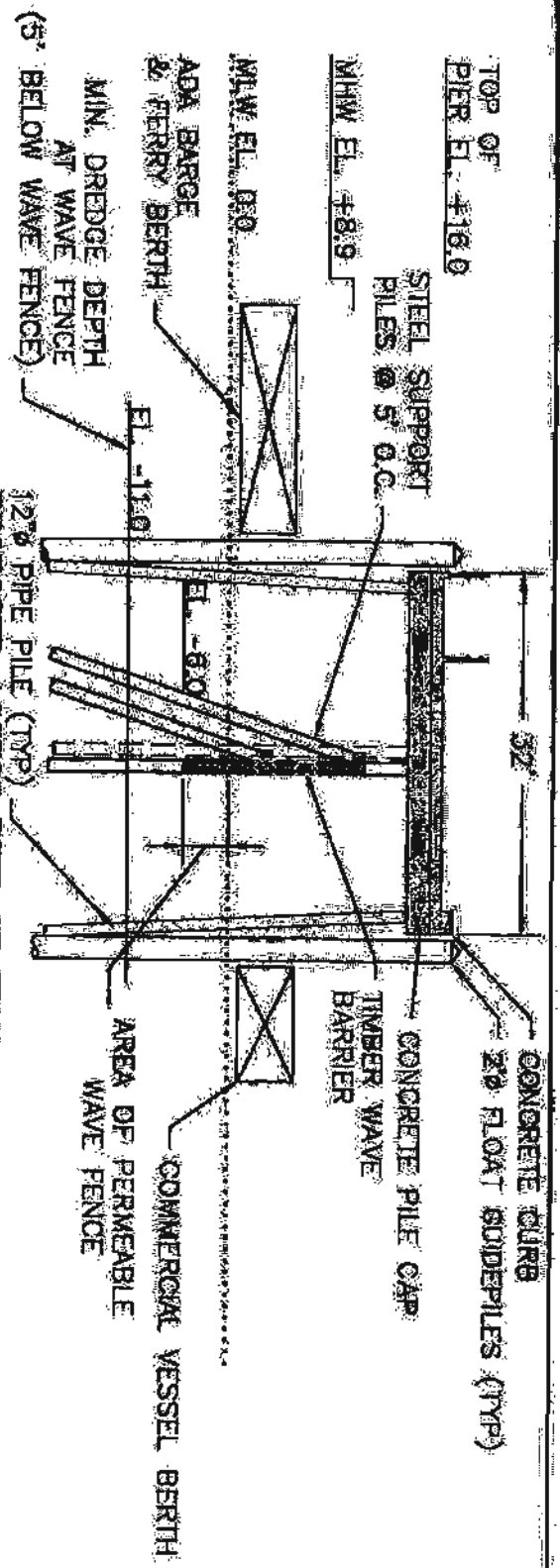
<p>100' ME FLOOD HTL MHW</p> <p>+13.8 +11.0 +8.8</p> <p>NGVD MCM</p> <p>+4.2 0.0</p>	<p>TITLE:</p> <p>PROPOSED CONDITIONS PLAN</p> <p>PURPOSE: PORT EXPANSION</p> <p>APPLICATION BY: CITY OF SALEM</p>	<p>IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA</p> <p>SHEET 2 OF 8</p> <p>DATE: 08/17/09</p>
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100 YR FLOOD VTL MHW	+11.8 +11.0 +9.9	NO. 10 NEW	14.2 0.0	TITLE:	PROPOSED SECTIONS	APPLICATION BY: CITY OF SALEM	IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA
PURPOSE: PORT EXPANSION				SHEET 3 OF 8 DATE: 08/17/08			





**PROPOSED PIER SECTION**

SCALE: 1/16"=1'-0"

100 YR FLOOD HFL MHW	+13.8 +17.0 +8.9	NO. 1 NO. 2 NO. 3	+4.2 +1.0 0.0	DATE	08/17/04
<b>PROPOSED PIER SECTIONS</b>				<b>IN: SUEW</b> <b>AT: SUEW</b> <b>COUNTRY: ESSA</b> <b>STATE: WA</b>	
<b>PURPOSE:</b> <b>PORT EXPANSION</b>		<b>APPLICATION BY:</b> <b>CITY OF SUEW</b>		<b>SHEET 5 OF 8</b> <b>DATE: 08/17/04</b>	



PROPOSED 3 ON 1 SLOPE

PROPOSED DREDGE PROFILE  
SCALE 1"=60'-0"

EXISTING MUDLINE

HTL EL. +11.0

MLW EL. 0.00

EL. -16.00

100 YD FLOOD  
HTL  
+11.0  
MLW  
+8.5  
NGVD  
+11.0  
MLW  
+8.5  
0.0

TITLE

PROPOSED  
DREDGE SECTIONS

PURPOSE

PORT EXPANSION

APPLICATION BY

CITY OF SUEN

IN: SALEM  
AT: SALEM HARBOR  
COUNTY: ESSAY

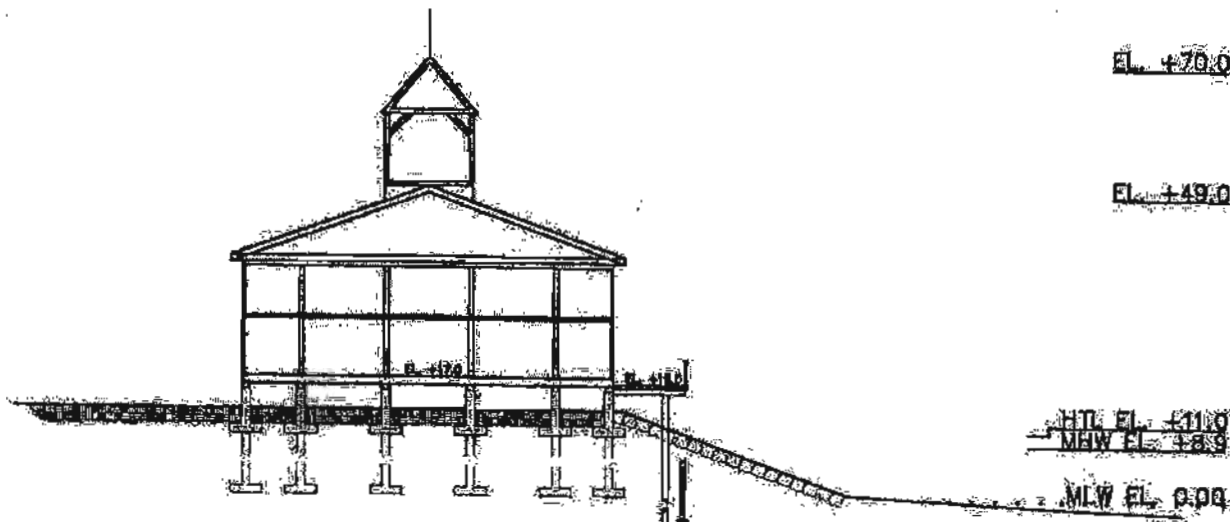
STATE: WA

SHEET 7 OF 8

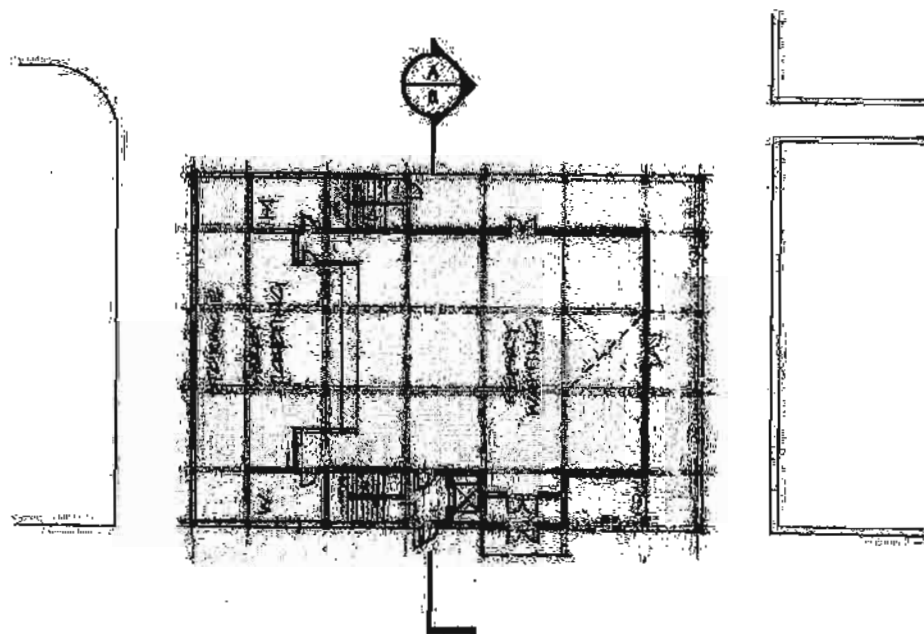
DATE: 08/17/09








**PROPOSED SECTION**  
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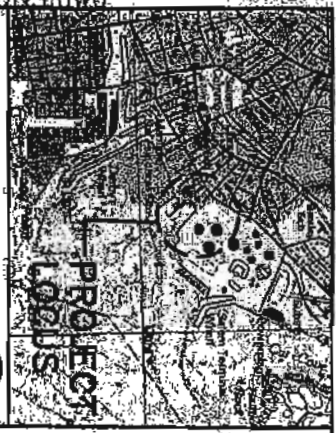


**PROPOSED GROUND LEVEL PLAN**  
SCALE: 1"=30'-0"

REV 8/17/09

<b>PURPOSE:</b> <b>PORT EXPANSION</b>	<b>TITLE:</b> <b>PROPOSED TERMINAL</b>	<b>APPLICATION BY:</b> <b>CITY OF SALEM</b>
100-YR FLOOD +13.8 HTL +11.0 MHW +8.9 NGVD +4.2 MLW 0.0	 <b>Bourne Consulting Engineering</b> <small>INC. (INC.) 001-2000 001-2000 001-2000</small>	IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA <b>SHEET 8 OF 8</b> DATE: 08/17/09

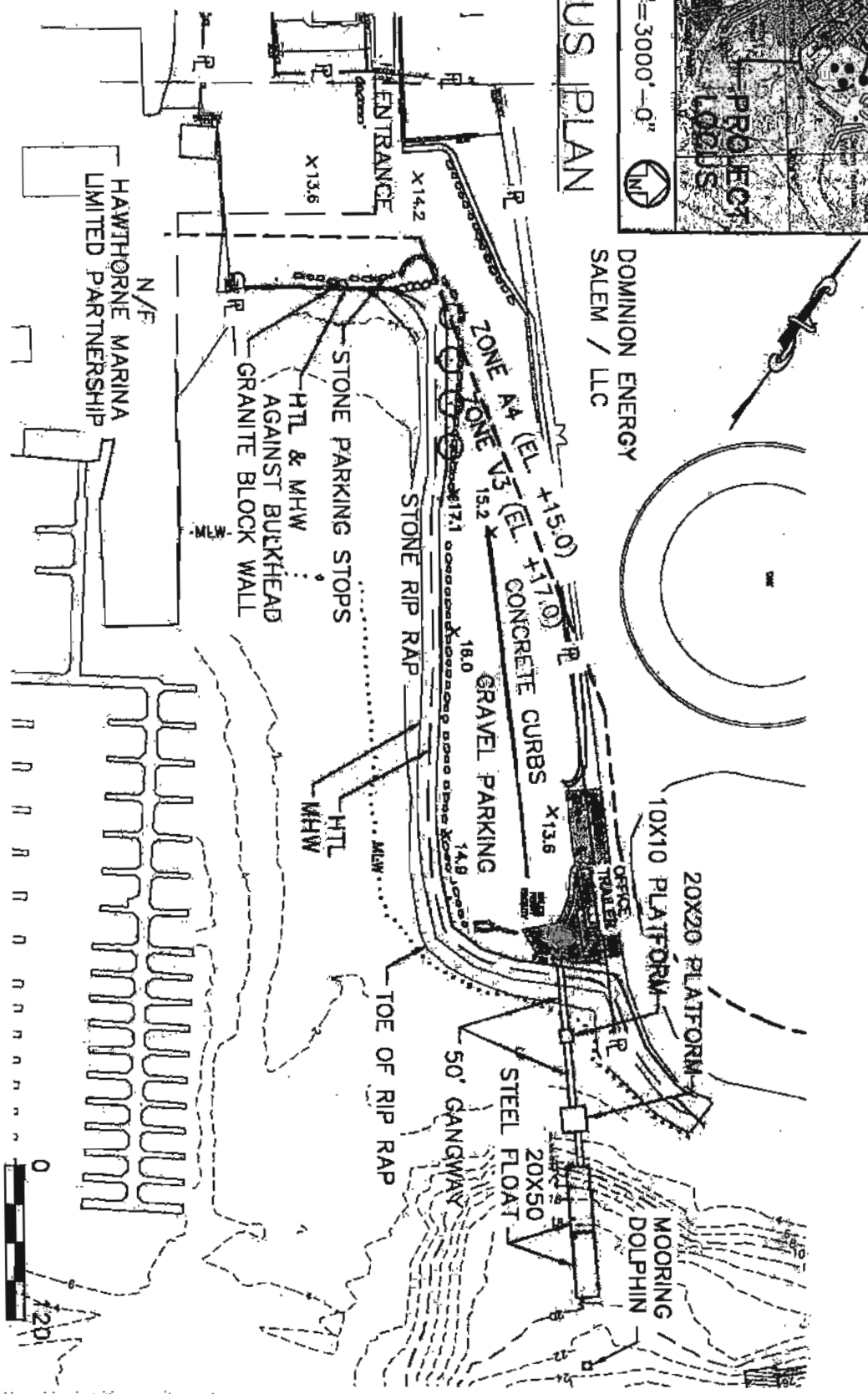
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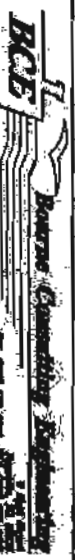
# LOCUS PLAN

DOMINION ENERGY  
SALEM / LLC



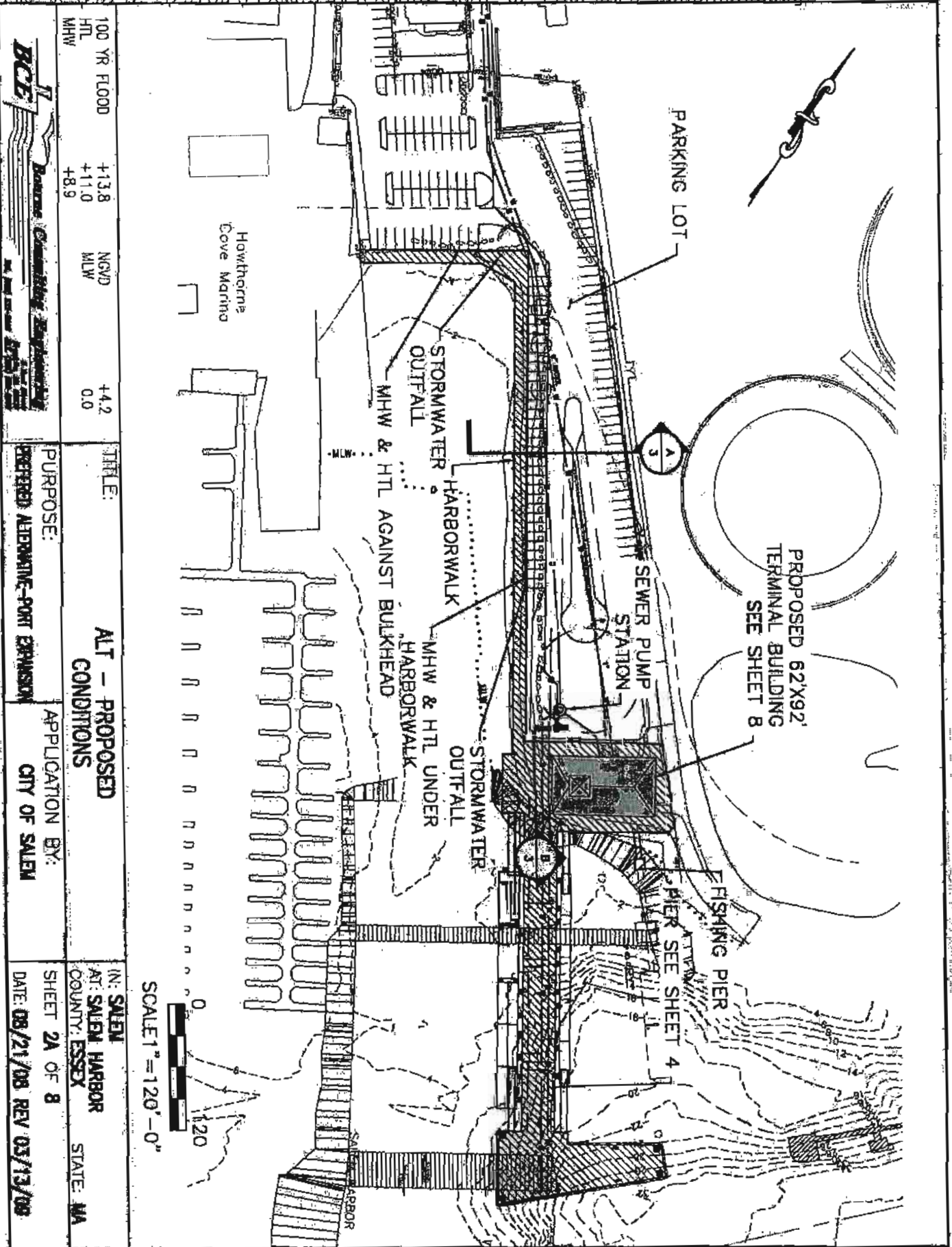
SCALE: 1"=120'-0"

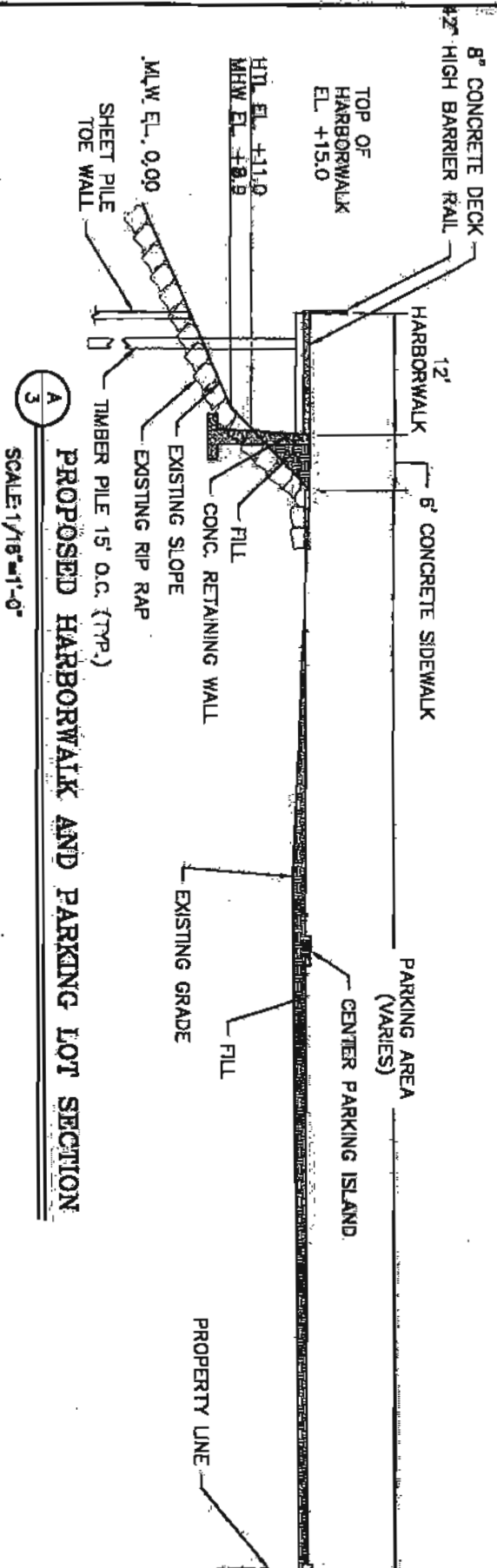
100 YR FLOOD	+13.8	NGVD	+4.2
HTL	+11.0	MLW	0.0
MHW	+8.9		



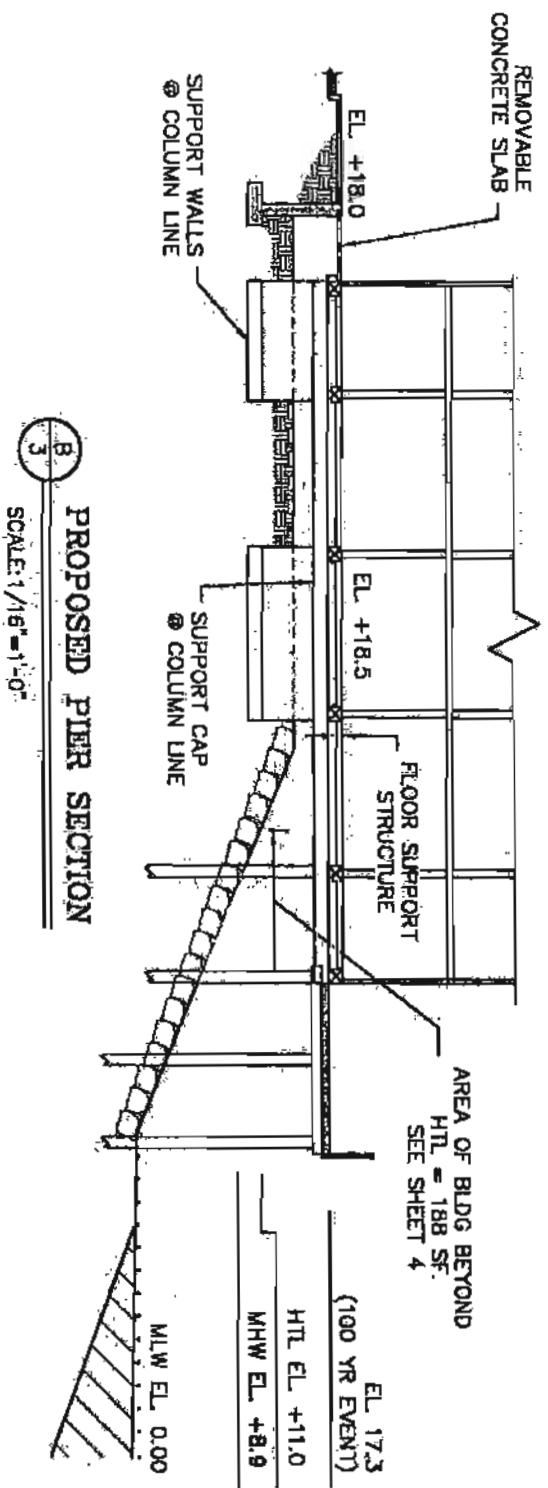
PROJECT: HAWTHORNE MARINA LIMITED PARTNERSHIP	FILE: 29742-29756
PURPOSE: PROPOSED ALTERNATE-PORT EXPANSION	DATE: 08/21/08
APPLICATION BY: CITY OF SALEM	REV: 03/13/09
IN: SALEM	
AT: SALEM HARBOR	
COUNTY: ESSX	
STATE: MA	
SHEET 1A OF 8	







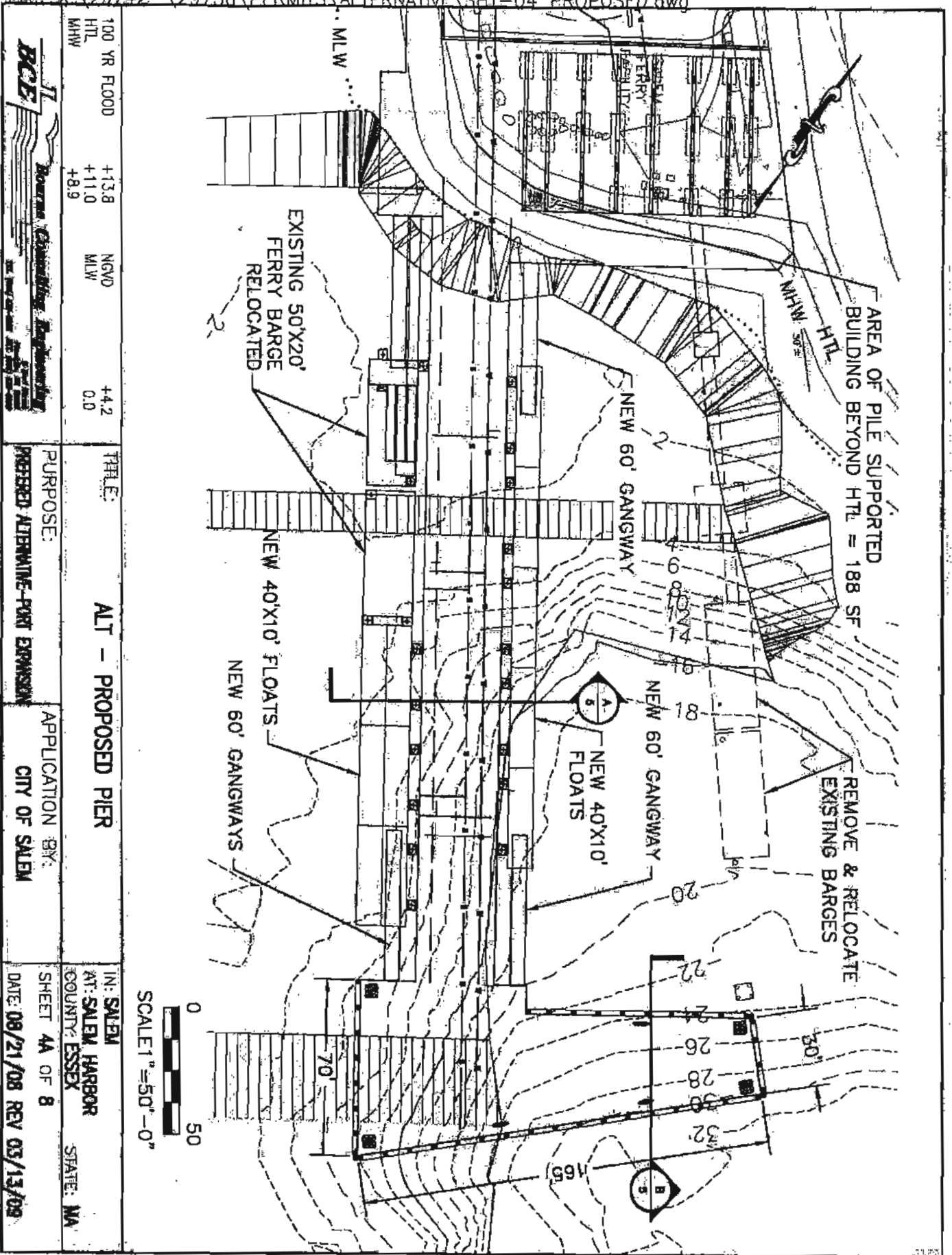
**PROPOSED HARBORWALK AND PARKING LOT SECTION**  
 SCALE: 1/16" = 1'-0"

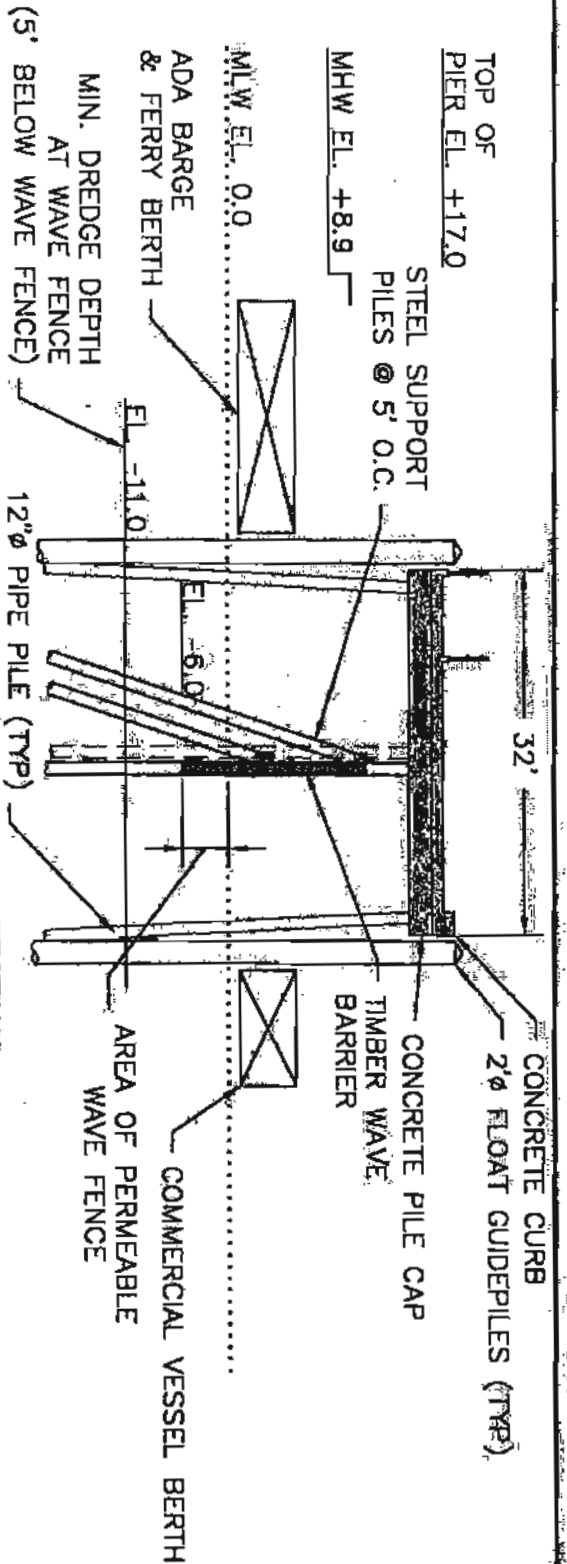


**PROPOSED PIER SECTION**  
 SCALE: 1/16" = 1'-0"

100 YR FLOOD HTL MHW	+13.8 +11.0 +8.9	NGVD MLW	+4.2 0.0	TITLE:	ALT - PROPOSED SECTIONS	IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA
PURPOSE:	PURPOSE:	APPLICATION BY:	DATE: 01/15/09	REV: 03/13/09	SHEET 3A OF 8	
PROPOSED ALTERNATE PORT DEPICTION				CITY OF SALEM		







12" PIPE PILE (TYP.)

B  
5

PROPOSED PIER SECTION  
SCALE: 1/16" = 1'-0"

100 YR FLOOD  
HTL +13.8  
MHW +11.0  
NGVD MLW +8.9

+4.2  
0.0

**BCE**  
Boston Consulting Engineers  
INCORPORATED  
100 STATE STREET, SUITE 200  
BOSTON, MA 02109  
TEL: 617.552.1234  
WWW.BCE-ENGINEERS.COM

TITLE: ALT - PROPOSED PIER SECTIONS  
PURPOSE: REEDED ALTERNATE PORT EXPANSION  
APPLICATION BY: CITY OF SALEM

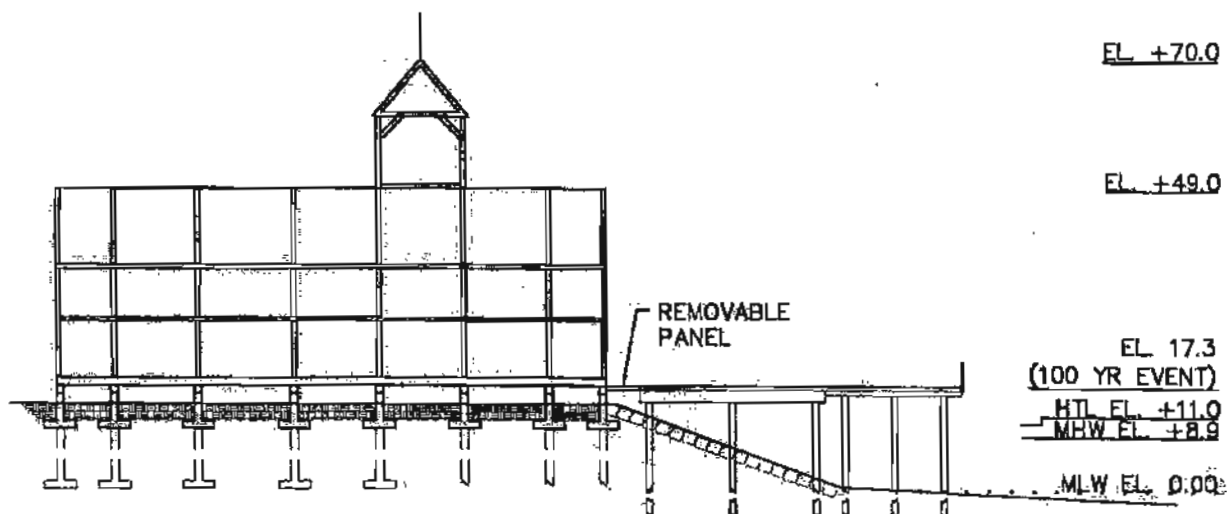
IN: SALEM  
AT: SALEM HARBOR  
COUNTY: ESSEX  
STATE: MA  
SHEET 5A OF 8  
DATE: 08/21/08 REV: 03/15/09



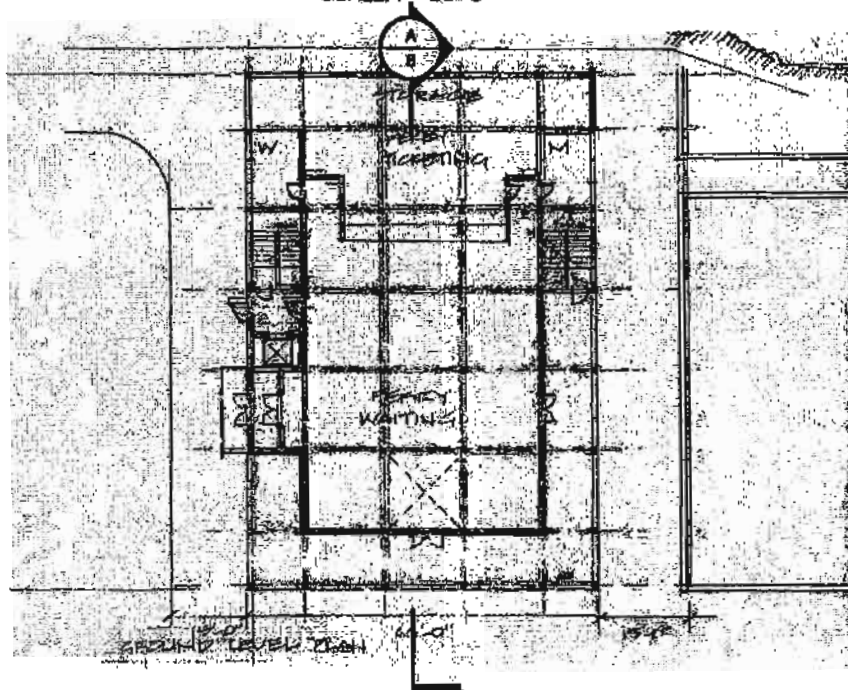




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**PROPOSED SECTION**  
SCALE: 1"=30'-0"



**PROPOSED GROUND LEVEL PLAN**  
SCALE: 1"=30'-0"

REV 3/13/09

PURPOSE:  PREFERRED ALTERNATIVE PORT EXPANSION	TITLE:  ALT — PROPOSED TERMINAL	APPLICATION BY:  CITY OF SALEM
100 YR FLOOD +13.8 HTL +11.0 MHW +8.9 NGVD +4.2 MLW 0.0	 <i>Bourne Consulting Engineering</i> <small>INCORPORATED 1988</small>	IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA SHEET 8A OF 8 DATE: 08/21/08

**MEMORANDUM OF AGREEMENT  
PURSUANT TO 36 CFR Part 800.6(c)  
AMONG THE US ARMY CORPS OF ENGINEERS,  
MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER,  
MASSACHUSETTS BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES,  
AND THE CITY OF SALEM, MASSACHUSETTS,  
REGARDING THE PROPOSED  
SALEM PORT EXPANSION PROJECT  
SALEM WHARF PROJECT, SALEM, MA**

**WHEREAS**, the City of Salem (the Proponent) has initially proposed to construct the Salem Port Expansion Project (the undertaking), as presented in the separate set of preferred plan permit drawings (Attachment B); and

**WHEREAS**, the proposed undertaking requires a permit from the U.S. Army Corps of Engineers, New England District (the Corps); and

**WHEREAS**, results of the Intensive (Locational) Archaeological Survey (Phase 1b) conducted for the undertaking provided in the draft technical report *Maritime Archaeological Reconnaissance and Intensive (Locational) Survey for the Salem Port Expansion Project*, dated July 28, 2009, have identified one potential submerged ancient site and two historical period maritime sites (together, the archaeological sites); and

**WHEREAS**, the Corps has determined that the archaeological sites have the potential to meet the Criteria of Eligibility (36 CFR Part 60) for listing in the National Register of Historic Places (NRHP); and

**WHEREAS**, the undertaking may have an adverse effect (36 CFR 800.5(a)) on the archaeological sites; and

**WHEREAS**, the Proponent has presented to the Corps permit drawings of the undertaking that propose a feasible avoidance alternative plan (Attachment A) that would not adversely affect the archaeological sites identified on sheet 4 of 8 of Attachment A as "area of potential archeological significant features"; and

**WHEREAS**, the Corps, has consulted with the Massachusetts State Historic Preservation Officer (SHPO), pursuant to Section 106 of the National Historic Preservation Act (16 U.S.C 470f) and its implementing regulations, 36 CFR Part 800 and 33 CFR Part 325, Appendix C; and

**WHEREAS**, the Corps has invited the Advisory Council on Historic Preservation (Council) and Tribal Historic Preservation Officers (THPOs) to enter into consultation; and

**WHEREAS**, the Massachusetts Board of Underwater Archaeological Resources (MBUAR) and the Proponent have participated in the consultation and have been invited to be a signatory to this Memorandum of Agreement (MOA); and



**NOW, THEREFORE**, the Corps, and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the permitted project on historic properties.

### **STIPULATIONS**

The Corps and the Proponent shall ensure that the following stipulations are implemented:

#### **A. Archaeological Site Examination (Phase II Plan)**

1. Upon execution of this MOA, and prior to the initiation of any construction activities, the Proponent shall provide the proposed Phase II archaeological site examination research design and methodology, *Archaeological Site Examination of Three Sites at the Salem Port Expansion Project* (the Phase II Plan) (a draft plan is incorporated as Attachment C) to the Corps, the Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah) and the MBUAR for technical review and comment to request revision or to grant approval.
2. If any signatory objects to the plan, the Corps shall consult to resolve the objections, and notify the signatories of its decision. If none of the signatories object to the Phase II Plan within thirty (30) days after receipt of the Phase II Plan, then the Corps shall notify the Proponent to implement the plan, and the Proponent shall implement the plan and provide the resulting documentation and reporting to the other signatories.
3. If unforeseen circumstances require a significant change to the Phase II Plan, the proposed change shall be submitted to the Corps, the Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah) and the MBUAR for technical review and comment to request revision or to grant approval.
4. To allow the Corps to determine the significance of the archaeological sites and the effects of the undertaking, in addition to the Phase II Plan proposed reporting, the documentation shall also include:
  - (a) Written and graphic descriptions of the methods used and the results to determine the boundaries, internal composition, and data contents of the archaeological sites including associated subareas or concentrations of archaeological features and deposits, with an opinion of eligibility for listing in the NRHP consistent with 36 CFR Part 60, and the guidance documents prepared by the National Register of Historic Places.
  - (b) Documentation shall be presented on a detailed and accurate scaled plans and profile drawings of the horizontal and vertical limits of the archaeological sites, determined to the maximum degree possible, of the submerged ancient terrestrial deposits; of the historical vessel Feature #F5; of the historical timber features #F1- #F4 and #F6; and of any other NRHP-eligible archaeological site, feature, or deposit identified during implementation of the Phase II Plan.
  - (c) Documentation of the boundaries of the archaeological sites in relationship to the construction impact area of the undertaking including areas required for driving of piles and dredging, with an opinion of effect consistent with 36 CFR 800.5.
5. The Proponent shall submit the Phase II Plan reporting and documentation to the other signatories for review and comment.

## **B. Preferred and Alternative Plans for the Undertaking**

1. If the Corps, after consultation with the Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah), and the MBUAR on the results of the Phase II Plan, determines that archaeological sites meet the Criteria of Eligibility (36 CFR 60) for listing in the NRHP, then the Corps shall notify the Proponent to proceed with construction of the avoidance alternative plan (Attachment A - titled "PURPOSE: PORT EXPANSION...") for the undertaking, as presented in the current Corps regulatory approval, subject to conditions the Corps deems necessary, and also under the following limitations:

- (a) Proposed changes to the avoidance alternative plan are determined by the Corps to result in avoidance of significant archaeological sites, features, and deposits, or
- (b) Proposed changes to the plan are determined by the Corps to be minor and which do not have the potential to cause effects to NRHP-eligible historic properties.

2. If the Corps, after consultation with the Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah), and the MBUAR on the results of the Phase II Plan, determines that the archaeological sites, features, and deposits do not meet the Criteria of Eligibility (36 CFR 60) for listing in the NRHP, then the Corps shall notify the Proponent that they may proceed with construction of the City's preferred plan (Attachment B) for the undertaking subject to conditions the Corps deems necessary.

3. The Corps shall provide any modified avoidance alternative plan in accordance with Stipulation B.1(a) to the Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah), and the MBUAR.

## **C. Post-Review Discoveries**

1. The Proponent shall immediately notify the Corps of any post-review discovery of an archaeological site, feature, deposit, or artifact (together, archaeological material). The Corps shall comply with 36 CFR 800.13 for any post-review discoveries.

2. Archaeological material shall be left in-situ (in place) and not further disturbed until the Corps notifies the Proponent of the results of compliance with 36 CFR 800.13 and implements a plan to resolve the discovery. Archaeological material inadvertently removed from their original location, shall be protected from drying, and treated in accordance with recommendations of the Corps, Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah), and MBUAR.

## **D. Adequacy of schedule, funding, and resources**

1. The Proponent shall ensure the adequate time, funds, and other resources necessary for completion of all proposed archaeological fieldwork (including surface and diving operation), documentary research, artifact treatment and conservation, artifactual and other data analysis, reporting, and curation of recovered artifacts, specimens, and resulting documentation and records.

## **E. Standards for Treatment, Professional Qualifications, and Reporting**

1. Treatment of archaeological sites, features, and artifacts, and preparation of reports and studies, shall be conducted with reference to and consistent with the principles and standards contained in the Council's handbook, Treatment of Archaeological Properties, the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 Fed. Reg. 190 (1983)), and the State archaeological standards and guidelines of the Massachusetts State Archaeologist (950 CMR 70) and the MBUAR (312 CMR 2).
2. Archaeological investigations, including marine survey and underwater archaeological site examination, shall be conducted by or under the direct supervision of Personnel meeting, at a minimum, the following professional qualifications standards:
  - (a) The standards contained in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 Fed. Reg. 190 (1983)), and the State archaeological standards and guidelines of the Massachusetts State Archaeologist (950 CMR 70) and the MBUAR (312 CMR 2).
  - (b) In addition, Personnel shall also have a demonstrated familiarity with: techniques of marine survey, including operation of remote sensing devices; standard diving operation practices relevant to underwater archaeological investigations; techniques of underwater archaeological excavation and recording; and interim conservation practices with artifacts from marine environments.
3. The Proponent shall submit proposed Personnel changes to the Corps, the Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah) and the MBUAR for review and approval, and shall not implement Personnel changes until notified of the approval by the Corps.

#### **F. Standards for Curation**

1. All artifacts, specimens, records, and documentation resulting from the Phase II Plan (together, the archaeological collection) shall be curated, and conserved and treated as appropriate in accordance with contemporary professional standards and principles for the conservation and storage of archaeological collections (36 CFR Part 79). The collection shall be properly maintained and periodically monitored for any signs of deterioration. A proposal shall be developed by the custodian of the archaeological collection to implement a plan to address deterioration of the archaeological collection for review and approval by the Corps, the Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah), and the MBUAR.

#### **G. Performance Monitoring and Monthly Interim Reporting**

1. The Corps and the Proponent shall cooperate to make arrangements for regular site visits by the Corps during the course of field investigations, construction, and during conservation and analysis of recovered material, in order to monitor performance under the permit. The Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah), and the MBUAR shall be invited to participate in such visits.
2. The Proponent shall provide the Corps, the Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah), and the MBUAR with monthly progress reports on implementation of the Phase II Plan, including surface, diving, and laboratory operations until the final reporting is completed in accordance with Stipulation H of this MOA.

#### **H. Submittal of Draft and Final Reporting**

The Proponent shall ensure that draft copies of the Phase II Plan technical archaeological report and any ensuing technical archaeological studies are submitted to the Corps, the Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah), and the MBUAR for review and comment to the Corps. If comments are not received by the Corps within thirty (30) days of receipt of the report, the Corps shall notify the Proponent that the report has been approved. Copies of all final technical reports or studies shall be provided to the Corps, the Massachusetts SHPO, the Wampanoag Tribe of Gay Head (Aquinnah), and the MBUAR. Two copies of the final reports are to be provided to the Massachusetts SHPO, with original MHC site inventory forms completed in accordance with MHC's standards, and a CD-ROM of the report bibliographic entry and abstract. Up to ten (10) additional paper copies of the final technical report or studies shall be produced, and mailed by the Proponent or their representative to scholarly libraries approved by the Massachusetts SHPO to ensure broader dissemination to scholars and students.

#### **I. Electronic Formats and Date of Receipt by the Massachusetts SHPO**

Any information submitted to the Massachusetts SHPO in electronic format shall also be submitted concurrently in paper format. The Massachusetts SHPO does not accept electronic formats for review. The date of receipt for material submitted to the Massachusetts SHPO for review shall be the date of receipt of submittals delivered to the office of the Massachusetts SHPO in paper format, and evidenced by the date-received stamp by the Massachusetts Historical Commission.

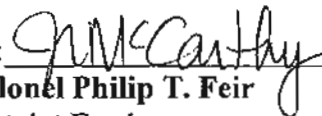
#### **J. Dispute Resolution**

If any of the signatories to this Agreement are unable to resolve any disputes which may arise from actions taken under this agreement, any of the parties may notify the Council and the Council may assist in arbitrating the dispute. The Corps shall forward documentation relevant to any dispute to the Council, and within 30 days after receipt of all pertinent documentation, the Council shall either:

- (a) Inform the Corps that the Council shall comment pursuant to its regulations; or,
- (b) Provide the Corps with recommendations which the Corps shall take into account in reaching a final decision in relation to its permit enforcement responsibilities.

Execution of this Memorandum of Agreement by the Corps of Engineers, its subsequent acceptance by the Council, and implementation of its terms evidence that the Corps has afforded the Council an opportunity to comment on the permit action and its effects on historic properties and that the Corps has taken into account the effects of the undertaking on historic properties.

UNITED STATES ARMY CORPS OF ENGINEERS, NEW ENGLAND DISTRICT

By:   
Colonel Philip T. Feir  
District Engineer

Date: 11/18/09

MASSACHUSETTS STATE HISTORIC PRESERVATION OFFICER

By: Brona Simon Date: 11/12/09  
Brona Simon  
State Historic Preservation Officer  
State Archaeologist

MASSACHUSETTS BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES

By: Victor T. Mastone Date: 11/09/09  
Victor T. Mastone  
Director

WAMPANOAG TRIBE OF GAY HEAD (AQUINNAH)

By: Bettina Washington Date: 11/09/09  
Bettina Washington  
Tribal Historic Preservation Officer

CITY OF SALEM, MASSACHUSETTS

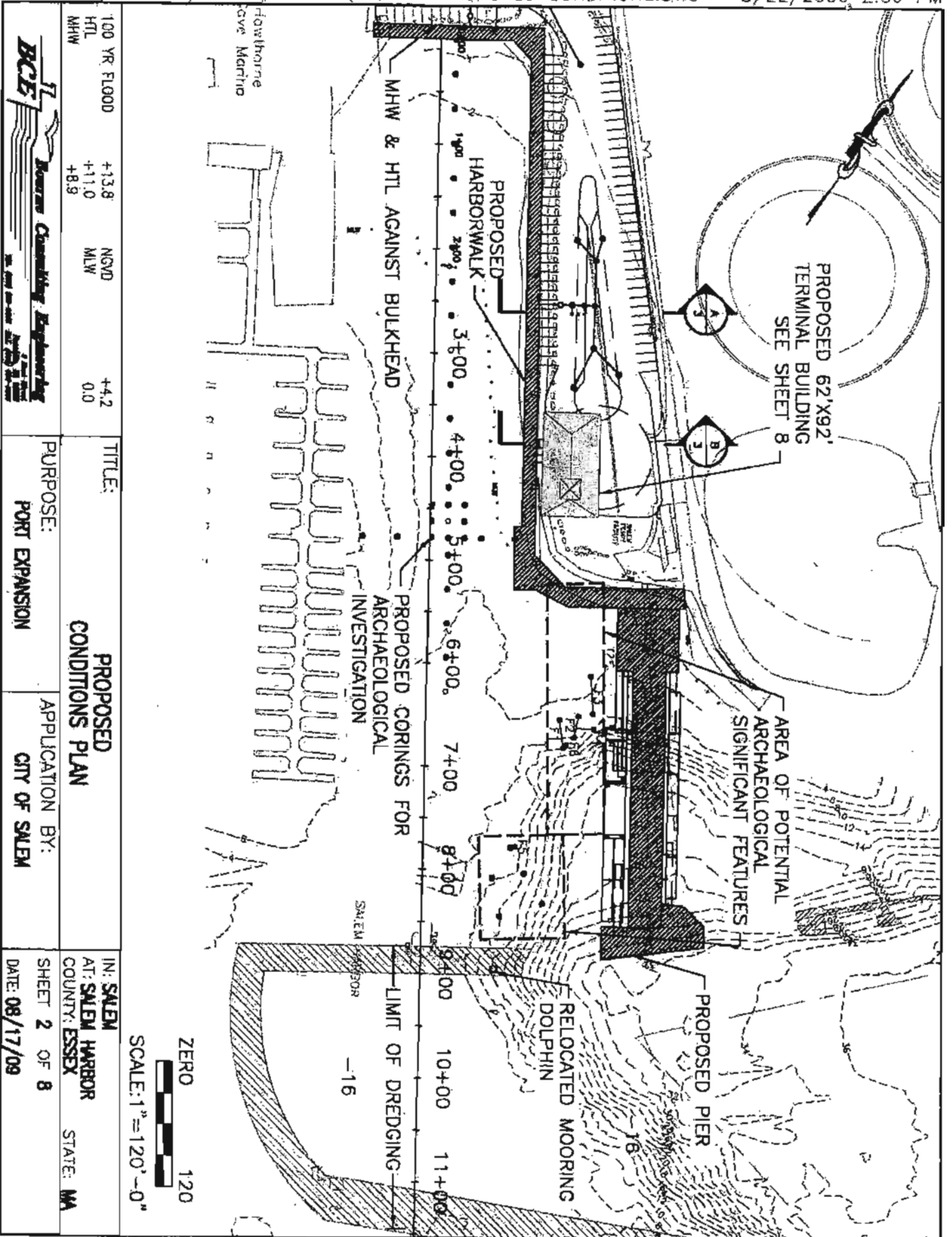
By: Kimberly Driscoll Date: 11/16/09  
Kimberly Driscoll  
Mayor of Salem

**ATTACHMENT A**

**Avoidance Alternative Project Plans**

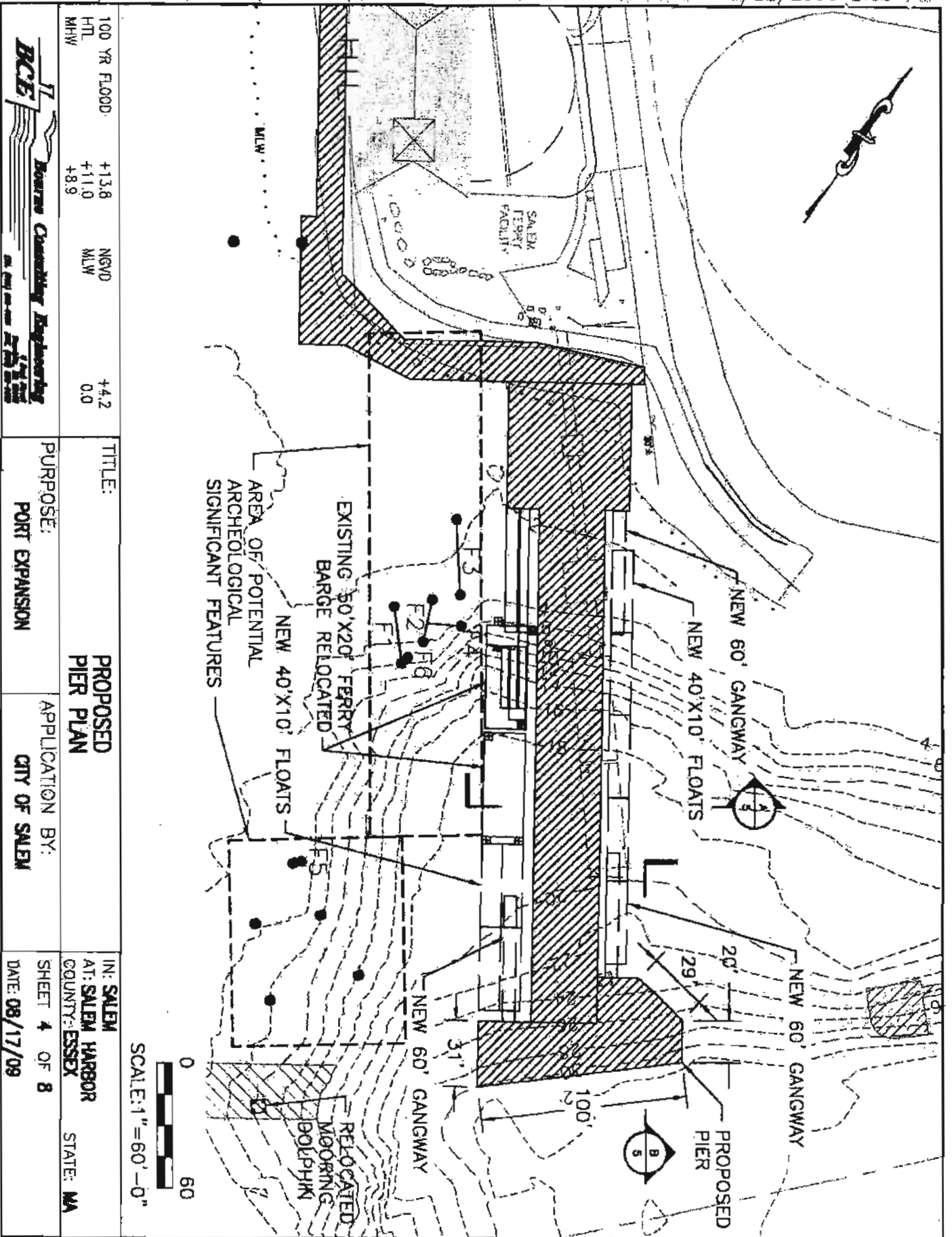
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**(8 sheets)**  
**Dated: 08/17/09**

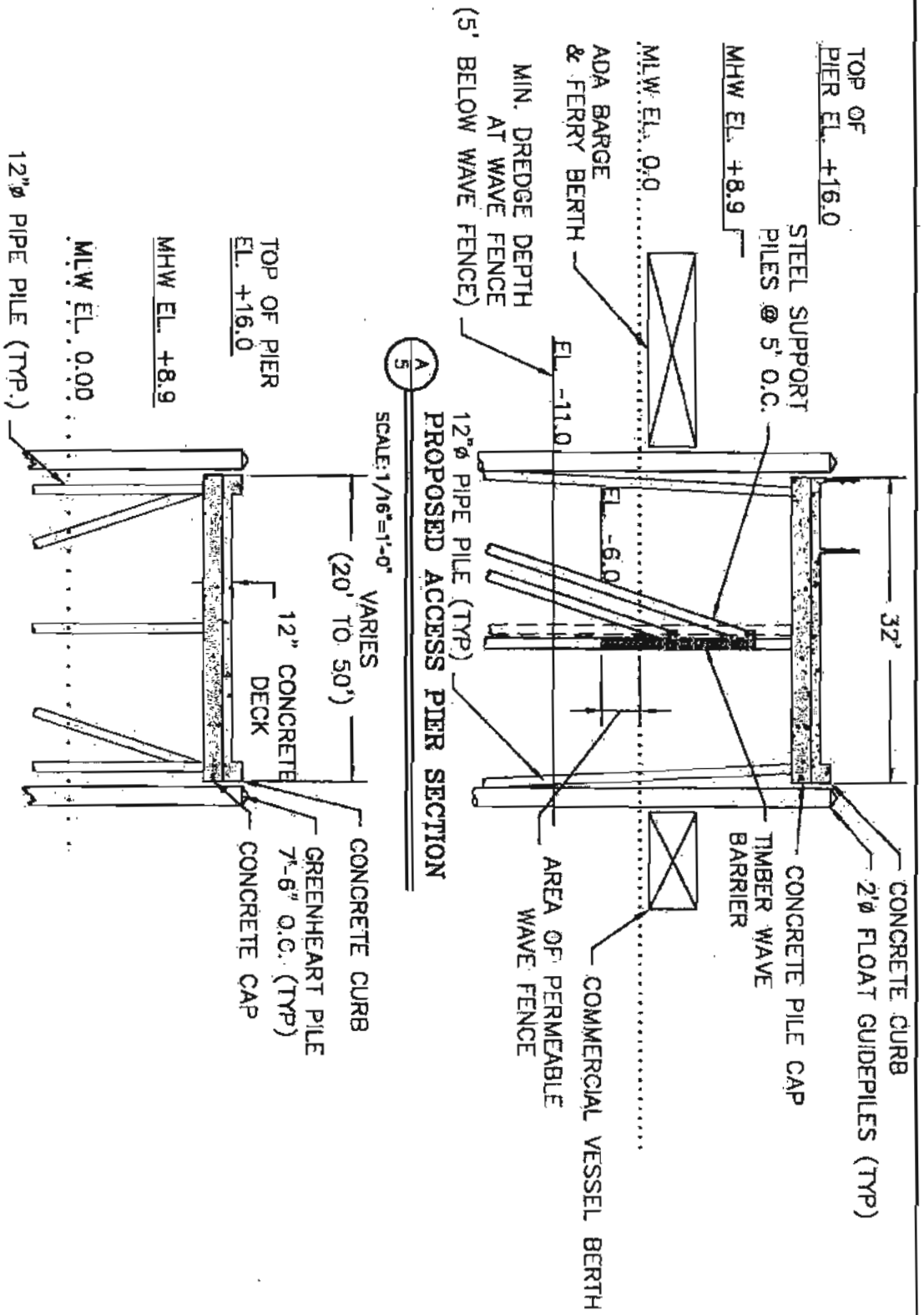












**B**  
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MLW +8.9

TITLE:

**PROPOSED PIER SECTIONS**

IN: SALEM  
AT: SALEM HARBOR  
COUNTY: ESSEX

STATE: MA

PURPOSE:

PORT EXPANSION

APPLICATION BY:

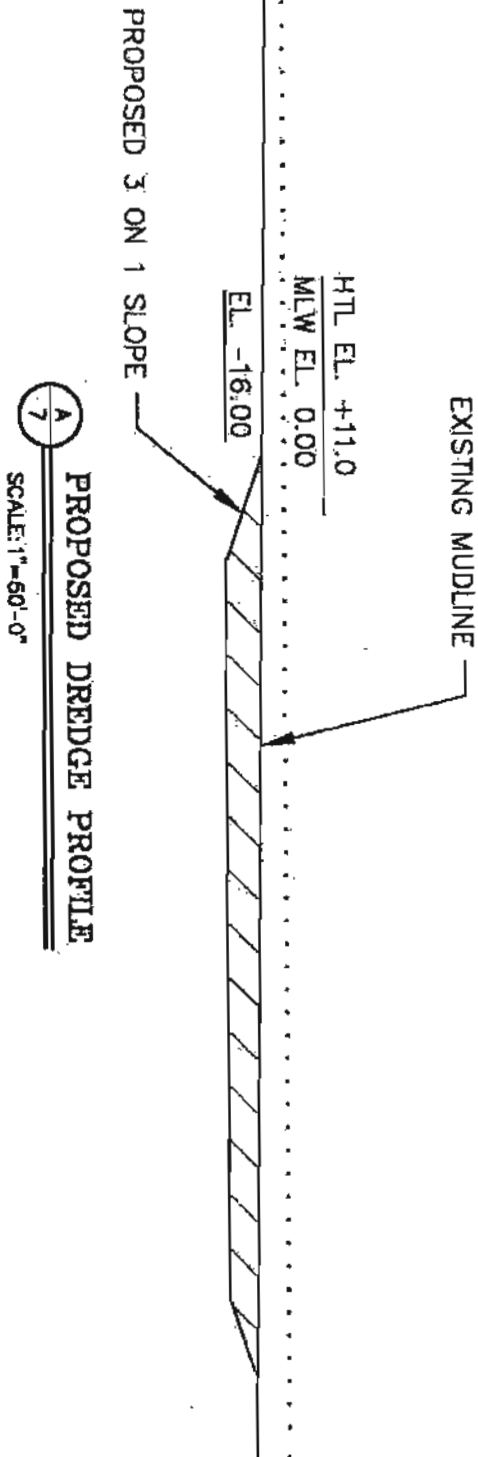
CITY OF SALEM

SHEET 5 OF 8

DATE: 08/17/09



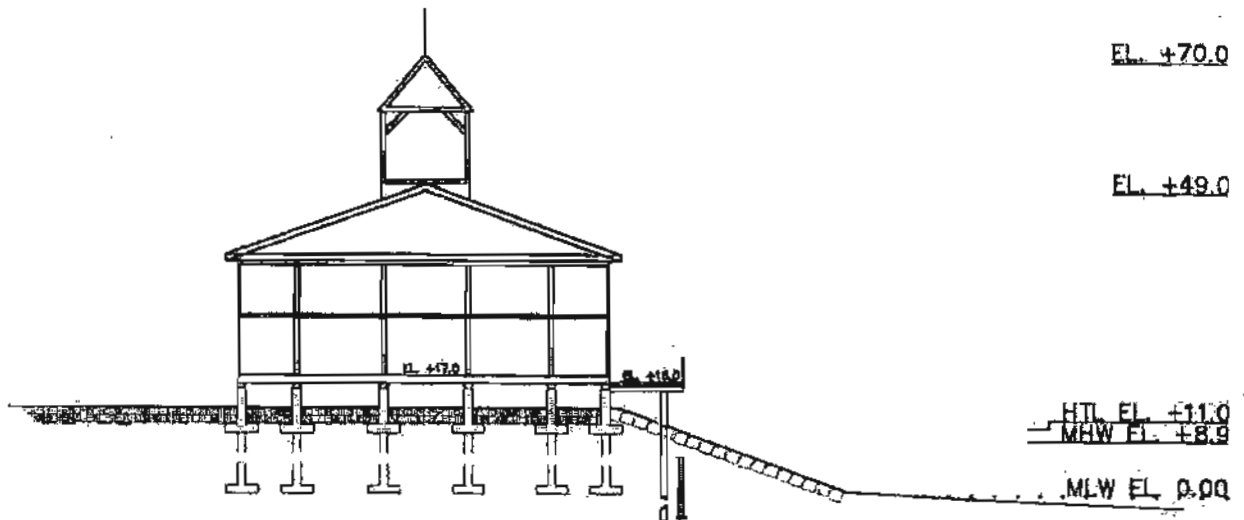




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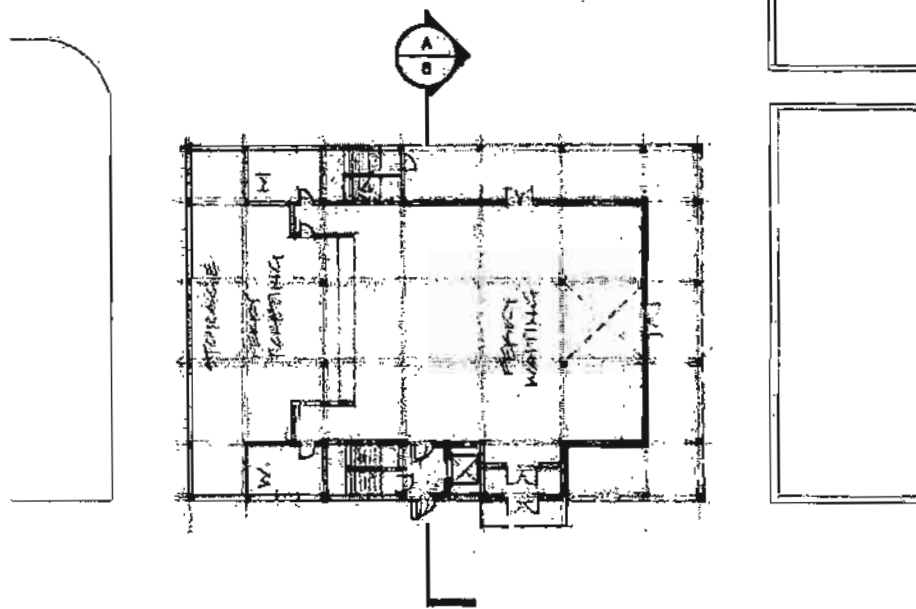


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**PROPOSED SECTION**

SCALE: 1"=30'-0"



**PROPOSED GROUND LEVEL PLAN**

SCALE: 1"=30'-0"

REV 8/17/09

PURPOSE:  
**PORT EXPANSION**

TITLE:  
**PROPOSED  
TERMINAL**

APPLICATION BY:  
**CITY OF SALEM**

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MHW +8.9  
NGVD +4.2  
MLW 0.0

**BCE** Bourn Consulting Engineering

IN: **SALEM**  
AT: **SALEM HARBOR**  
COUNTY: **ESSEX** STATE: **MA**  
SHEET **8** OF **8** DATE: **08/17/09**

**ATTACHMENT B**

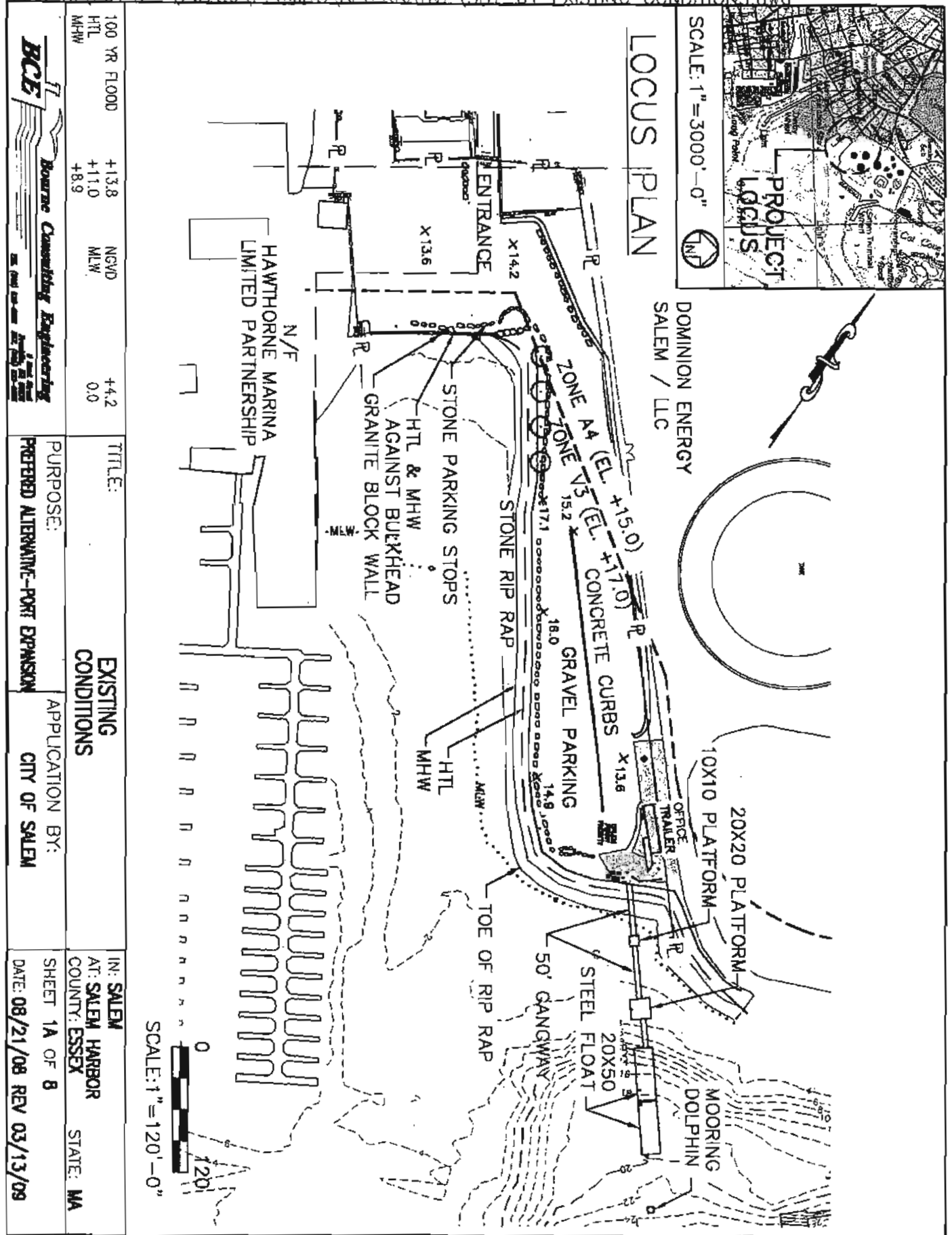
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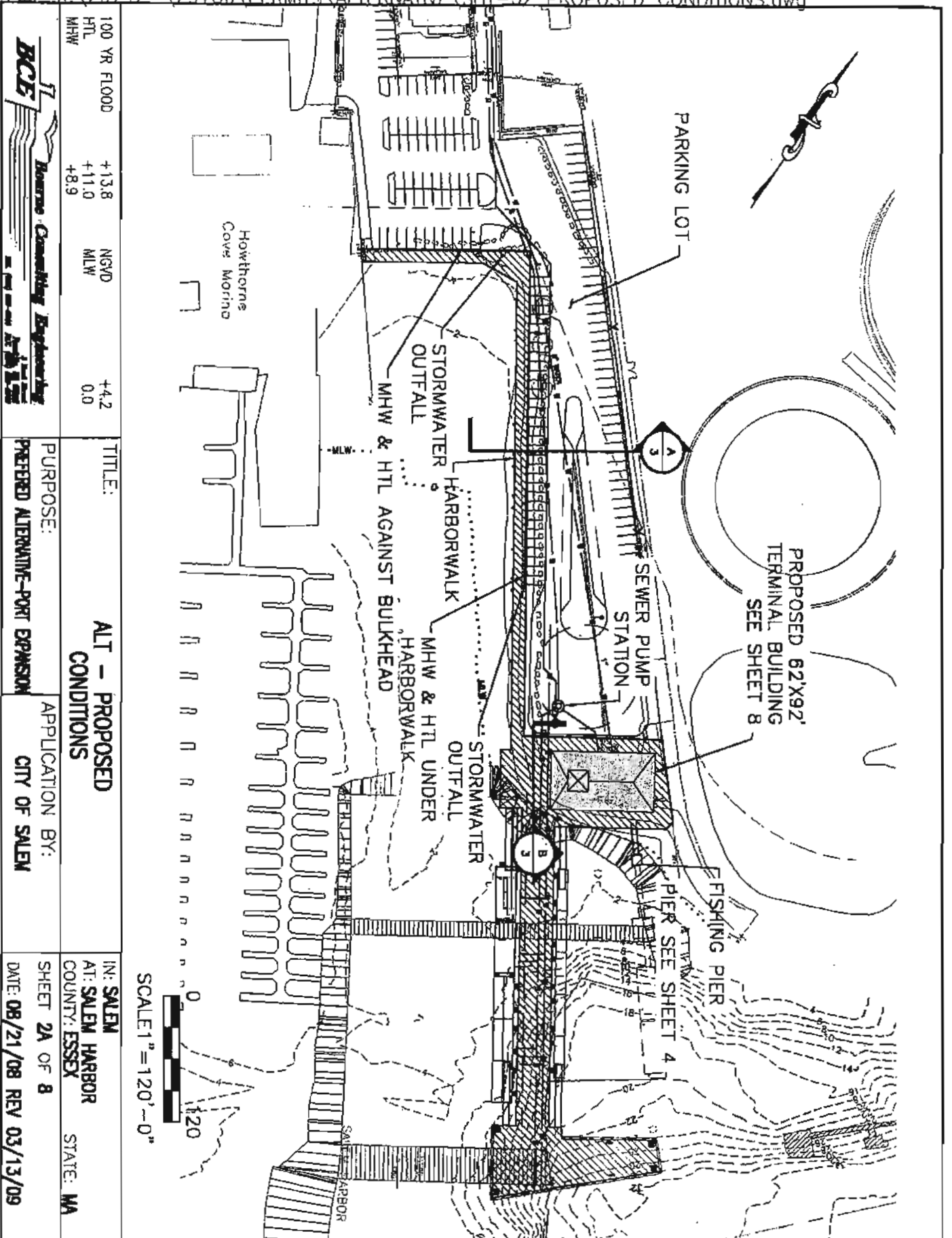
**PREFERRED ALTERNATIVE - PORT EXPANSION  
CITY OF SALEM**

**(8 sheets— Sheet 1A through 8A)**

**Dated: 08/21/08 rev 03/13/09**



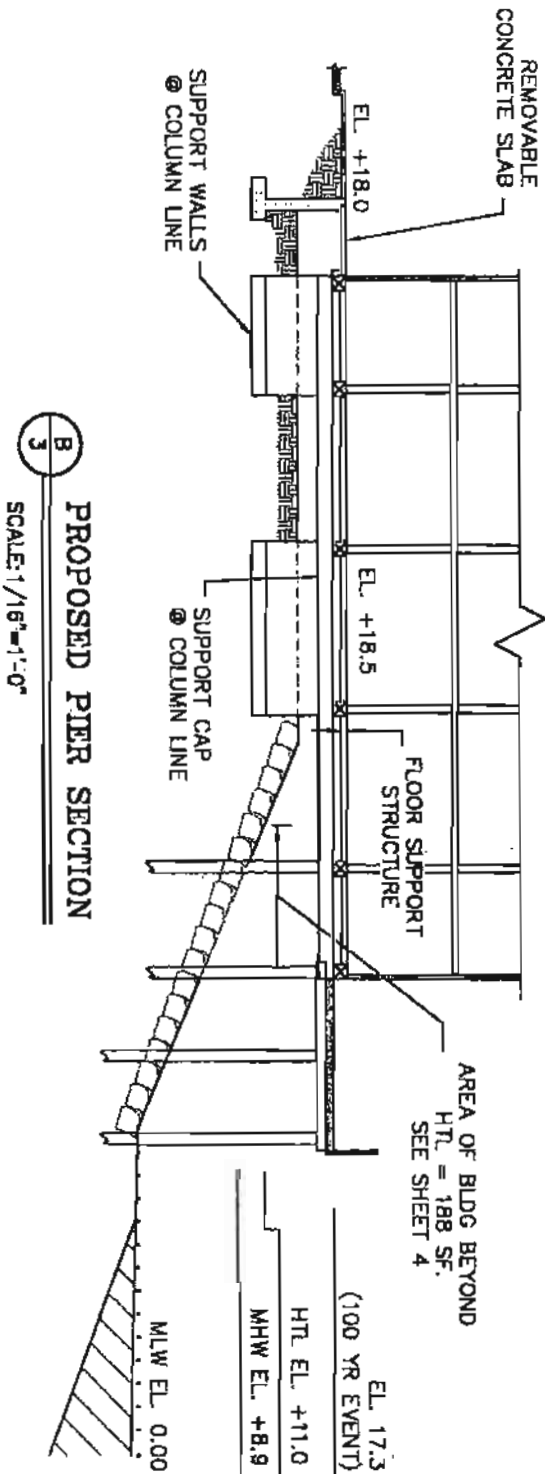
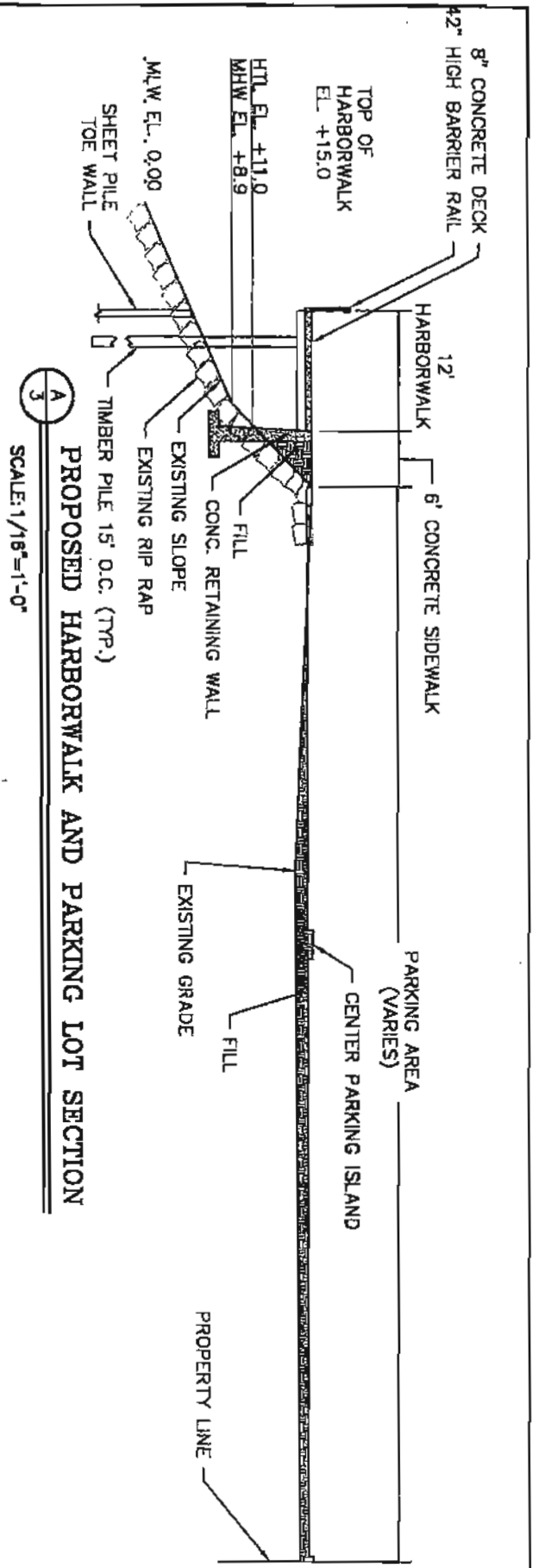





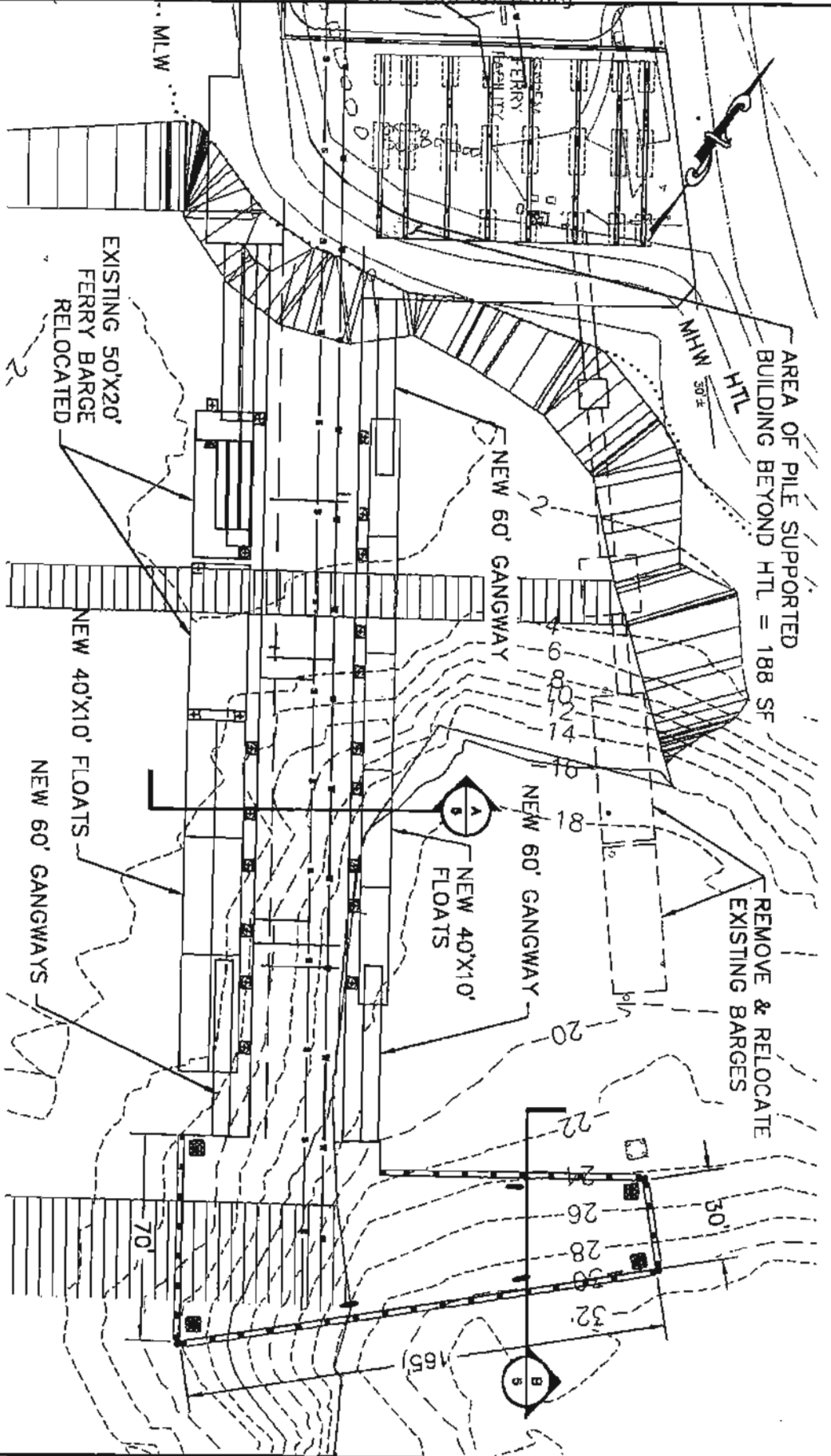
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NGVD MLW +8.9  
+4.2  
0.0

**BCE**  
**Beane Consulting Engineering**  
INCORPORATED  
1000 Main Street  
Salem, MA 01970  
Tel: (508) 744-1234  
Fax: (508) 744-1235

TITLE: <b>ALT - PROPOSED CONDITIONS</b>		IN: SALEM
PURPOSE: <b>PREFERRED ALTERNATIVE-PORT EXPANSION</b>	APPLICATION BY: <b>CITY OF SALEM</b>	AT: SALEM HARBOR
		COUNTY: ESSEX
		STATE: MA
SHEET 2A OF 8		
DATE: 08/21/08 REV 03/13/09		



100 YR FLOOD HTL MLW	+13.8 +11.0 +8.9	NGVD MLW	+4.2 0.0	TITLE: <b>ALT - PROPOSED SECTIONS</b>	PURPOSE: <b>PREFERRED ALTERNATIVE-PORT EXPANSION</b>	APPLICATION BY: <b>CITY OF SALEM</b>	IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA
 <b>BCE</b> Boston Consulting Engineering 125 South Street Boston, MA 02111 Tel: (617) 552-1100 Fax: (617) 552-1101 Email: info@bce-engineering.com				SHEET 3A OF 8 DATE: 01/15/09 REV 03/13/09			



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TITLE:

ALT - PROPOSED PIER

PURPOSE:

PREFERRED ALTERNATE-PORT EXPANSION

APPLICATION BY:

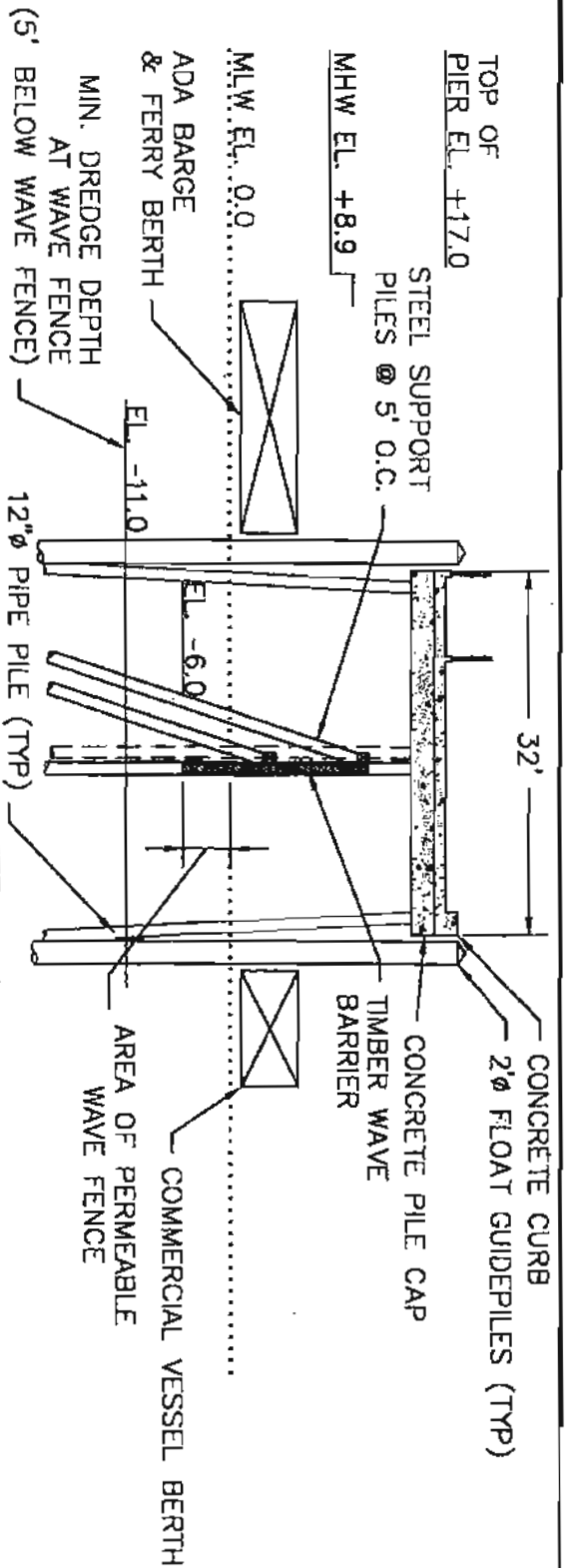
CITY OF SALEM

IN: SALEM  
AT: SALEM HARBOR  
COUNTY: ESSEX  
STATE: MA

SHEET 4A OF 8

DATE: 08/21/08 REV 03/13/09

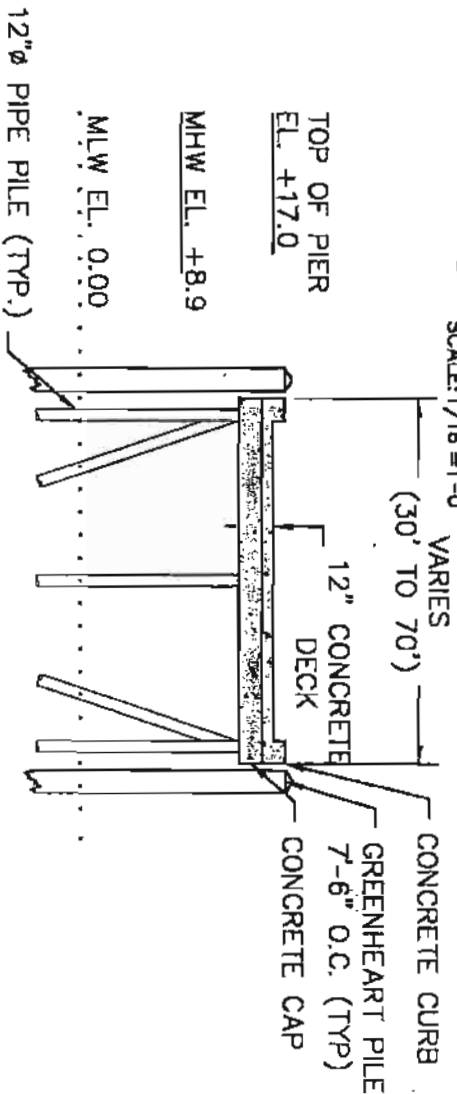
**BCE**  
Boston Consulting Engineering  
INCORPORATED  
1000 STATE STREET  
SALEM, MA 01970  
TEL: 978-744-1234  
WWW.BCE-ENGINEERING.COM



5

SCALE: 1/16"=1'-0"

PROPOSED ACCESS PIER SECTION



5

SCALE: 1/16"=1'-0"

PROPOSED PIER SECTION

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HTL  
MHW

+13.8  
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NGVD  
MLW

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TITLE:

ALT - PROPOSED PIER  
SECTIONS

PURPOSE:

PREFERRED ALTERNATIVE - PORT EXPANSION

APPLICATION BY:

CITY OF SALEM

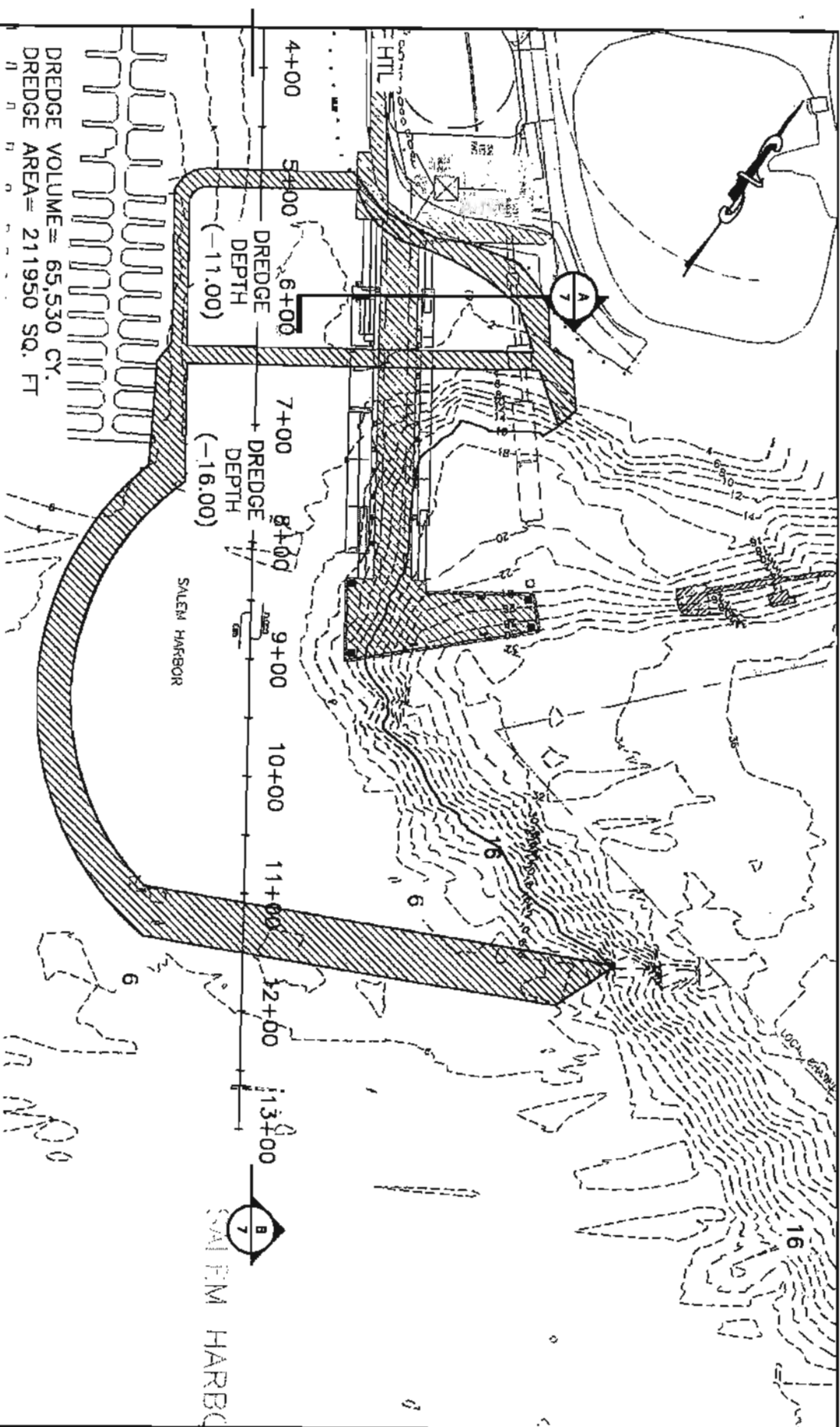
IN: SALEM  
AT: SALEM HARBOR  
COUNTY: ESSEX

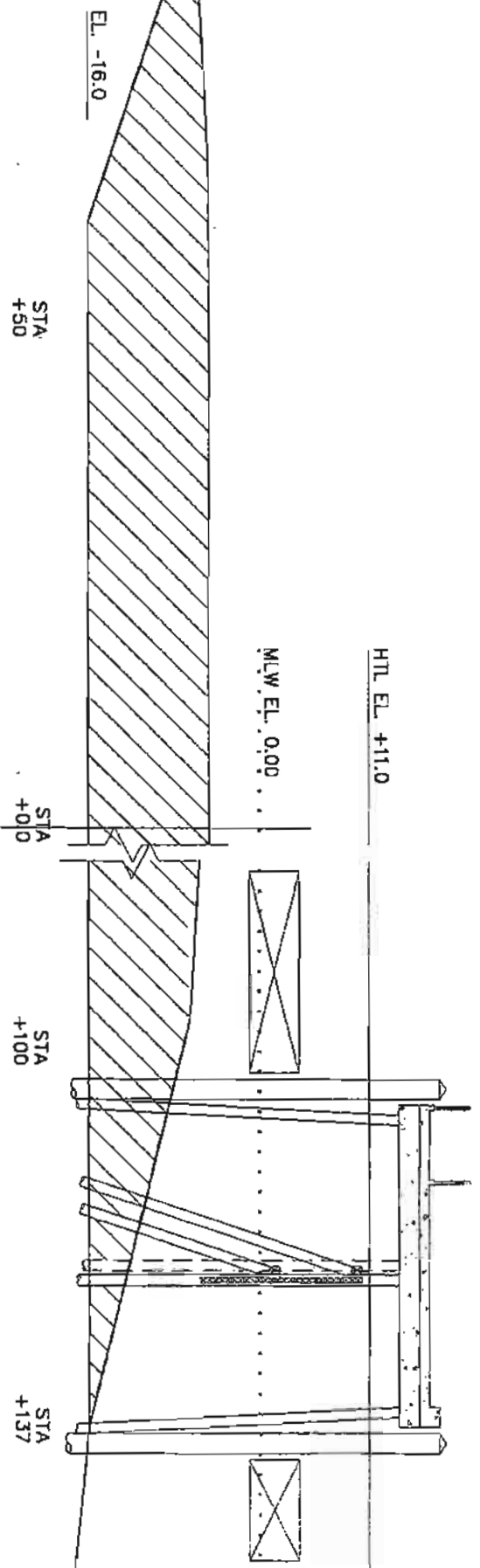
STATE: MA

SHEET 5A OF 8

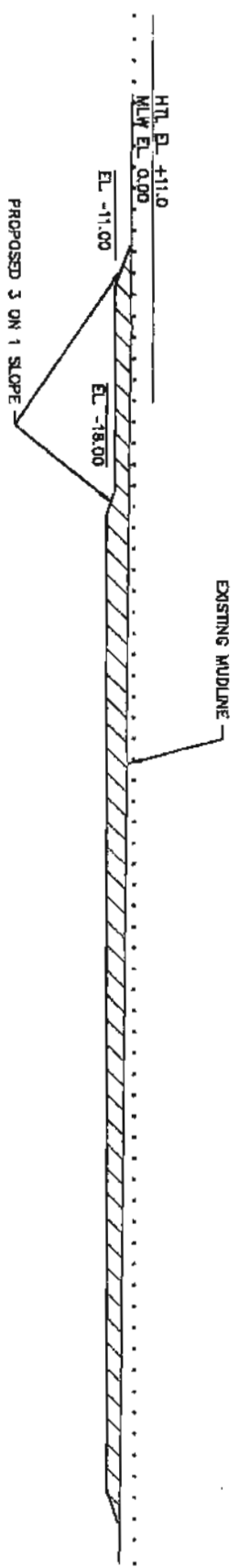
DATE: 08/27/08 REV 03/13/09

**BCE**  
Bourne Consulting Engineering  
100 State Street, Suite 200  
Bourne, MA 01929  
Tel: 508/863-1234  
Fax: 508/863-1235  
www.bce-engineering.com





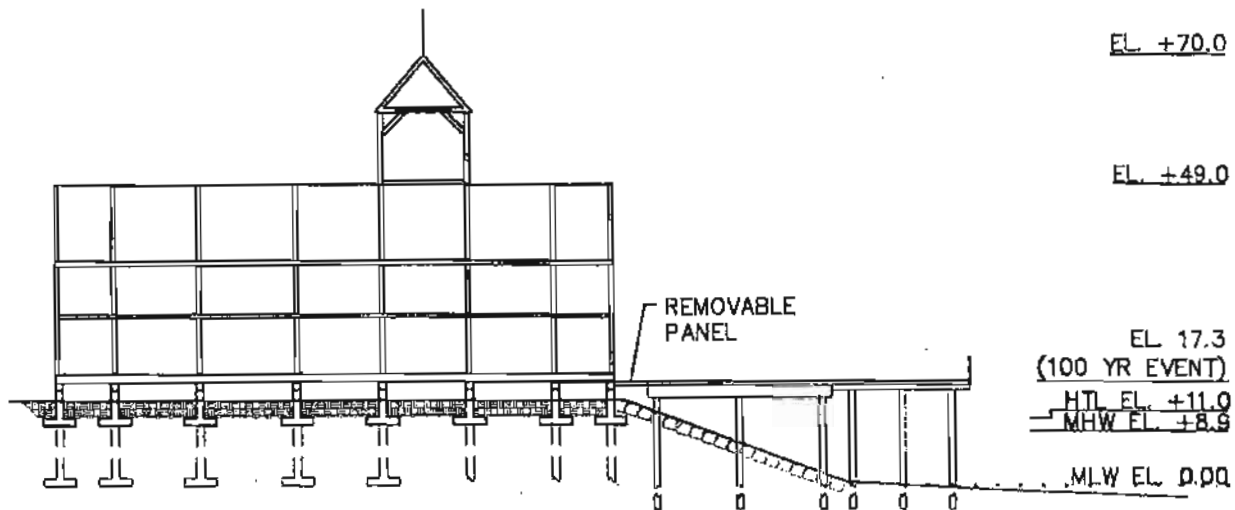
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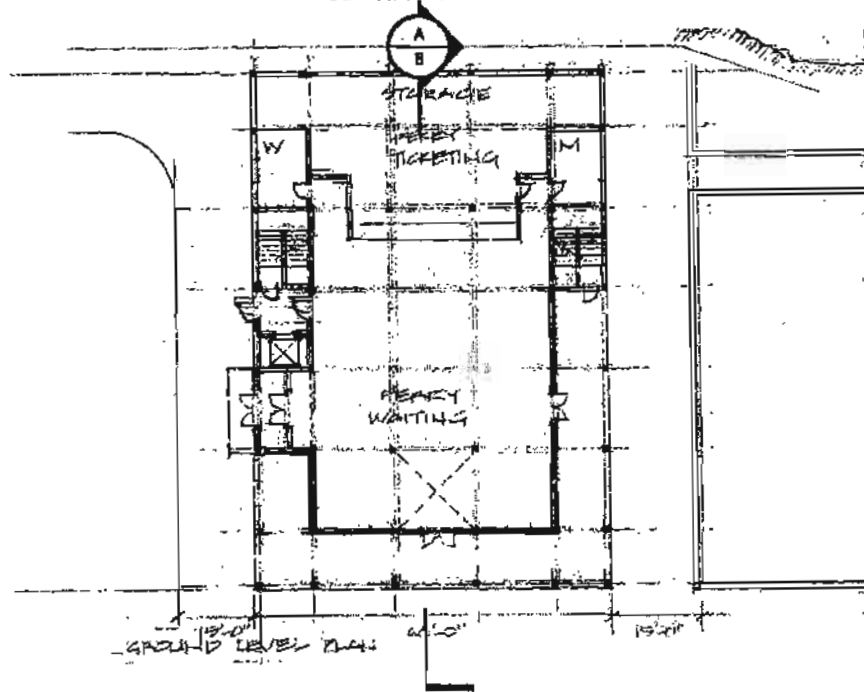
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HTL	+11.0	MLW	0.0
MHW	+8.9		
<b>BCE</b> <i>Boston Consulting Engineers</i> INC. (INC. 00-000) 1000 B-20 1000 B-20			
TITLE:		ALT - PROPOSED DREDGE SECTIONS	
PURPOSE:		PREFERRED ALTERNATIVE - PORT EXPANSION	
APPLICATION BY:		CITY OF SALEM	
IN: SALEM		AT: SALEM HARBOR	
COUNTY: ESSEX		STATE: MA	
SHEET 7A OF 8		DATE: 08/21/08 03/13/09	

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**PROPOSED SECTION**  
 SCALE: 1"=30'-0"



**PROPOSED GROUND LEVEL PLAN**  
 SCALE: 1"=30'-0"

REV 3/13/09

PURPOSE: <b>PREFERRED ALTERNATIVE          PORT EXPANSION</b>	TITLE: <b>ALT - PROPOSED          TERMINAL</b>	APPLICATION BY: <b>CITY OF SALEM</b>
100 YR FLOOD      +13.8 HTL                    +11.0 MHW                  +8.9 NGVD                +4.2 MLW                  0.0		IN: <b>SALEM</b> AT: <b>SALEM HARBOR</b> COUNTY: <b>ESSEX</b> STATE: <b>MA</b> SHEET <b>8A</b> OF <b>8</b> DATE: <b>08/21/08</b>

OGCA :110A\_\_\_\_\_

**ATTACHMENT C**

**PROPOSAL TO CONDUCT AN  
ARCHAEOLOGICAL SITE EXAMINATION,  
OF THREE SITES,  
SALEM PORT EXPANSION PROJECT  
SALEM, MASSACHUSETTS**

**July 29, 2009**

Presented to:

Ronald Bourne  
Bourne Consulting Engineering  
3 Bent Street  
Franklin, MA 02038

Presented by:

University of Massachusetts Archaeological Services  
The Environmental Institute  
Blaisdell House  
University of Massachusetts  
Amherst, MA 01003

Principal Investigator  
Mitchell T. Mulholland, Ph.D.



## **TECHNICAL PROPOSAL**

### **Introduction**

Archaeological Services at the University of Massachusetts (UMAS), Amherst proposes to conduct a Phase 2 archaeological site examination survey for the Salem Port Expansion Project in Salem, Massachusetts (Figure 1). The project will be conducted for Bourne Environmental Consulting of Franklin, Massachusetts. UMAS recently completed the site locational portion of a Maritime Archaeological Reconnaissance Survey for the water side of the Salem Port Expansion Project, located underwater archaeological sites, and have recommended a site examination (Phase 2) (Figure 2). The survey was conducted under permit 09-002 from the Massachusetts Board of Underwater Archaeology (MBUAR)

### **Compliance with Legislation**

Archaeological Services will conduct the archaeological investigation in compliance with Federal and State legislation. Procedures will be in compliance with legislation and regulations concerning the impact to archaeological properties from federally-funded or permitted activities. These include the National Historic Preservation Act of 1966 as amended (PL 89-665, 16 USC 470), the National Environmental Policy Act of 1969 (PL 91-990, 42 USC 4321), Executive Order 11593, 1971 (16 USC 470), Procedures for the Protection of Historic and Cultural Properties (36 CFR 800), and the Archaeological and Historic Preservation Act of 1974 (PL 93-291) as amended. State legislation dealing with the protection of historic and archaeological resources includes Massachusetts General Laws Chapter 9, Sections 26-27C, The Underwater Archaeology Act (MGL Ch.6 ss 179-180, ch.9, s.26, Ch.12, s.11D, Ch.10, s.61, Ch.91, s.63, Ch.92, s.72 and 312 CMR 2), and the Massachusetts Environmental Policy Act (MGL, Chapter 30, amended by Chapter 947 of the Acts of 1977). Projects involving the discovery of human remains or cemeteries are conducted in compliance with MGL Ch.9 ss.26-27C (950 CMR 70 and 71), Ch.9, s.26A and 27C, Ch.18, s.6B and Ch.7, s.38A. Massachusetts archaeological permit regulations are outlined in 950 CMR 70.00.

To assist in compliance with Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800), Massachusetts General Laws, Chapter 9, Sections 26-27C, as amended by Chapter 254 of the Acts of 1988 (950 CMR 70-71), a site examination archaeological survey has been recommended for the project. The project will be conducted under Special Permit 09-002 from.

A special permit from the Massachusetts Board of Underwater Archaeology will be modified for this project. The Massachusetts historical Commission will be notified of the project and sent documentation.

### **Project Boundaries and Description**

The Area of Potential Effect (A.P.E.) is a proposed multi-use water transportation facility, east of Derby and Blaney Street in Salem, MA. The facility is an 8.3-acre area of Salem Harbor, proposed for dredging to create navigable areas, a water transportation terminal, office and storage space, a fixed pile supported pier, and system of gangways and floating docks/barges to

accommodate vessels such as commercial fishing boats, small coastal cruise ships, visiting shops, water taxis, excursion vessels and a supply boat. The dredged sediments will be disposed offshore in the Massachusetts Bay Disposal Site. At the time of the preparation of this proposal, a 146 vehicle parking lot that is presently a gravel parking area and the area for a proposed terminal, will be included in the archaeological reconnaissance survey. This proposal focuses on the water side of the project.

## **Maritime Reconnaissance Survey Phase 1 Results and Recommendations**

**Remote Sensing and Walkover.** On April 9 and 10, 2009 Archaeological Services at the University of Massachusetts, Amherst, MA, working in conjunction with GK Consulting of Derry, NH, completed a shoreline walkover and remote sensing survey of the proposed dredging area planned for the submerged portion of the Salem Port Expansion in Salem, Ma. Archaeological Services also completed an historical background study for the submerged area. This study researched historical use of the portion of Salem Harbor planned for dredging and the potential for submerged, buried, post-sea level rise terrestrial sediment that may contain embedded pre-Contact Native American resources.

The remote sensing survey, consisted of a side-scan sonar and a sub-bottom profiler, and located 32 side-scan sonar anomalies and 2 sub-bottom anomalies that required visual and subsurface inspection. The locations of targets revealed by the survey are shown in Figure 3. Historic maps show a series of wharves and shoreline development including shipyards and tanneries at the foot of Blaney St. beginning in 1680. Long wharves extending into the harbor at this location are present in the late 18<sup>th</sup> century and continue to be extant throughout the 19<sup>th</sup> century and into the early 20<sup>th</sup>. Background research revealed that the Salem Expansion A.P.E. was once the site of the V the Ingersoll/Allen/Orne/Webb wharf.

It was initially predicted that Pre-Contact Native American deposits may be embedded in horizons that retained depositional integrity post-sea level rise. The sub-bottom results revealed a soil layer at approximately 2 m (6.6 ft) below the sea floor that could be a buried, paleo-sediment horizon that may contain embedded pre-Contact archaeological sites. The topography of the submerged A.P.E.: the degree of slope, slope orientation, proximity to a water source, proximity to subsistence resources and proximity to known Native American sites are all consistent with a predictive model of high archaeological sensitivity.

**Ground Truth and Vibratory Cores.** Three sites were encountered through vibratory coring and a visual reconnaissance through diving. The locations of vibratory cores are shown in Figure 3. The sites include the remnants of a nineteenth century wharf, a debris field containing historic artifacts including a ship's knee, and a possible Native American site. From June 1, 2009 to June 4, 2009 field investigations of the side-scan sonar targets revealed evidence of a possibly intact historic wharf structure, and a debris field of historic cultural material within the survey area. Vibratory cores were collected on June 5, 2009 and June 8, 2009 in order to investigate the sub-bottom anomalies and the buried horizon. Analysis of these vibratory cores revealed buried terrestrial sediment at 50 m from MLLW (mean lower low water) and a potential pre-Contact archaeological deposit, also with buried terrestrial sediment, at 100 m from MLLW.

Avoidance or a Phase 2 site examination are recommended for 1) the wharf structure, 2) the

debris field of historic cultural material, and 3) the potential Native American site (buried terrestrial sediments) as they may be archaeologically significant and eligible for inclusion in the National Register of Historic Places.

## SITES RECOMMENDED FOR SITE EXAMINATION

Three sites are recommended for site examination.

**1) Potential Wharf.** Six archaeologically significant features consist of four longitudinal timbers and one vertical timber interpreted as being associated with a historic wharf. The timbers were assigned feature numbers F1, F2, F3, F4 and F6. Features F1, F2 and F3 are parallel to each other and F4 is perpendicular to the others. The ends of F1, F2, F3 and F4 were marked with buoys and GPS coordinates were recorded for them (Figure 4). Feature F6 was not recorded with GPS because its close proximity to F1 allowed it to be measured in accurately. Historical maps show a series of wharves and shoreline development including shipyards and tanneries at the foot of Blaney St. beginning in 1680. Long wharves extending into the harbor at this location are present in the late 18<sup>th</sup> century and continue to be extant throughout the 19<sup>th</sup> century and into the early 20<sup>th</sup>.

**2) Debris Field and Ships Timber (Historic Artifact Concentration).** One piece of possible ship structure was visible on the seabed and was interpreted as a structural knee. This was assigned feature number F5 (Figures 4 and 5). Feature F5 also was marked with a buoy and GPS coordinates were recorded. Additional historic cultural material was observed in the marine sediment surrounding the knee. The locations of the cultural material were recorded and plotted (Figures 4 and 5). This historic cultural material may be associated with the nearby wharf structure or with a shipwreck. An 1840 publication lists shipwrecks that were the result of three severe storms in December 1839. Many of these wrecks were in Salem and one in particular, the Schooner James of Belfast, is recorded sunk after driving into Phillips Wharf. Phillips Wharf was located directly east of the proposed dredging area and evidence of this shipwreck may be associated with the historic cultural material embedded in marine sediment surrounding F5.

**3) Potential Native American Site.** Four vibratory cores were used to investigate an acoustic basement at approximately 2 m (6.6 ft) below the seabed revealed during the sub-bottom sonar survey (vibratory cores TRNS 50M, TRNS 100M, TRNS 150M and TRNS 200M) (Figure 4). The cores were placed in a linear transect beginning at approximately 50 m (164 ft) from MLLW and extending into Salem Harbor at 50 m (164 ft) intervals.

At the laboratory, the 14 cores were opened lengthwise and the stratigraphy was described using a Munsell color chart (the sediment was wet when analyzed and saturation will result in darker hues). Terrestrial sediments were observed in two of the 14 cores, TRNS 50M (Figure 6) and TRNS 100M (Figure 7). Proxy data suggestive of a pre-Contact archaeological midden or nearby archaeological site was also observed in vibratory core TRNS 100M (Figures 7 and 8). Selected sediment deposits were then removed from half of an opened core, recorded,

photographed and processed using a Flote-Tech flotation device in order to retrieve the heavy and light fractions embedded within the deposit. Only one-half of the deposits from a core were processed through flotation, the remaining half were retained for future research. Flotation of the buried terrestrial sediments revealed deposits containing intact vegetation, oxidized sediment and proxy data including charcoal, burned seeds and shell hash.

## RATIONALE FOR SITE EXAMINATIONS

**Summary and recommendations:** The Salem Port Expansion project archaeological survey revealed three potential archaeological sites. Identified were two areas of potential European-American historic significance, and intact terrestrial sediments of potential pre-Contact Native American significance. Avoidance or Phase 2 site examination is recommended for these three areas.

- Historic feature #s F1, F2, F3, F4 and F6 are horizontal and vertical timbers embedded in the seabed surface that are likely the remains of the Ingersoll/Allen/Orne/Webb wharf constructed in the 18<sup>th</sup> century. If portions of this historic wharf are intact, the site could be eligible for inclusion in the National Register.
- Historic feature # F5 is a piece of ship structure partially embedded in the seabed with surrounding historic period artifacts and may be associated with a shipwreck or the nearby wharf. The nature of this site is unknown at present. If a historic shipwreck is associated with this deposit, it could be eligible for inclusion in the National Register.
- Terrestrial deposits pre-dating Holocene sea level rise are buried under marine sediment in core locations TRNS 50M and TRNS 100M. Core TRNS 100M has proxy data, (charcoal, shell and possibly burned seeds) that correspond to typical pre-Contact midden materials, and likely indicate an archaeological site or the margins of a midden. The oxidized sediment in TRNS 50M, 50m from TRNS 100M, was aerially exposed and would be a favorable setting for a pre-Contact occupation. If this is an intact Native American site it may be eligible for inclusion in the National Register. Submerged Native American sites are extremely rare.

The site examinations will be conducted in a manner that will maximize the preservation of cultural resources. At the center of the research design is the placement of Native American and European American cultural resources in the context of:

- 1) the succession of people who have lived in Salem and the general region;
- 2) the changing lifestyles practiced, and resource exploitation techniques utilized, by different groups in local environments;
- 3) the changing structures of spatial organization--transportation and communications networks, trade flows, hierarchies of urban centers--that have linked activities at different periods of time; and
- 4) the historic patterns of diffusion, from centers of innovation, of material artifacts and ideas as indicators of changes in lifestyles.

Within the framework of the research design, research questions and hypotheses will be addressed and evaluated, used to provide a problem orientation, and to structure the sampling design of the archaeological and historical research project. An important component of the research design is a core/periphery model which states that occupation and use of the local landscape at a given time are related to economic development, and social and cultural interaction with other parts of the region.

## Historic Research Issues

If intact remains of the historic period Euro-American sites and associated features are encountered, they may have the potential to contribute to certain research issues.

The following discussion includes specific questions that will be researched as appropriate by studying early eighteenth- through early twentieth-century maritime sites located in Salem. These questions are derived directly from the background history of the A.P.E. conducted for the Maritime Archaeological Reconnaissance survey. Some of these questions can be addressed through additional historical research, some can be best researched through a combined historical and archaeological approach, and for some, the information will only be available through archaeological research. By investigating the sites at the site examination level, it will be possible to determine the degree to which the site can provide data relevant to these research questions, and to determine whether or not the sites have the potential to contribute to archaeology. The degree to which the sites may be able to contribute data to these questions will be important in determining "research potential," and evaluating the sites' eligibility for listing on the National Register of Historic Places based on Criterion D (CFR 60.4).

For the historic-period European American sites, additional historic data will be collected and field investigations will be conducted to answer the following research questions:

- *Are the sites intact? Do they have integrity, clarity of data, and research potential?*
- *Is the debris field with the ship timber associated with a shipwreck, or does it represent a non-site scatter of historic artifacts?*
- *If the site represents a shipwreck, what is the identity of the vessel, what is the date of sinking, and what was the cause of the wreck?*
- *Are there intact joined structural remnants of the Ingersoll/Allen/Orne/Webb wharf, or are the remains only scattered timbers?*
- *What are the methods of joinery of the wharf and its structural components? Is this a crib wharf like other wharves in the immediate vicinity, or simply constructed of wooden pilings?*
- *Do stone pavements exist that were related to warehouses, such as similar features*

*found on nearby Derby Wharf. If portions of the Ingersoll/Allen/Orne/Webb wharf were of filled crib construction, stone pavements designed to keep water out of the warehouses, may have settled to the bottom when the wharf was destroyed.*

- Historic photographs indicate that the wharf had a warehouse at the eastern end. Is there evidence of this? Are portions of the structure still intact?*
- If it can be demonstrated that the timbers are associated with the Ingersoll/Allen/Orne/Webb wharf, can disk samples of the wood be obtained for dendrochronological analysis? If so, this will assist in dating the structure, and may contribute to the dendrochronological master record for Salem and the region.*
- What are the significant dates of the two sites?*
- Do preserved features contain evidence of their function, date, or evidence of the social status of the sites' occupants?*

#### **Native America Research Issues**

For the possible Native American site, if the deposits are indeed a site, the site examination will address research questions related to its National-Register significance. The research questions include:

- Is this deposit a Native American Site? Is the site intact? Does the site have integrity, clarity of data, and research potential?*
- What was the date of site occupation? Are there temporally diagnostic artifacts at the site that can provide an approximate date of occupation. Is there adequate charcoal or other organics to provide a sample for C14 dating. Such evidence would date the site's occupation and help to refine New England prehistoric chronologies.*
- Do lithic artifacts exist at the site? If so, how does the lithic assemblage and tool kit obtained from the site compare to those reported from other sites located in coastal Massachusetts? What is the ratio of local to imported lithic materials at the site? These data can provide information about prehistoric long-distance trade networks, or socioeconomic and environmental conditions, or both, during the occupation of the site.*
- Is the site a small, task-specific camp, or part of a larger site? What were the adaptive strategies that ancient people used while inhabiting this site? What subsistence sources were exploited? Is there evidence that this was a fishing camp on the Weir River?*
- Was the site reoccupied, and how frequently did this occur? Did site function change with reoccupation? Is there evidence of seasonal habitation?*

- *What is the relationship between the site and others located in the vicinity? How did the site factor in settlement systems and trail networks? Are there data that can provide information about long-distance trade networks or socioeconomic and environmental conditions during the occupation of the site?*
- *Does the site represent a small, special purpose camps, or part of a larger site?*
- *What are the relationships between the small special purpose or seasonal sites situated in the interior uplands and the larger sites nearby?*
- *How does the artifact assemblage from the site differ from those of other sites located in similar environments? The lithic material and lithic tool manufacturing techniques from the site could be compared to materials from the other sites in the area.*
- *Was the site reoccupied, and how frequently did this activity occur? Did site function change with reoccupation?*
- *What were the adaptive mechanisms that aboriginal people utilized while inhabiting the interior site? What subsistence patterns were exploited? When, in what ways, and to what extent did culture contact occur, and how is this contact discernable archaeologically? Further investigation in the site may help answer these questions.*



## **PROPOSED SCOPE OF WORK FOR PH 2 TASKS FOR SALEM PORT EXPANSION**

The purpose of the proposed Phase 2 site examination of the historic features and the buried terrestrial sediments, is to determine site boundaries, archaeological integrity and significance for each location. This will require the following tasks:

- Generate a site map of visible features.
- Hand excavate (with an induction dredge) approximately five exploratory trenches at the inferred wharf structure with the discharge screened through ¼" mesh. Discharge sediment will be re-deposited on site. The exact placement of the trenches will be determined in the field.
- Hand excavate (induction dredge) excavation units at F5 and in the vicinity of F5 in order to determine if the inferred ship structure is associated with a shipwreck or an historic deposit (square units, exact dimensions are yet to be determined, and may depend upon field assessment of the sediment characteristics). Five test excavation units should be placed around the location of Feature F5. Testing intervals should be wide enough to examine the lobster burrow area around T10 and include the vicinity of observed, embedded historic material. Exact intervals will be determined in the field. Discharge will be screened through ¼" mesh and the sediment re-deposited on site.
- Twelve-foot vibratory cores are recommended at 10-m intervals along the same transect as the Ph 1b between TRNS 150M and shoreline (Figure 2). Vibratory cores should also be taken at 10-m intervals radiating outward from TRNS 100M perpendicular to the existing transect. This should determine the boundaries of the deposit containing charcoal, charred seeds and shell hash that may indicate an archaeological midden. TRNS 100M should also be boxed by cores at 5m intervals in order to more closely examine the integrity of the potential midden deposit.
- Budget for flotation analysis and C-14 dating of the light fractions.
- Budget for dendrochronological analysis

### **Excavation trenches at the historic wharf structure**

Excavation trenches will be required at the location of Features F1-F4 and F6. These are timbers visible on the seabed surface that seem to be in articulation and associated with each other as a part of a historic wharf structure. One excavation trench measuring 75cm x 3m will be placed perpendicular to F1 in order to establish the vertical and horizontal integrity of this timber as part of an articulated wharf structure. The exact placement of this trench will be determined in the field after examining the existing conditions and generating a site map. Two excavation

trenches measuring 75cm x 2m will be used to determine the longitudinal extent of the structure (this may be divided as four 75cm x 1m units depending on conditions and results). The exact placement of these trenches will be determined in the field and will depend on existing conditions and some preliminary probing. Judgmental excavation totaling 75cm x 2m will be used to examine Feature particulars such as joinery and construction details. Eight working days should be allotted for site mapping and the hand dredged excavation of Features F1-F4 and F6.

### **Excavation units at the knee structure and historic material**

Five test pits will be required in the vicinity of F5 and the surrounding historic cultural material embedded in the seabed sediment. Test pits (by induction dredge) will measure 75cm x 75cm and will likely extend no deeper than 1m. One test pit will be placed next to the knee structure. The location of the four remaining test pits will be excavated radially, and their locations will be determined in the field based on conditions and field observations. The likely interval between F5 and the four radial test pits is less than 10m. Two working days should be allotted for the hand dredged excavation of the vicinity of F5.

In total, 10 working days should be allotted to Phase II hand dredged excavation for the Salem Port Expansion project.

### **Vibratory cores**

Twenty-nine 12-ft depth vibratory cores are recommended for Ph 2 examination. Vibratory cores should be placed at 10-m intervals along the same transect as the Ph 1b between TRNS 150M and shoreline. Cores at this interval along the transect will reveal where the buried terrestrial deposits begin in relation to the shoreline (as they are not present in TRNS 150M). This testing strategy should also reveal the depositional relationship of the terrestrial sediments revealed in TRNS 50M (laminated yellow brown fine sands and silts) and TRNS 100M (black peat). This will help to determine if the dark gray fine sandy silt overlying the peat in vibratory core TRNS 100M is part of an archaeological midden deposit.

Vibratory cores should also be taken at 10m intervals radiating outward from TRNS 100M perpendicular to the existing transect in order to determine the boundaries of the deposit containing charcoal, charred seeds and shell hash that may indicate an archaeological midden. It is recommended that TRNS 100M also be boxed by cores at 5m intervals in order to more closely examine the integrity of the potential midden deposit.

The terrestrial sediments and macro flora and fauna collected by the vibratory cores will be described and photographed. Sediment samples will be taken and retained and the remaining soil will be processed through a Float-Tech flotation device. The heavy and light fractions of each sediment deposit will be analyzed and C-14 dates obtained if applicable.

Following their extraction, the cores will be opened, the stratigraphy analyzed and recorded, and the anomalies identified. If the anomalies and/or the stratigraphy indicate buried, submerged terrestrial sediments they should be passed through a flotation device, and analyzed. If any side-scan anomalies are archaeologically significant, some time will have to be spent underwater

recording basic details that may justify recommending avoidance or PH2.  
TG&B, Inc. will conduct the vibratory coring.

## PART II

### DESCRIPTION OF TASKS AND DELIVERABLES

#### Phase 2 - Site Examination

Site examination (Phase 2) involves the collection of information once the site has been located to determine its eligibility for National Register. This also includes the evaluation of the site's potential to provide data related to state and federal historic preservation plans and to design and evaluate project impact mitigation strategies.

Categories of information to be gathered are as described in 36 CFR 63 *Determination of Eligibility for Inclusion in the National Register of Historic Places*. Categories will include site type and function; a description of the site's immediate and past environment; boundaries of the site; disrupting influences; and evaluation of integrity and known internal characteristics including stratigraphy, distributions of artifacts and features, determination of age, and a discussion of all previously conducted investigations at the site.

**Permit Application.** A modification of MassBUAR special permit 09-002 will be applied for. Copies of all requests will be submitted to the MassBUAR and MHC for comment. *The permit will be applied for immediately upon verbal notification to proceed.*

**Laboratory Analysis.** Laboratory tests will include the extraction of information on site chronology and function. Historic artifacts and documentary evidence will be used to date the historic components of the site. All artifacts and samples from features will be curated at the Department of Anthropology at the University of Massachusetts.

**Report Contents - Phase 2.** The report produced for the Phase 2 site examination will include a description of the sites and their physical and cultural environs, a rationale and justification of the research and sampling design, a thorough discussion of survey, excavation and laboratory methodologies and techniques, a discussion of the importance, or lack thereof, of the sites to historic or prehistoric archaeological problems and contexts within the state and region, a discussion of the spatial, structural and contextual characteristics of the site and their condition, a list and justification of eligibility or non-eligibility of the sites for the National Register of Historic Places, and a qualitative and quantitative summary of archaeological features and artifacts. Appropriate categories of information described in 36 CFR 63 will be included and addressed in the report.

Graphics will include but not be limited to photographs of features, terrain and appropriate artifacts, maps of sampling locations, drawings of soil profiles, and site locational maps. Finally, the report will include a discussion explicitly stating how the known or expected cultural materials may contribute to important archaeological or historical research topics. State site inventory forms shall be completed for all unrecorded sites encountered during the site examination, or will be updated with recovered information.

#### Schedule and Timing of Completion

UMASS Archaeological Services is prepared to begin the survey immediately upon execution of the contract with the University of Massachusetts. The following milestones extend from a date mutually agreed upon by the Sponsor's representative and the Director of Archaeological Services.

It is UMAS's intent to begin the field work as early as possible following notice to proceed from the Sponsor. Background research and site layout will begin immediately upon execution of the contract.

The following is a proposed schedule:

**Background Research:** 15 working days.

**Field Research:** 20 working days. This time period takes into consideration inclement weather, planning, etc.

**Interim Letter Report:** Within 10 days of completion of field work (to be written while final report is in process.)

**Laboratory Analysis:** Forty (40) working days from completion of field work. The laboratory analysis will occur during the report-writing period.

**Draft Final Report:** This includes statistical analysis, synthesis of findings, report writing and editing. Within 40 working days (a shorter period may be negotiated if necessary).

Total estimated time: 75 working days.

**Final Report:** The final report will be submitted following review by the sponsor and the appropriate government agencies. The report will be submitted within 10 working days from receipt by Archaeological Services of the final changes, or at a date agreed upon by the sponsor's representative and the Director of Archaeological Services. Following the sponsor's acceptance of the draft final report, UMAS will submit six copies of the final report to the sponsor (2 copies are for the MHC in Boston), in compliance with state permit regulations (950 CMR 70.14).

#### **Level of Effort and Ability to Perform**

The site examination of the site will involve the following: Field work: 30 person days, Laboratory and Analysis: 26 person days, Synthesis and Report: 34 person days. Thirty-six days are required for the Project Archaeologist. UMAS is prepared to begin the project immediately upon receipt of a contract and authorization to proceed from the sponsor and issuance of a permit from the MassBUAR.

# NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

**Applicant:** City of Salem - Salem Wharf Project

**File Number:** NAE-2005-1095

**Date:** November 19, 2009

**Attached is:**

See Section below

X	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
X	PRELIMINARY JURISDICTIONAL DETERMINATION	E

**SECTION I -** The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://usace.army.mil/inet/functions/cw/cecwo/reg> or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the District Engineer for final authorization in care of "Regulatory Division." If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the District Engineer, in care of the Chief, Regulatory Division, as specified in the last paragraph of the coverletter. Your objections must be received within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the District Engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the District Engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the District Engineer for final authorization in care of "Regulatory Division." If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer in care of: Michael G. Vissichelli, Administrative Appeals Review Officer, North Atlantic Division, Corps of Engineers, North Atlantic Fort Hamilton Military Community, Bldg. 301, General Lee Avenue, Brooklyn, NY 11252-6700 Telephone: (718) 765-7163, E-mail: [Michael.G.Vissichelli@usace.army.mil](mailto:Michael.G.Vissichelli@usace.army.mil) The Division Engineer must receive this form within 60 days of the date of this notice.

- **C: PERMIT DENIAL:** You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer in care of: Michael G. Vissichelli, Administrative Appeals Review Officer, North Atlantic Division, Corps of Engineers, North Atlantic Fort Hamilton Military Community, Bldg. 301, General Lee Avenue, Brooklyn, NY 11252-6700 Telephone: (718) 765-7163, E-mail: Michael.G.Vissichelli@usace.army.mil The Division Engineer must receive this form within 60 days of the date of this notice.

**D: APPROVED JURISDICTIONAL DETERMINATION:** You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the Division Engineer in care of: Michael G. Vissichelli, Administrative Appeals Review Officer, North Atlantic Division, Corps of Engineers, North Atlantic Fort Hamilton Military Community, Bldg. 301, General Lee Avenue, Brooklyn, NY 11252-6700 Telephone: (718) 765-7163, E-mail: Michael.G.Vissichelli@usace.army.mil The Division Engineer must receive this form within 60 days of the date of this notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION:** You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district at the address below for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

## **SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

## **POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

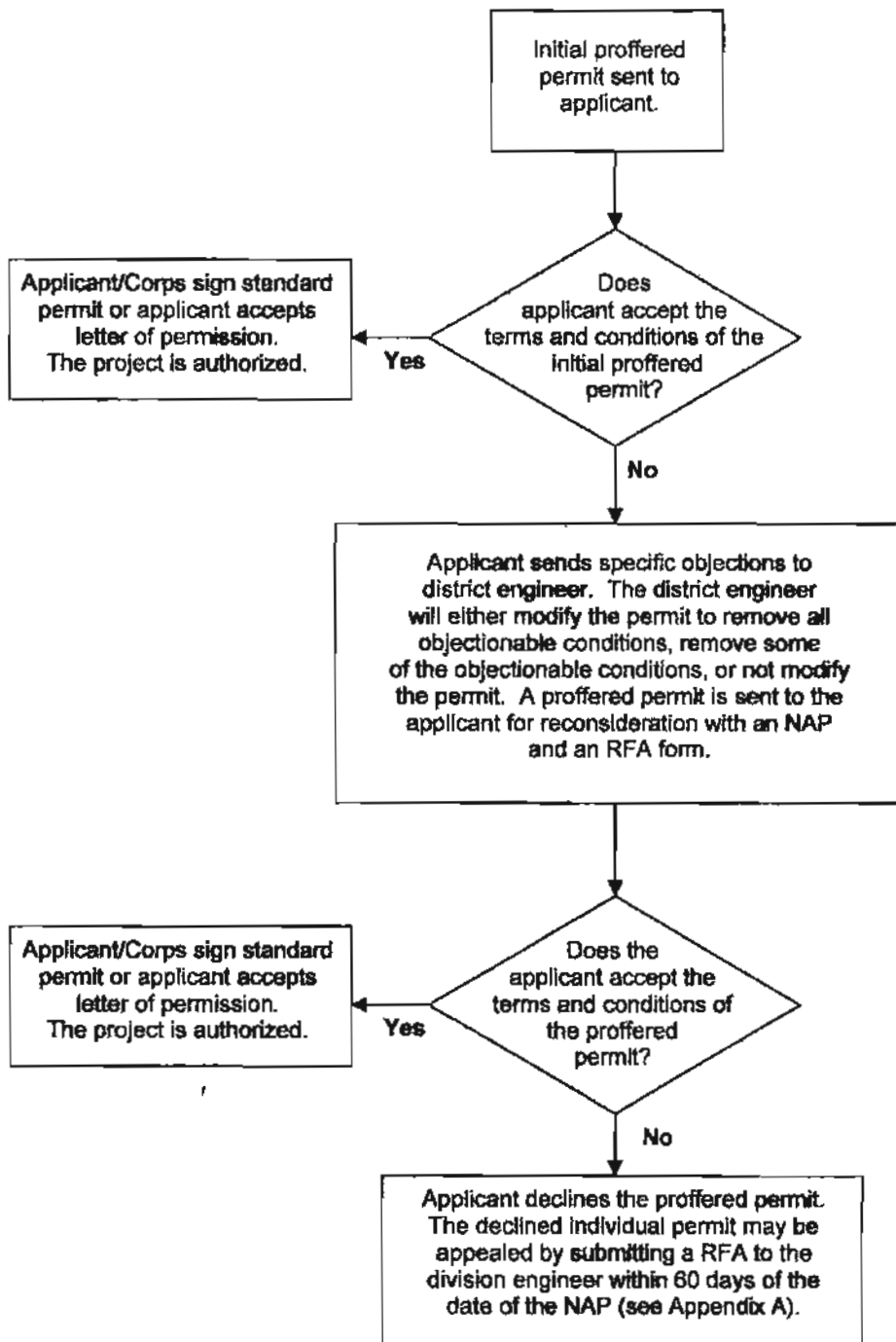
If you have questions regarding this decision and/or the appeal process you may contact Ms. Ruth Ladd at:

Chief, Policy Analysis/Technical Support Branch  
Corps of Engineers  
696 Virginia Road  
Concord, MA 01742 or by calling (978) 318-8818

**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.	Date:	Telephone number:
----------------------------------	-------	-------------------

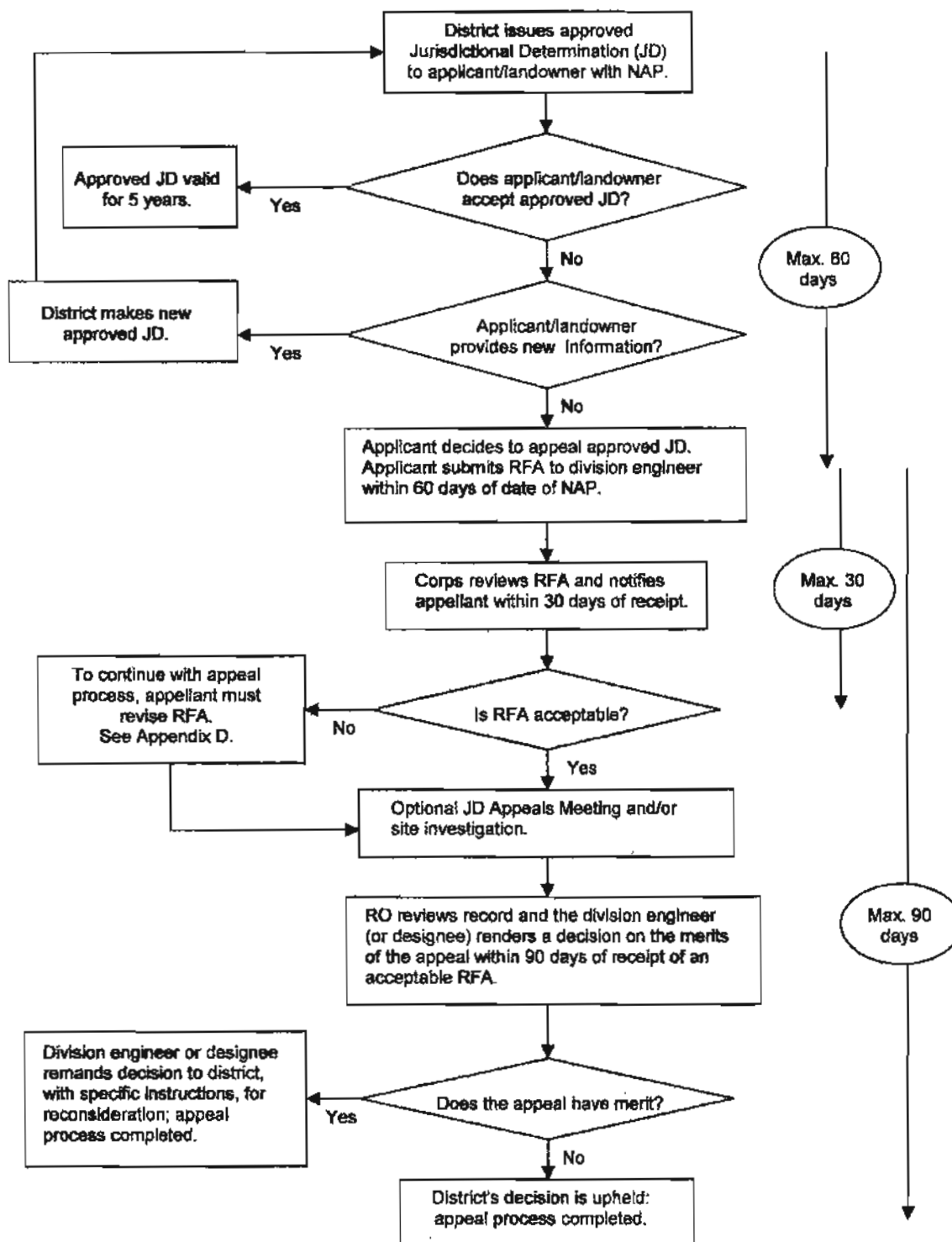
## Applicant Options with Initial/Proffered Permit



### Appendix B



## Administrative Appeal Process for Approved Jurisdictional Determination





**US Army Corps  
of Engineers®**  
New England District

**PRELIMINARY JURISDICTIONAL  
DETERMINATION FORM**

**BACKGROUND INFORMATION**

- 1. Report completion date for Preliminary Jurisdictional Determination (JD):** 19 November 2009
- 2. Name and Address of Person Requesting Preliminary JD:** Applicant is the City of Salem, Massachusetts with City offices at City Hall Annex, 120 Washington Street, Salem, Massachusetts 01970
- 3. District office, file name and number:** New England District; City of Salem –Salem Wharf Port Expansion Project; NAE 2005-1095.
- 4. Project location and background information:** 10 Blaney Street, Salem, Massachusetts. The site is now used as a commercial ferry landing operation. This is for a new multi-use commercial port facility.

State: Mass                      County: Essex                      City: Salem  
Coordinates of site (lat/long in degree decimal format):  
Harbor Site for dredging/construction      Lat. 42.522398° N, Long. 70.882804 ° W  
Mass. Bay Disposal Site for Material Disposal      Lat. 42.418433° N, Long.      70.5828 ° W  
Universal Transverse Mercator: UTM Zone 19 at 4709140.00 N and 0345550.00 E. for  
construction/dredging site.

Name of nearest waterbody: Salem Harbor.

Identify (estimate) amount of waters in the review area:

Non-wetland waters:                      linear feet:                      width (ft) and/or 8.6 acres.  
Cowardin Class:  
Stream Flow:  
Wetlands:                      acres  
Cowardin Class:

Name of any water bodies on the site that have been identified as Section 10 waters:

Tidal:      Salem Harbor is completely tidal.  
Non-Tidal:

**5. Review performed for site evaluation (check all that apply):**

- ☒ Office (Desk) Determination. Date: 19 November 2009  
☐ Field Determination. Date(s):

a. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD)

for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

b. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

c. **Supporting Data.** Data reviewed for Preliminary JD - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: "PURPOSE: PORT EXPANSION APPLICATION BY: CITY OF SALEM IN: SALEM AT: SALEM HARBOR COUNTY: ESSEX STATE: MA", on 8 sheets by Bourne Consulting Engineering, and dated "8/17/09."

- ☐ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps:
  - ☐ Corps navigable waters' study:
  - ☐ U.S. Geological Survey Hydrologic Atlas:

- ☐
- Other information (please specify):

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**

Brian E. Valiton 11/19/2009

**NAME** \_\_\_\_\_ **Date** \_\_\_\_\_  
Regulatory Project Manager

NAME \_\_\_\_\_ Date \_\_\_\_\_  
COMPANY IF APPLICABLE \_\_\_\_\_



**US Army Corps  
of Engineers®**  
New England District

(Minimum Notice: Permittee must sign and return notification  
within one month of the completion of work.)

## COMPLIANCE CERTIFICATION FORM

**USACE Project Number:** NAE 2005-1095

**Name of Permittee:** City of Salem – Salem Wharf Project

**Permit Issuance Date:** 19 November 2009

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 \*  
\* Policy Analysis/Technical Support Branch, ATTN: Marie Farese \*  
\* 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 ( ) \_\_\_\_\_

## **SECTION C**

# **GEOTECHNICAL INFORMATION**

Boring Logs, Geotechnical Services, Inc., 2009  
Grain Size Analysis - 2014

Note: Additional Soil Testing Data will be made available to the successful bidder upon request to the Owner.

<div style="display: flex; justify-content: space-between; align-items: center;"> <div> <h2 style="margin: 0;">TEST BORING LOG</h2> </div> <div style="text-align: right;"> <p>Boring No. <b>WB-1</b></p> <p>Page 1 of 2</p> </div> </div>																																															
Project		Salem Wharf		Project No.		209196		Elevation		-1.0																																					
Location		Salem, MA		Inspector		G. Zoladz		Datum		MLW																																					
Client		Bourne Consulting Eng.		Project Manager		G. Zoladz		Start		6/15/2009																																					
Contractor		New Hampshire Boring, Inc.		Checked By		C. Soydemir		Finish		6/15/2009																																					
Driller		P. LaBosiere		Drill Rig				Model																																							
Item:		Auger		Casing		Sampler		Core Barrel		<input type="checkbox"/> Truck <input type="checkbox"/> Skid <input checked="" type="checkbox"/> Track <input type="checkbox"/> ATV <input type="checkbox"/> Bomb. <input type="checkbox"/> Geophone <input type="checkbox"/> Tripod <input type="checkbox"/> Other <input type="checkbox"/> Winch <input checked="" type="checkbox"/> Cat Head <input checked="" type="checkbox"/> Roller Bit <input type="checkbox"/> Cutting Head																																					
Type		-		HW		S		-		<b>Hammer Type:</b> <input checked="" type="checkbox"/> Safety Hammer <input type="checkbox"/> Doughnut <input type="checkbox"/> Automatic																																					
Inside Diameter (in.)		-		4		1.375		-																																							
Hammer Weight (lb)		-		300		140		-																																							
Hammer Fall (in.)		-		24		30		-																																							
Depth (ft)	Casing (Blows/ft)	Sample Data							Soil-Rock Visual Classification and Description (Soils - Birmister System) (Rock - U.S. Corps of Engineers System)																																						
		No.	Depth (ft)	Rec (in.)	SPT (Blows/6-in.)	Rock RQD (%)	PID Rdg. (ppm)	Stratum Change (ft)																																							
0		S1	0-2	18	3 2 1 1				Layer of gravel and shells at top of sample (mudline) V. loose, black to gr., silty fine SAND, tr. shells, organics																																						
5		S2	4-6	24	WOH WOH 1 1				V. loose, gr., fine SAND and SILT, tr. shells and peat fibers																																						
10		S3	9-11	16	5 4 8 9				~9 Stiff, olive gr. CLAY with seams of silt and fine sand																																						
15		S4	14-16	24	2 3 4 4				M. stiff, olive, CLAY																																						
20		S5	19-21	24	2 2 3 3				M. stiff, olive, CLAY																																						
25		S6	24-26	24	1 1				V. soft to soft, gr., CLAY																																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5">Water Level Data</th> <th rowspan="2">Sample Identification</th> <th rowspan="2">Cohesive Soils N-Value</th> <th rowspan="2">Granular Soils N-Value</th> </tr> <tr> <th>Date</th> <th>Time</th> <th colspan="3">Depth (ft) to:</th> </tr> <tr> <td></td> <td></td> <th>Bott. of Casing</th> <th>Bott. of Hole</th> <th>Water</th> <td rowspan="4">           O = Open Ended            U = Undisturbed            S = Split Spoon            C = Rock Core            G = Geoprobe         </td> <td rowspan="4">           0 to 2: Very Soft            2 to 4: Soft            4 to 8: Medium Stiff            8 to 15: Stiff            15 to 30: Very Stiff            Over 30: Hard         </td> <td rowspan="4">           0 to 4: Very Loose            4 to 10: Loose            11 to 30: Medium Dense            31 to 50: Dense            Over 50: Very Dense         </td> </tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>												Water Level Data					Sample Identification	Cohesive Soils N-Value	Granular Soils N-Value	Date	Time	Depth (ft) to:					Bott. of Casing	Bott. of Hole	Water	O = Open Ended U = Undisturbed S = Split Spoon C = Rock Core G = Geoprobe	0 to 2: Very Soft 2 to 4: Soft 4 to 8: Medium Stiff 8 to 15: Stiff 15 to 30: Very Stiff Over 30: Hard	0 to 4: Very Loose 4 to 10: Loose 11 to 30: Medium Dense 31 to 50: Dense Over 50: Very Dense															
Water Level Data					Sample Identification	Cohesive Soils N-Value	Granular Soils N-Value																																								
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Trace (0 to 5%),    Little (10 to 20%),    Some (20 to 35%),    And (35 to 50%)								<b>WB-1</b>																																							
Notes:																																															



# TEST BORING LOG

Boring No.

WB-1

Page 2 of 2

[illegible]





# TEST BORING LOG

Boring No. \_\_\_\_\_

WB-2

Page 1 of 2

Project		Salem Wharf		Project No.		209196		Elevation		-1.6	
Location		Salem, MA		Inspector		G. Zoladz		Datum		MLW	
Client		Bourne Consulting Eng.		Project Manager		G. Zoladz		Start		6/15/2009	
Contractor		New Hampshire Boring, Inc.		Checked By		C. Soydemir		Finish		6/15/2009	
Driller		P. LaBossiere		Drill Rig				Model			
Item:		Auger		Casing		Sampler		Core Barrel		<input type="checkbox"/> Truck <input checked="" type="checkbox"/> Track <input type="checkbox"/> Bomb. <input type="checkbox"/> Tripod <input type="checkbox"/> Winch	
Type		-		HW		S		-		<input type="checkbox"/> Skid <input type="checkbox"/> ATV <input type="checkbox"/> Geophone <input type="checkbox"/> Other	
Inside Diameter (in.)		-		4		1.375		-		Hammer Type: <input checked="" type="checkbox"/> Safety Hammer <input type="checkbox"/> Doughnut <input type="checkbox"/> Automatic	
Hammer Weight (lb)		-		300		140		-		<input type="checkbox"/> Cat Head <input checked="" type="checkbox"/> Roller Bit <input type="checkbox"/> Cutting Head	
Hammer Fall (in.)		-		24		30		-			
Depth (ft)	Casing (Blows/ft)	Sample Data								Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)	
		No.	Depth (ft)	Rec (in.)	SPT (Blows/ 8-in.)	Rock RQD (%)	PID Rdg. (ppm)	Stratum Change (ft)			
0		S1	0-2	24	3 2 1 1			-1	M. stiff, dark gr., SILT, tr. shells, organics		
									V. loose, gr., fine SAND, tr. silt		
		S2	3-5	24	1 1 1 1				V. loose, gr., fine SAND and SILT		
5		S3	5-7	24	WOH WOH WOH WOH				V. loose, similar to S2		
		S4	9-11	24	WOH 1 3 5			-10	V. soft, gr., SILT, trace shells, organics		
10									Stiff, blue/gr., CLAY		
		S5	14-16	24	8 11 17 21				V. stiff, olive/yellow, CLAY		
15											
		S6	19-21	24	4 5 6 8				Stiff, olive, CLAY		
20											
		S7	24-26	24	2 3				M. stiff, olive, CLAY		
25											
Water Level Data										Sample Identification	
Date	Time	Depth (ft) to:			O = Open Ended U = Undisturbed S = Split Spoon C = Rock Core G = Geoprobe		Cohesive Soils N-Value		Granular Soils N-Value		
		Bott. of Casing	Bott. of Hole	Water			0 to 2: Very Soft 2 to 4: Soft 4 to 8: Medium Stiff 8 to 15: Stiff 15 to 30 Very Stiff Over 30: Hard		0 to 4: Very Loose 4 to 10: Loose 11 to 30: Medium Dense 31 to 50: Dense Over 50: Very Dense		
Notes: Trace (0 to 5%), Little (10 to 20%), Some (20 to 35%), And (35 to 50%)										WB-2	



## TEST BORING LOG

Boring No.  
**WB-2**

Page 2 of 2

Project	Salem Wharf	GSI Project No.	209195	Date Started	06/15/09
Location	Salem, MA	Inspector	G. Zoladz	Date Finished	06/15/09

Depth (ft)	Casing (Blows/ft)	Sample Data						Stratum Change (ft)	Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)
		No.	Depth (ft)	Rec (in.)	SPT (Bl./6-in.)	Rock RQD (%)	PID Rdg. (ppm)		
25					4 4				
30									Bottom of Exploration at 26-II.  Water Level at 4-ft above mudline at approximately 9:00 am at start of drilling.  Boring Depths Measured from Mudline.  Borehole Location:  43° 31.293 N 70° 52.849 W  Captured using GPS CHART 150 C
35									
40									
45									
50									
55									
60									

Notes:

WB-2



## TEST BORING LOG

Boring No.

**HW-1**


Page 1 of 2


Project	Salem Wharf	Project No.	209196	Elevation	N/A
Location	Salem, MA	Inspector	G. Zoladz	Datum	N/A
Client	Bourne Consulting Eng.	Project Manager	G. Zoladz	Start	8/29/2009
Contractor	New Hampshire Boring, Inc.	Checked By	C. Soydemir	Finish	8/29/2009
Driller	G. Levett	Drill Rig	Failing Stratastar	Model	15

Item:	Auger	Casing	Sampler	Core Barrel	<input checked="" type="checkbox"/> Truck	<input type="checkbox"/> Skid	Hammer Type:
Type	-	HW	S	-	<input type="checkbox"/> Track	<input type="checkbox"/> ATV	<input checked="" type="checkbox"/> Safety Hammer
Inside Diameter (in.)	-	4	1.375	-	<input type="checkbox"/> Bomb.	<input type="checkbox"/> Geophone	<input type="checkbox"/> Doughnut
Hammer Weight (lb)	-	300	140	-	<input type="checkbox"/> Tripod	<input type="checkbox"/> Other	<input type="checkbox"/> Automatic
Hammer Fall (in.)	-	24	30	-	<input checked="" type="checkbox"/> Whinch	<input type="checkbox"/> Cat Head	<input checked="" type="checkbox"/> Roller Bit
							<input type="checkbox"/> Cutting Head

Depth (ft)	Casing (Blows/ft)	Sample Data						Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)
		No.	Depth (ft)	Rec (in.)	SPT (Blows/6-in.)	Rock RQD (%)	PID Rdg. (ppm)	
0		S1	0-1	12	9 8 50/0"			V. dense, br., silty f/m SAND, tr. gravel, c-sand
5		S2	4-8	10	9 6 3 24			Loose, br., f/m SAND, tr. gravel, c-sand, silt, bricks
10		S3	9-11	12	7 13 11 3			M. dense, black, WOOD and gray fine SAND little to tr. m-sand  Note: advanced boring through WOOD b/w 12 to 13-ft Note: probable boulder or cobbles at 13 to 14-ft.
15		S4	14-16	16	21 10 11 16			~14 M. dense, gr., fine SAND, little to tr. m-sand
20		S5	19-21	20	3 3 6 7			~17.5 Drill action indicates change in soils at 17.5-ft  Stiff, light br., SILT, tr. clay
25		S6	24-28	24	7 7			V. stiff, light br., SILT, tr. clay

Water Level Data					Sample Identification O = Open Ended U = Undisturbed S = Split Spoon C = Rock Core G = Geoprobe	Cohesive Soils N-Value 0 to 2: Very Soft 2 to 4: Soft 4 to 8: Medium Stiff 8 to 15: Stiff 15 to 30 Very Stiff Over 30: Hard	Granular Soils N-Value 0 to 4: Very Loose 4 to 10: Loose 11 to 30: Medium Dense 31 to 50: Dense Over 50: Very Dense
Date	Time	Depth (ft) to:					
		Bott. of Casing	Bott. of Hole	Water			
29-Jun	10:00	-	-	~8			
Trace (0 to 5%), Little (10 to 20%), Some (20 to 35%), And (35 to 50%)							
Notes:						HW-1	

		<h2 style="margin: 0;">TEST BORING LOG</h2>						Boring No. <b>HW-1</b>			
								Page 2 of 2			
Project		Salem Wharf		GSI Project No.		209196		Date Started		06/29/09	
Location		Salem, MA		Inspector		G. Zoladz		Date Finished		06/29/09	
Depth (ft)	Casing (Blows/ft)	Sample Data							Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)		
		No.	Depth (ft)	Rec (in.)	SPT (Bl./6-in.)	Rock RQD (%)	PID Rdg. (ppm)	Stratum Change (ft)			
25					11 13						
		S7	29-31	24	6 10 11 12				~30	V. stiff, br., SILT, tr clay	
30										V. stiff, gr., CLAY, little to tr. fine sand, silt	
		S8	34-36	24	2 4 6 7					Stiff, gr., CLAY, with varves of fine sand and silt	
35									36		
										Bottom of Exploration at 36-ft.	
40											
45											
50											
55											
60											
Notes:										HW-1	

 <b>TEST BORING LOG</b>										Boring No. <b>HW-2</b>																																																																																		
Page 1 of 2																																																																																												
Project		Salem Wharf		Project No.		209196		Elevation		N/A																																																																																		
Location		Salem, MA		Inspector		G. Zoladz		Datum		N/A																																																																																		
Client		Bourne Consulting Eng.		Project Manager		G. Zoladz		Start		6/29/2009																																																																																		
Contractor		New Hampshire Boring, Inc.		Checked By		C. Soydemir		Finish		6/29/2009																																																																																		
Driller		G. Levett		Drill Rig		Failing Stratastar		Model		15																																																																																		
Item:		Auger		Casing		Sampler		Core Barrel		<input checked="" type="checkbox"/> Truck <input type="checkbox"/> Skid <input type="checkbox"/> Track <input type="checkbox"/> ATV <input type="checkbox"/> Bomb. <input type="checkbox"/> Geophone <input type="checkbox"/> Tripod <input type="checkbox"/> Other																																																																																		
Type		-		HW		S		-		Hammer Type: <input checked="" type="checkbox"/> Safety Hammer <input type="checkbox"/> Doughnut <input type="checkbox"/> Automatic																																																																																		
Inside Diameter (in.)		-		4		1.375		-																																																																																				
Hammer Weight (lb)		-		300		140		-																																																																																				
Hammer Fall (in.)		-		24		30		-		<input checked="" type="checkbox"/> Winch <input type="checkbox"/> Cat Head <input checked="" type="checkbox"/> Roller Bit <input type="checkbox"/> Cutting Head																																																																																		
Depth (ft)	Casing (Blows/ft)	Sample Data						Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)																																																																																				
		No.	Depth (ft)	Rec (in.)	SPT (Blows/6-in.)	Rock ROD (%)	PID Rdg. (ppm)					Stratum Change (ft)																																																																																
0		S1	0-1	8	15 50/4"				V. dense, gr./black, GRAVEL, little f/c sand, silt (wood lodged in spoon tip)																																																																																			
5		S2	4-6	14	10 12 11 28				M. dense, br./red, BRICKS and f/m SAND, little silt, tr. gravel																																																																																			
10		S3	9-11	22	5 2 8 7			~10	M. stiff, gr., SILT and CLAY																																																																																			
									M. dense, gr., fine SAND																																																																																			
									Note: Advanced boring through WOOD b/w 13 to 14-ft.																																																																																			
15		S4	14-16	18	7 7 10 13			~14	V. stiff, br., SILT, little to tr. fine sand (wood pieces in top of sample)																																																																																			
20		S5	19-21	24	3 5 7 8				Stiff, olive, CLAY																																																																																			
25		S6	24-26	24	2 2				M. stiff, olive, CLAY																																																																																			
<table border="1"> <thead> <tr> <th colspan="3">Water Level Data</th> <th colspan="2">Sample Identification</th> <th colspan="2">Cohesive Soils N-Value</th> <th colspan="2">Granular Soils N-Value</th> </tr> <tr> <th>Date</th> <th>Time</th> <th>Depth (ft) to:</th> <th>O = Open Ended</th> <th>0 to 2: Very Soft</th> <th>0 to 4: Very Loose</th> <th></th> <th></th> </tr> <tr> <th></th> <th></th> <th>Bolt. of Casing</th> <th>U = Undisturbed</th> <th>2 to 4: Soft</th> <th>4 to 10: Loose</th> <th></th> <th></th> </tr> <tr> <th></th> <th></th> <th>Bott. of Hole</th> <th>S = Split Spoon</th> <th>4 to 8: Medium Stiff</th> <th>11 to 30: Medium Dense</th> <th></th> <th></th> </tr> <tr> <th></th> <th></th> <th>Water</th> <th>C = Rock Core</th> <th>8 to 15: Stiff</th> <th>31 to 50: Dense</th> <th></th> <th></th> </tr> <tr> <th></th> <th></th> <th></th> <th>G = Geoprobe</th> <th>15 to 30 Very Stiff</th> <th>Over 50: Very Dense</th> <th></th> <th></th> </tr> <tr> <th></th> <th></th> <th></th> <th></th> <th>Over 30: Hard</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>29-Jun</td> <td>13:00</td> <td>-</td> <td>-</td> <td>-</td> <td>~10</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>												Water Level Data			Sample Identification		Cohesive Soils N-Value		Granular Soils N-Value		Date	Time	Depth (ft) to:	O = Open Ended	0 to 2: Very Soft	0 to 4: Very Loose					Bolt. of Casing	U = Undisturbed	2 to 4: Soft	4 to 10: Loose					Bott. of Hole	S = Split Spoon	4 to 8: Medium Stiff	11 to 30: Medium Dense					Water	C = Rock Core	8 to 15: Stiff	31 to 50: Dense						G = Geoprobe	15 to 30 Very Stiff	Over 50: Very Dense							Over 30: Hard				29-Jun	13:00	-	-	-	~10																		
Water Level Data			Sample Identification		Cohesive Soils N-Value		Granular Soils N-Value																																																																																					
Date	Time	Depth (ft) to:	O = Open Ended	0 to 2: Very Soft	0 to 4: Very Loose																																																																																							
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		Water	C = Rock Core	8 to 15: Stiff	31 to 50: Dense																																																																																							
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29-Jun	13:00	-	-	-	~10																																																																																							
Trace (0 to 5%), Little (10 to 20%), Some (20 to 35%), And (35 to 50%)																																																																																												
Notes:										HW-2																																																																																		

Geotechnical Services, Inc. ♦ 18 Cote Avenue, Goffstown, NH 03045 Tel. 603-624-2722 Fax. 603-624-3733 ♦ 12 Rogers Road, Haverhill, MA 02222 Tel. 978-374-7744 Fax. 978-374-7799

		<h2 style="margin: 0;">TEST BORING LOG</h2>						Boring No. <b>HW-2</b>	
Project Salem Wharf		GSI Project No. 209196		Date Started 06/29/09		Page 2 of 2			
Location Salem, MA		Inspector G. Zoladz		Date Finished 06/29/09					
Depth (ft)	Casing (Blows/ft)	Sample Data							Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)
		No.	Depth (ft)	Rec (in.)	SPT (Bl./6-in.)	Rock RQD (%)	PID Rdg. (ppm)	Stratum Change (ft)	
25					3 5				
30		S7	29-31	24	2 2 3 5				M. stiff, gr., CLAY
35		S8	34-36	24	WOH WOH WOH 4				V. soft, gray, CLAY
40		S9	39-41	24	WOH WOH WOH 3				V. soft, gray, CLAY
45									
50		S10	49-51	24	WOH WOH 1 6				V. soft, gray, CLAY
55									
									~55 Drill action indicate soil change at 55-ft.
60		S11	59-61	12	29 19 16 22			61	Dense, gr., fine SAND. some m-sand, tr. gravel, c-sand, tr. silt
									Bottom of Exploration at 61-ft.
Notes:									HW-2

<div style="display: flex; justify-content: space-between; align-items: center;"> <div> <h2 style="margin: 0;">TEST BORING LOG</h2> </div> <div style="text-align: right;">                     Boring No. <b>HW-3</b> Page 1 of 2                 </div> </div>																													
Project		Salem Wharf		Project No.		209196		Elevation		15																			
Location		Salem, MA		Inspector		G. Zoladz		Datum		MLW																			
Client		Bourne Consulting Eng.		Project Manager		G. Zoladz		Start		6/30/2009																			
Contractor		New Hampshire Boring, Inc.		Checked By		C. Soydemir		Finish		6/30/2009																			
Driller		G. Levett		Drill Rig		Falling Stratastar		Model		15																			
Item:		Auger		Casing		Sampler		Core Barrel		<input checked="" type="checkbox"/> Truck <input type="checkbox"/> Skid <input type="checkbox"/> Track <input type="checkbox"/> ATV <input type="checkbox"/> Bomb. <input type="checkbox"/> Geophone <input type="checkbox"/> Tripod <input type="checkbox"/> Other																			
Type		-		HW		S		-		Hammer Type: <input checked="" type="checkbox"/> Safety Hammer <input type="checkbox"/> Doughnut <input type="checkbox"/> Automatic																			
Inside Diameter (in.)		-		4		1.375		-																					
Hammer Weight (lb)		-		300		140		-																					
Hammer Fall (in.)		-		24		30		-		<input checked="" type="checkbox"/> Winch <input type="checkbox"/> Cat Head <input checked="" type="checkbox"/> Roller Bit <input type="checkbox"/> Cutting Head																			
Depth (ft)	Casing (Blows/ft)	Sample Data						Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)																					
		No.	Depth (ft)	Rec (in.)	SPT (Blows/6-in.)	Rock RQD (%)	PID Rdg. (ppm)					Stratum Change (ft)																	
0		S1	0-2	16	9 20 13 11				Dense, br., fine SAND, tr. gravel																				
5		S2	4-6	6	7 3 6 3				Loose, br., fine SAND, little to tr., silt, tr., bricks, coal																				
10		S3	8-11	4	5 5 2 7				Loose, Brick (lodged in tip) with tr. gravel size pieces of concrete and wood (probable wash)																				
15		S4	14-16	1	12 7 11 11				M. dense, GRAVEL and m/c sand (poor recovery)																				
									Note: advanced boring through WOOD at 17.5-ft.																				
20		S5	19-21	12	3 7 14 10			-19	V. stiff, gr., SILT, little fine sand, clay, tr. gravel and wood (at top of sample)																				
25		S6	24-26	24	8 14				Hard, olive, CLAY																				
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;">Water Level Data</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Date</th> <th rowspan="2">Time</th> <th colspan="3">Depth (ft) to:</th> </tr> <tr> <th>Bott. of Casing</th> <th>Bott. of Hole</th> <th>Water</th> </tr> </thead> <tbody> <tr> <td>30-Jun</td> <td>10:00</td> <td>-</td> <td>-</td> <td>~10</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> </div> <div style="width: 55%;"> <p style="text-align: center;">Sample Identification</p> <p>                         O = Open Ended                          U = Undisturbed                          S = Split Spoon                          C = Rock Core                          G = Geoprobe                     </p> </div> </div>												Date	Time	Depth (ft) to:			Bott. of Casing	Bott. of Hole	Water	30-Jun	10:00	-	-	~10					
Date	Time	Depth (ft) to:																											
		Bott. of Casing	Bott. of Hole	Water																									
30-Jun	10:00	-	-	~10																									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;">Cohesive Soils N-Value</p> <p>                         0 to 2: Very Soft                          2 to 4: Soft                          4 to 8: Medium Stiff                          8 to 15: Stiff                          15 to 30 Very Stiff                          Over 30: Hard                     </p> </div> <div style="width: 55%;"> <p style="text-align: center;">Granular Soils N-Value</p> <p>                         0 to 4: Very Loose                          4 to 10: Loose                          11 to 30: Medium Dense                          31 to 50: Dense                          Over 50: Very Dense                     </p> </div> </div>																													
Trace (0 to 5%),    Little (10 to 20%),    Some (20 to 35%),    And (35 to 50%)										HW-3																			
Notes:																													



# TEST BORING LOG

Boring No.

HW-3

Page 2 of 2

Project	Salem Wharf	GSI Project No.	209196	Date Started	06/30/09
Location	Salem, MA	Inspector	G. Zoladz	Date Finished	06/30/09

Depth (ft)	Casing (Blows/ft)	Sample Data						Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)
		No.	Depth (ft)	Rec (in.)	SPT (Bl./6-in.)	Rock RQD (%)	PID Rdg. (ppm)	
25					20 27			
30		S7	29-31	24	4 5 6 6			Stiff, gr., CLAY
35		S8	34-36	24	WOH WOH WOH 4			V. soft, gr., CLAY
40								
45								
50								
55								
60								
Bottom of Exploration at 36-ft.								

Notes:

HW-3





# TEST BORING LOG

Boring No.

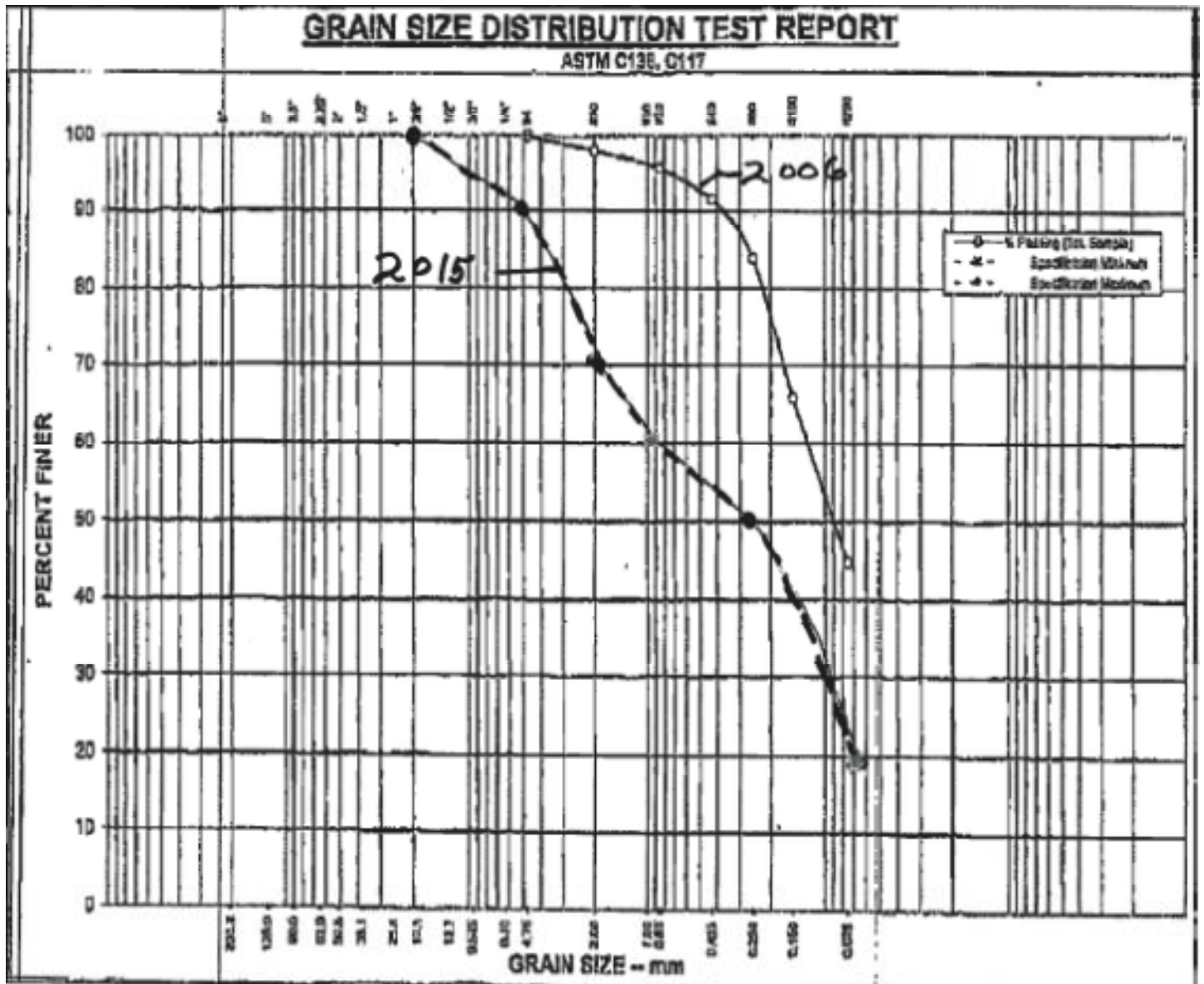
HW-4

Page 1 of 2

<b>Project</b>		<b>Salem Wharf</b>		<b>Project No.</b>		<b>209196</b>		<b>Elevation</b>		<b>13.7</b>	
<b>Location</b>		<b>Salem , MA</b>		<b>Inspector</b>		<b>G. Zoladz</b>		<b>Datum</b>		<b>MLW</b>	
<b>Client</b>		<b>Bourne Consulting Eng.</b>		<b>Project Manager</b>		<b>G. Zoladz</b>		<b>Start</b>		<b>6/30/2009</b>	
<b>Contractor</b>		<b>New Hampshire Boring, Inc.</b>		<b>Checked By</b>		<b>C. Soydemir</b>		<b>Finish</b>		<b>6/30/2009</b>	
<b>Driller</b>		<b>G. Levett</b>		<b>Drill Rig</b>		<b>Falling StrataStar</b>		<b>Model</b>		<b>15</b>	
<b>Item:</b>		<b>Auger</b>		<b>Casing</b>		<b>Sampler</b>		<b>Core Barrel</b>		<input checked="" type="checkbox"/> Truck <input type="checkbox"/> Skid <input type="checkbox"/> Track <input type="checkbox"/> ATV <input type="checkbox"/> Bomb. <input type="checkbox"/> Geophone <input type="checkbox"/> Tripod <input type="checkbox"/> Other	
<b>Type</b>		<b>-</b>		<b>HW</b>		<b>S</b>		<b>-</b>		<b>Hammer Type:</b> <input checked="" type="checkbox"/> Safety Hammer <input type="checkbox"/> Doughnut <input type="checkbox"/> Automatic	
<b>Inside Diameter (in.)</b>		<b>-</b>		<b>4</b>		<b>1.375</b>		<b>-</b>			
<b>Hammer Weight (lb)</b>		<b>-</b>		<b>300</b>		<b>140</b>					
<b>Hammer Fall (in.)</b>		<b>-</b>		<b>24</b>		<b>30</b>		<input checked="" type="checkbox"/> Winch <input type="checkbox"/> Cat Head <input checked="" type="checkbox"/> Roller Bit <input type="checkbox"/> Cutting Head			
Depth (ft)	Casing (Blows/ft)	Sample Data								Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)	
		No.	Depth (ft)	Rec (in.)	SPT (Blows/6-in.)	Rock RQD (%)	PID Rdg. (ppm)	Stratum Change (ft)			
0		S1	0-2	16	11 12 17 30				V. dense, br., f/m SAND and SILT, tr. gravel, concrete, bricks (asphalt lodged in spoon tip)		
5		S2	4-8	6	14 19 18 9				Dense, br., fine SAND, little to tr. m/c sand, silt, v. gravel  Note: Advanced boring through probable boulder 9 to 10-ft.		
10		S3	9-11	8	60 12 32 21				Dense, br., fine SAND, little to tr. m-sand, silt  Note: Numerous cobbles and boulders between 9 to 19-ft.		
15		S4	14-16	1	12 33 13 9				Dense, br., f/m SAND, tr. bricks, concrete (poor recovery, probable wash)		
20		S5	19-21	24	12 13 20 29			~19	Hard, olive, CLAY		
25		S6	24-26	24	7 10				V. stiff, olive, CLAY		
Water Level Data					Sample Identification		Cohesive Soils N-Value		Granular Soils N-Value		
Date	Time	Depth (ft) to:			O = Open Ended	0 to 2: Very Soft	0 to 4: Very Loose				
		Bot. of Casing	Bot. of Hole	Water	U = Undisturbed	2 to 4: Soft	4 to 10: Loose				
30-Jun	14:00	-	-	~10	S = Split Spoon	4 to 8: Medium Stiff	11 to 30: Medium Dense				
					C = Rock Core	8 to 15: Stiff	31 to 50: Dense				
					G = Geoprobe	15 to 30 Very Stiff	Over 50: Very Dense				
						Over 30: Hard					
Trace (0 to 5%), Little (10 to 20%), Some (20 to 35%), And (35 to 50%)					Notes:						
					HW-4						

		TEST BORING LOG						Boring No. <b>HW-4</b>			
								Page 2 of 2			
Project		Salem Wharf		GSI Project No.		209196		Date Started		06/30/09	
Location		Salem, MA		Inspector		G. Zoladz		Date Finished		06/30/09	
Depth (ft)	Casing (blows/ft)	Sample Data							Soil-Rock Visual Classification and Description (Soils - Burmister System) (Rock - U.S. Corps of Engineers System)		
		No.	Depth (ft)	Rec (in.)	SPT (Bl./6-in.)	Rock RQD (%)	PID Adj. (ppm)	Stratum Change (ft)			
25					15 17				V. stiff, olive, CLAY		
30		S7	29-31	24	4 8 11 12						
35		S8	34-36	24	3 6 6 8			Stiff, olive, CLAY			
40		S9	39-41	24	2 2 7				Stiff, olive, CLAY		
45		S10	41-42.3	8	28 39 34 50/4"			-40.5	V. dense, gr., fine SAND, some to little gravel, m/c sand, little to lr. silt		
50								42.3	Bottom of Exploration at 442.3-ft.		
55											
60											
Notes:										HW-4	

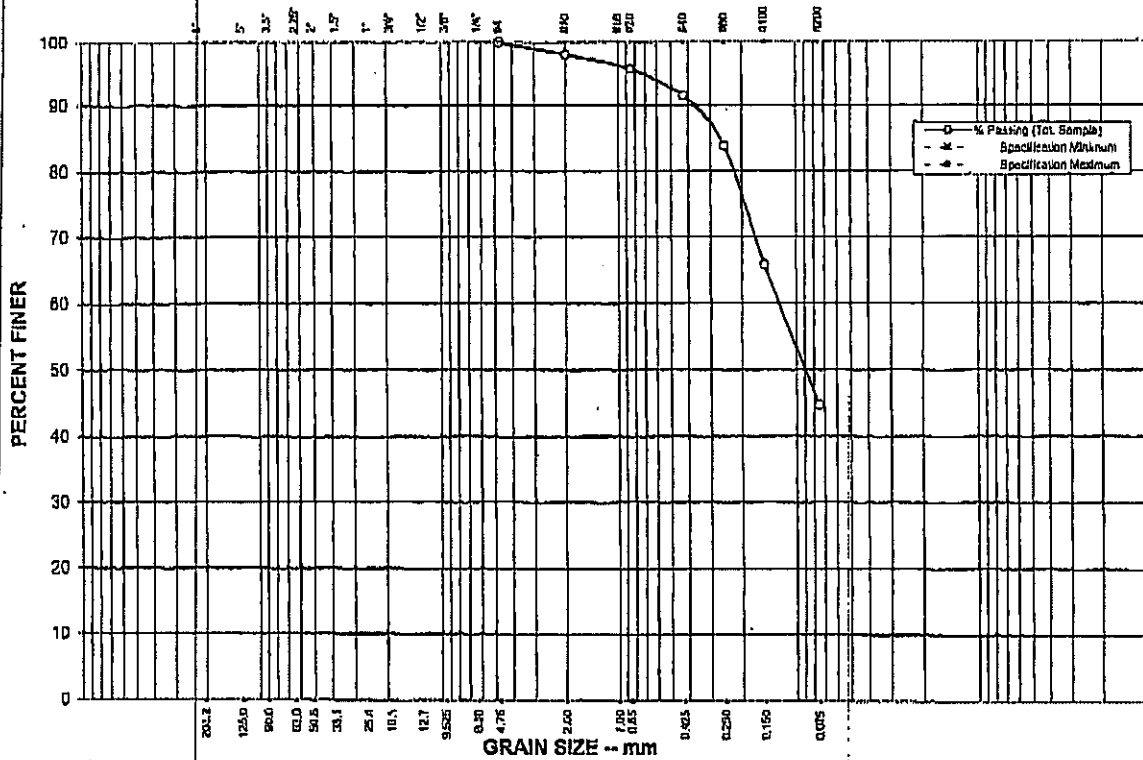
Salem Commercial Marina Grain Size Comparison  
January 7, 2015



Note: Marked up grain size distribution is from December 29, 2015 testing data. Samples are taken from location SW-2.

# GRAIN SIZE DISTRIBUTION TEST REPORT

ASTM C136, C117




% Cobbles	% Gravel	Cr	Med	Fine	% Fines	
0.0	0.0	3.4	12.0	84.6	Silt (>0.002mm)	Clay (<0.002mm)
				55.2	44.8	

Classification: Dark gray fine SAND, and Silt

Sieve Size (mm.)	Sieve Size (in./no.)	Cumulative Wt. Retnd	% Passing (Tot. Sample)	Specification Minimum	Specification Maximum
203.200	8"				
162.400	6"				
101.600	4"				
89.900	3.5"				
75.200	3"				
50.800	2"				
38.100	1.5"				
25.400	1"				
19.050	3/4"				
12.700	1/2"				
9.525	3/8"				
4.750	#4	0.00	100.0		
2.000	#10	1.94	98.1		
0.850	#20	4.31	95.6		
0.425	#40	8.80	91.2		
0.250	#60	16.77	83.2		
0.150	#100	35.45	64.5		
0.075	#200	57.20	42.8		

Total Dry Wt. 103.57 g

Project: <b>EnviroSystems</b>	Project No.: <b>06304L</b>	Date: <b>12/19/06</b>
City: <b>Hampton, NH</b>	Specification: <b>None</b>	Lab No: <b>L768-06</b>
Source: <b>ESI project #15330</b>	Sampled from: <b>15330-001</b>	
 <b>77 Sundial Avenue</b> <b>Manchester, NH 03103</b> (603) 847-0700 fax: (603) 847-4432 <a href="http://www.loeastern.com">www.loeastern.com</a>	Remarks: <b>Wn=27.9%</b>	
	Tested By: <b>Dan Savage</b>	Date: <b>12/26/06</b>
	Reviewed By: <b>SMC</b>	Date: <b>12/28/06</b>



## ANALYTICAL REPORT

Lab Number:	L1429941
Client:	Bourne Consulting Engineering 3 Bent St Franklin, MA 02038
ATTN:	Kevin Dittmeier
Phone:	(508) 533-6666
Project Name:	SALEM MARINA
Project Number:	34005
Report Date:	12/29/14

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

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320 Forbes Boulevard, Mansfield, MA 02048-1806  
508-822-9300 (Fax) 508-822-3288 800-624-9220 - [www.alphalab.com](http://www.alphalab.com)



**Project Name:** SALEM MARINA  
**Project Number:** 34005

**Lab Number:** L1429941  
**Report Date:** 12/29/14

<b>Alpha Sample ID</b>	<b>Client ID</b>	<b>Matrix</b>	<b>Sample Location</b>	<b>Collection Date/Time</b>	<b>Receive Date</b>
L1429941-01	SW-2	SEDIMENT	SW-2	12/02/14 13:00	12/11/14

**Project Name:** SALEM MARINA  
**Project Number:** 34005

**Lab Number:** L1429941  
**Report Date:** 12/29/14

### Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

#### HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

---

**Project Name:** SALEM MARINA  
**Project Number:** 34005

**Lab Number:** L1429941  
**Report Date:** 12/29/14

**Case Narrative (continued)**

Grain Size

A Laboratory Duplicate was prepared with the sample batch, however, the native sample required a different reporting method; therefore, the laboratory duplicate results could not be reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Cynthia McQueen

Title: Technical Director/Representative

Date: 12/29/14



# **INORGANICS & MISCELLANEOUS**

Project Name: SALEM MARINA

Project Number: 34005

Lab Number: L1429941

Report Date: 12/29/14

## SAMPLE RESULTS

Lab ID: L1429941-01

Client ID: SW-2

Sample Location: SW-2

Matrix: Sediment

Date Collected: 12/02/14 13:00

Date Received: 12/11/14

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Grain Size Analysis - Mansfield Lab										
Cobbles	ND		%	0.100	NA	1	-	12/22/14 00:00	12,D422	SE
% Coarse Gravel	ND		%	0.100	NA	1	-	12/22/14 00:00	12,D422	SE
% Fine Gravel	20.3		%	0.100	NA	1	-	12/22/14 00:00	12,D422	SE
% Coarse Sand	8.70		%	0.100	NA	1	-	12/22/14 00:00	12,D422	SE
% Medium Sand	12.9		%	0.100	NA	1	-	12/22/14 00:00	12,D422	SE
% Fine Sand	41.5		%	0.100	NA	1	-	12/22/14 00:00	12,D422	SE
% Total Fines	16.6		%	0.100	NA	1	-	12/22/14 00:00	12,D422	SE



**Project Name:** SALEM MARINA**Project Number:** 34005**Lab Number:** L1429941**Report Date:** 12/29/14**Sample Receipt and Container Information**

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

**Cooler Information Custody Seal****Cooler**

A Absent

**Container Information**

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1429941-01A	Core	A	N/A	5.1	Y	Absent	A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-CSAND(),A2-HYDRO-COBBLER(),A2-HYDRO-FGRAVEL()
L1429941-01B	Core	A	N/A	5.1	Y	Absent	A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-CSAND(),A2-HYDRO-COBBLER(),A2-HYDRO-FGRAVEL()
L1429941-01C	Core	A	N/A	5.1	Y	Absent	A2-HYDRO-TFINE(),A2-HYDRO-CGRAVEL(),A2-HYDRO-FSAND(),A2-HYDRO-MSAND(),A2-HYDRO-CSAND(),A2-HYDRO-COBBLER(),A2-HYDRO-FGRAVEL()

\*Values in parentheses indicate holding time in days

**Project Name:** SALEM MARINA  
**Project Number:** 34005

**Lab Number:** L1429941  
**Report Date:** 12/29/14

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

### Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

### Terms

**Total:** With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

**Analytical Method:** Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

### Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

**Report Format:** Data Usability Report



**Project Name:** SALEM MARINA  
**Project Number:** 34005

**Lab Number:** L1429941  
**Report Date:** 12/29/14

**Data Qualifiers**

- G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** SALEM MARINA  
**Project Number:** 34005

**Lab Number:** L1429941  
**Report Date:** 12/29/14

## REFERENCES

- 12 Annual Book of ASTM Standards. (American Society for Testing and Materials) ASTM International.

## LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



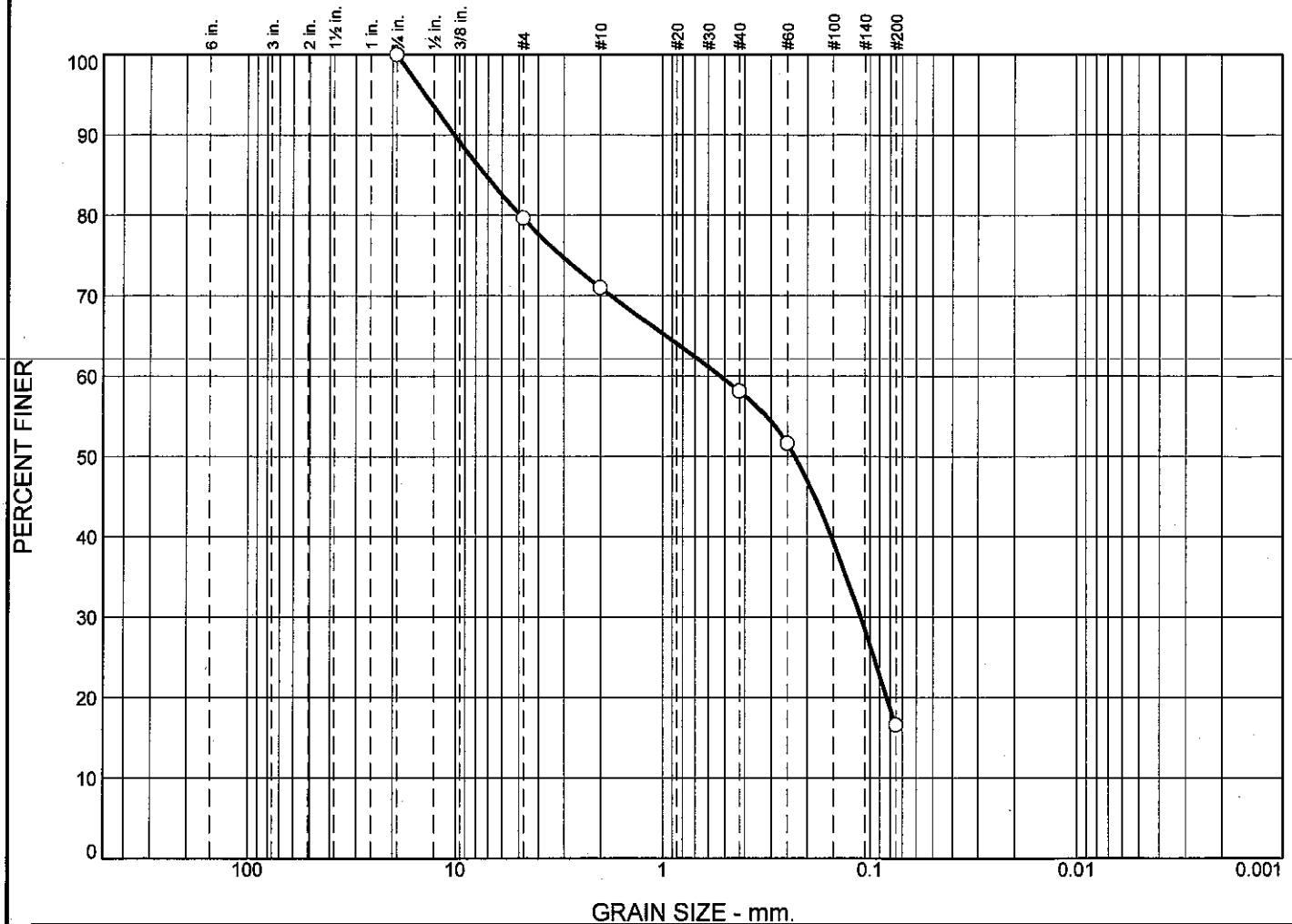
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# **ASTM D422-63**

## **GRAIN SIZE ANALYSIS**

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# Particle Size Distribution Report



GRAIN SIZE - mm.									
% +3"	% Gravel		% Sand			% Fines			
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay		
0.0	0.0	20.3	8.7	12.9	41.5	16.6			
LL	PL	D <sub>85</sub>	D <sub>60</sub>	D <sub>50</sub>	D <sub>30</sub>	D <sub>15</sub>	D <sub>10</sub>	C <sub>c</sub>	C <sub>u</sub>
		7.1535	0.5227	0.2290	0.1108				
Material Description							USCS	AASHTO	

Project No.

Client:

Remarks:

Project:

Source of Sample: SW-2

Sample Number: L1429941-01

Alpha Analytical

Mansfield, MA

Figure



**GRAIN SIZE DISTRIBUTION TEST DATA**

12/29/2014

Location: SW-2

Sample Number: L1429941-01

**Sieve Test Data**

Post #200 Wash Test Weights (grams): Dry Sample and Tare = 150.48

Tare Wt. = 7.42

Minus #200 from wash = 0.0%

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
150.48	7.42	0.75	0.00	0.00	100.0
		#4	29.08	0.00	79.7
		#10	12.35	0.00	71.0
		#40	18.45	0.00	58.1
		#60	9.29	0.00	51.6
		#200	50.10	0.00	16.6

**Fractional Components**

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	20.3	20.3	8.7	12.9	41.5	63.1			16.6

D <sub>10</sub>	D <sub>15</sub>	D <sub>20</sub>	D <sub>30</sub>	D <sub>50</sub>	D <sub>60</sub>	D <sub>80</sub>	D <sub>85</sub>	D <sub>90</sub>	D <sub>95</sub>
		0.0826	0.1108	0.2290	0.5227	4.8811	7.1535	10.0767	13.9147

Fineness Modulus
2.37

Alpha Analytical

## Certification Information

Last revised December 16, 2014

**The following analytes are not included in our NELAP Scope of Accreditation:**

### **Westborough Facility**

**EPA 524.2:** Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.

**EPA 8260C:** 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.

**EPA 8270D:** 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

**EPA 625:** 4-Chloroaniline, 4-Methylphenol.

**SM4500:** Soil: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.

**EPA 9071:** Total Petroleum Hydrocarbons, Oil & Grease.

### **Mansfield Facility**

**EPA 8270D:** Biphenyl.

**EPA 2540D:** TSS

**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

**The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:**

### ***Drinking Water***

**EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, Tl; **EPA 200.7:** Ba, Be, Ca, Cd, Cr, Cu, Na; **EPA 245.1:** Mercury;

**EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO<sub>3</sub>-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

**EPA 332:** Perchlorate.

**Microbiology:** SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

### ***Non-Potable Water***

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, Tl, Zn;

**EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, Ti, Tl, V, Zn;

**EPA 245.1, SM4500H-B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH<sub>3</sub>-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO<sub>3</sub>-F, EPA 353.2:** Nitrate-N, **SM4500NH<sub>3</sub>-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**

**EPA 624:** Volatile Halocarbons & Aromatics,

**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

**Microbiology:** SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

