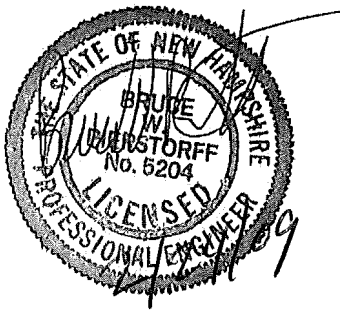
CITY OF PORTSMOUTH, NH



MADBURY WTP UPGRADE AND
BELLAMY RESERVOIR IMPROVEMENTS

RESPONSE TO BIDDERS QUESTIONS No. 2
AND
ADDENDUM No. 3
2/24/09

This Response to Bidders' Questions Addendum shall be part of the Contract Documents as provided in the Instructions to Bidders of the referenced project. The following additions to and modifications of the Contract Documents shall be included in, and become a part of any Contract that may be executed for construction of this project. Bidders are instructed to take the following into account in rendering a Bid for the Work.

Please acknowledge receipt of this addendum within your bid, failure to do so may subject a bidder to disqualification.

Response to Bidder Questions:

3-1. What size is the air release valve shown on Drawing M-1 on the 12" backwash line?
Air release valve on the Backwash line will be a 3" ARV. See Addendum 3, Item 3-38

3-2. Lower Gallery Level Plan, on Drawing S-2, details the Floated Solids Transfer Tank as being 3'-4" wide. Section C/S-14 indicates a wider area. Also, what is the depth of the supported slab covering this Tank? Please clarify.

Floated Solids Tank is 3'-4" wide. Top slab is 10". See Addendum 3, Item 3-23 and 3-27

3-3. Please indicate the thickness of the base slabs at Elev. 52.00 and 58.00 in the Process Building.

Base slab is 24" at El. 58.00 and 30" at El. 52.00. See Addendum 3, Item 3-27.

3-4. Paragraph 3.01.C in specification 13209 (fiberglass reinforced plastic double wall storage tanks) indicates that all metallic fasteners, brackets, mounting hardware and accessories located in sodium hypochlorite storage and feed areas shall be constructed of Hastelloy C. This does not appear to agree with other specifications. Chemical Transfer Pumps as outlined in Section 11241 indicates that painted steel bases and 316 SS anchors are acceptable. Section 11316, Sodium Hypochlorite Metering pumps indicates that 316 SS

anchors are to be provided. This is also in total conflict with process piping hangers as outlined in section 15070. Finally, in section 13207, storage tanks are indicated to be provided with Ryton (dome) bolts and Titanium Sidewall hardware. What is the intent?

The Hastelloy C requirement has been removed from the specification. See Addendum 3, Item 3-9.

3-5. Section 13209 references an RTP-1 certification and a UL 1316 requirement which will not be able to be met by one of the named contractors.

The requirement for RTP-1 has been deleted from the Specification. The requirement for UL 316 remains as it is an applicable standard. Specification Section 13209 has been updated to reflect this. See Addendum 3, Item 3-9

3-6. Spec. Section 14600 includes references to a bridge crane as specified in Table 14600-1 at the end of the specification. Table 14600-1 indicates two monorails are to be provided but there is no indication of any bridge cranes. If required, please provide pertinent information regarding any cranes beyond the two monorail hoist systems indicated, or strike from the specifications.

This was clarified via Addendum 2 Question 2-46.

3-7. Weir gates as shown on Drawing C-8 are described as aluminum. However, the specifications indicate they are stainless steel.

Weir gates shall be stainless steel as indicated in the Specifications. See Addendum 3, Item 3-20.

3-8. Drawing M-7 shows one fill line for the sodium hydroxide storage tanks while Drawing I-15 shows one fill line to each tank.

A single fill line shall be provided connected to both tanks as indicated on Drawing M-7. See Addendum 3, Item 3-41.

3-9. Drawing M-2 shows a 30" manway opening. Is it your intent to have this opening over the stiffening wall?

Yes.

3-10. The "Plant Interior Pipe Schedule" shown in Spec. Section 15070 does not indicate what material the "PAC" piping should be.

This was addressed via Addendum 2, Item 2-19.B

3-11. The floating solids discharge piping on Drawing I-11 shows a 4" venting system off of some pressure relief valves while Drawing M-4 doesn't show this.

This was addressed via Addendum 2, Item 2-32.

3-12. On Drawings C-11 and C-8, the drying bed piping and detail for same do not agree.

Piping was revised via Addendum 2, Items 2-26 and 2-27.

3-13. The valves shown on the right side of Drawing I-11 do not agree with the piping shown on Drawing C-11. The only valve we have located on Drawing C-11 is the plug valve for the emergency truck connection, and it is indicated as 4" on Drawing I-11 and as 3" on Drawing C-11 in the floated solids riser detail.

Valves are to be provided at each inlet to the new Drying Beds. See Addendum 3, Item 3-21.

3-14. P&ID Drawing I-16 indicates a rotameter is to be provided for service water that connects to the floated water header. Drawing M-4 shows the connection to the floated water but makes no provisions for where the service water ties in. Please provide a section indicating the physical location of the rotameter assembly.

A rotameter is required in this location. A 1" service line shall be provided off the 4" service water header located at Column M-4. The rotameter shall be installed on the western wall of the pipe gallery with a detail similar to Section A on Drawing M-3.

3-15. The schedule of rotameters as provided in Spec. Section 17640 lists service water to static mixer in sodium hypochlorite as well as service water to filtered water channel in orthophosphate. We cannot locate either on the plans. If required, please indicate their physical location.

See Addendum 3, Item 3-17.

3-16. Reference P&ID I-17 and Drawing M-3, the schedule of rotameters as provided in Spec. Section 17640 does not list a rotameter as shown for service water feeding of the PAC system. If this is to be provided under the control and information systems scope, please add to schedule.

See Addendum 3, Item 3-17

3-17. Please indicate the spec. section that applies to the 6" DCW line feeding the sprinkler system located on Drawings P-4, P-5, and P-7.

6" DCW should be re-labeled "Service Water" and is specified in Specification Section 15060 – Yard Piping. See Addendum 3, Items 3-43, 3-44 & 3-45.

3-18. What spec. section applies to the "6" WATER" line as shown on Drawing M-1 which eventually ties into the "6" DCW" line that is shown on Drawing P-4? The "Yard Pipe Schedule" does not have a 6" size listed other than a service called "Service Water".

The "Service Water" listing applies to this pipe. See Addendum 3, Item 3-38.B. And Question 3-17.

3-19. Schedules as listed in Spec. Section 17650-Pressure Gauges indicate gauges are to be provided for the DAF Recycle Air Receiver No. 1 as well as No.2. Per Drawing M-5 and several other sections, only one air receiver is to be provided. Please clarify.

Only one pressure gauge is required for the air receiver. See Addendum 3, Item 3-18

3-20. Spec. Section 13260, Paragraph 2.01.D indicates the screen manufacturer is responsible for providing the 24" butterfly valve at the end of the screen but makes no provisions for the "bonneted valve operator shaft with torque tube" or the operator at the top elevation at the reservoir. Is the screen manufacturer required to provide these as well? If so, please add requirements to the specification.

Paragraph 2.01 D states that the manufacturer shall provide a screen design that does not provide interference with operation of the butterfly valve which is to be installed. Section 13260 requires a single manufacturer to provide the screen unit including flanged connection for air sparge and 24" connection to valve, but not the referenced valve itself. Contractor shall be responsible for selecting valve supplier based on Specification Section 15100 and is ultimately responsible for coordination of mating flanges. Valve is specified under Specification Section 15100, which requires the valve manufacturer to supply actuator, shaft, bonnet and valve as a system.

3-21. Is the intent of the design for the intake screen manufacturer to provide the support for the screen and the 1-1/2" stainless steel plate that mounts to the outside face of the Bellamy Reservoir intake structure?

The intent is to allow the Contractor to select supplier for plates, supports, and valves associated with screen. All pipe connections to the screen and remainder of intake assembly are to be coordinated with relevant suppliers by the Contractor. Contractor may elect to add supports, plates and/or valve to screen manufacturer scope of supply in order to facilitate coordination, but it is not required by the Contract Documents. Also see answer to Question 3-20.

3-22. Spec. Section 13260, Paragraph 1.10.C indicates certified shop tests shall be performed as specified in Spec. Section 13300-RTU and Instrumentation. Please issue this spec. section.

Section 13300 was renamed 17300 – Remote Terminal Unit and Instrumentation, Reservoir. See Addendum 3, Item 3-10

3-23. Electrical Drawing BR-E-3 indicates a v-notch level element is to be installed, however, there is no indication of a v-notch weir or supporting structure to be provided. If such is required to be provided by the contractor, please provide information and details of the requirements.

BR-E-3 calls out the location of a new level transmitter to be used with an existing V-notch weir located in the stream bed. V-notch is called out on BR-C-1. (BR-C-1 and BR-C-2 are re-issued due to print quality concerns. No changes to these drawings have been made through this or prior addenda.) See Section 17742 for description of system.

3-24. Door Schedule on Drawing A-28 indicates Door 101-1 is a coiling door. Per Drawing A-6 as well as Drawing A-11, this is shown as a two-leaf door with an opening at the top for the monorail beam. Please clarify.

Door 101-1 is a pair of doors with the monorail beam opening above. See Addendum 3, Item 3-36.

3-25. Please detail the lintels required for the CMU openings.

The lintels are detailed on Drawing A-27 "Concrete Masonry Lintel Units". Drawing A-28 provides detail for lintels above doors -Head Detail "A"; Drawing A-30 indicates lintel above louvers.

3-26. On drawing A-31 it states that the laboratory floor should be a HD-CT, which is a ½" concrete floor topping with a floor hardener. But on drawing A-8 it states that the laboratory floor should be resilient flooring.

The floor shall be HD-CT. See Addendum 3, Item 3-33

3-27. Please indicate which windows will receive mechanical shades as specified in Spec. Section 12490.

The following windows shall receive mechanical shades: Windows W8, W9,W10, W13, W14. See Addendum 3, Item 3-37

3-28. Drawing A-8 references Spec. Section 12525.0-Solar Control Devices. Please provide this spec. section.

The reference should be to 08521.2 Light Shelf, not 12525.0. See Addendum 3, Item 3-33.

3-29. The Specs call for Hardie fiber cement siding 8 ¼"x 12' butt edge "Artesian" this product does not exist in this size. They do have a product called Artesian but the size of the panels are 3'-11 ½" x 7'- 11 ½" and it's not available on the east coast. Please advise.

The panel referenced in the RFI is not the correct product. The specified product is the "artisan lap". In addition to Hardie, two other manufacturers are specified for this product NuCedarMills and CertainTeed Corp.

3-30. Spec. Section 17100 indicates three operator work stations are required. Three work stations are shown on Drawing I-2 but the third station is shown at the Portsmouth DPW and Note #3 on that same drawing indicates equipment at the DPW Office is under separate contract. Is there a third work station to be provided under this contract?

Only two operator workstations are to be provided. See Addendum 3, Item 3-15.

3-31. Spec. Section 17100 indicates two laptops are to be provided. However, only one is shown on Drawing I-2. Is the second laptop required?

Two laptops are required. See Addendum 3, Item 3-39.

3-32. Spec. Section 17171-Printers lists several different printers and two different types are indicated to be provided per Drawing I-2. However, there is no indication of the kinds of printers required.

Two printers (LaserJet and Dot-Matrix) are required. See Addendum 3, Item 3-16.

3-33. Section 15060 – Yard Piping references ANSI C-110 Joints and fittings, will ANSI C-153 joints and fittings be considered an appropriate substitute?

ANSI C-110 fittings are required as specified

3-34. What work will the power company be doing for the $100,000 allowance?

The $100,000 allowance is for the utility's potential backcharges only. The drawings and the Specification Section 16421-3.05 defines the scope of the work on the electrical primary service.

3-35. On drawing H-14, Details 1 and 2 show the primary supply and return lines between the Heat Pumps (HP-1 & HP-2) and Heat Exchangers (HX-1 & HX-2) as 3" pipe. Drawing H-5 and H-6 show the same two lines as 2.5" pipe in plan view. Should 3" or 2.5" pipe be used for this location?

Heat pump piping shall be 2.5" pipe as shown on Drawings H-5 and H-6. See Addendum 3, Item 3-42.

3-36. In Section 13260-B, item G.2, Air Receiver, the receiver tank is specified to be ASME Section VIII stamped and UL-approved. Since the UL approval is generally seen only on gas pressure vessels is the UL approved required for this receiver tank? Please clarify.

A UL-approved receiver is required as specified.

3-37. Is there a downstream connection to the raw water pipe which can be used to bypass the intake structure at Bellamy Reservoir, or can a new connection be made in the downstream pipe?

There is no other connection locally, and new penetrations in the raw water pipe will not be allowed due to its age and concrete construction. All bypass piping must go through the existing 24" opening in the intake structure.

3-38. Please provide latest materials testing information for residuals composition.

Residuals composition testing reports from July 19, 2007 and March 19, 2008 are provided as an attachment to this Addendum.

3-39. The pictures plotted on Drawing BR-S-5 for Dam repair work are not clear. Please provide clearer drawings for estimating the level of effort of this work.

Pictures are attached to this Addendum

3-40. On drawing A-8, it calls for the wall between the control room and the administration area to be 4S-0. Is this correct?

See Addendum 3, Item 3-33.

3-41. The specification section 16721 2.04.E and 2.04.F requires the fire alarm vendor to supply sprinkler switches. This is very much not typical.

See Addendum 3, Item 3-14.

3-42. At the Bellamy Reservoir intake what is the elevation of the line that supplies the Plant?

Elevation of the Plant supply intake is the same as the blow off elevation as shown on Drawing BR-M-3, Section B.

Modifications to Contract Documents:

Procurement and Contracting Requirements:

Item 3-1. Table of Contents

A. Insert "00450 – Prevailing Wage Rates"

B. Insert "13955 – Foam-water Sprinkler System"

Item 3-2. Section 00410 – Bid Form

A. Delete this section and replace with the attached Section 00410 – Bid Form

Item 3-3. Section 00450 – Prevailing Wage Rates

A. Insert the attached Section 00450 – Prevailing Wage Rates

Item 3-4. Section 00521 – Form of Agreement

A. Delete Article 7 – Paragraph 7.01 in its entirety and replace with the following:

"7.01 All monies not paid when due as provided in Article 14 of the General Conditions shall bear interest at 12% per annum."

Item 3-5. Section 00710 – General Conditions

A. Delete Article 4 – Paragraph 4.06.G in its entirety.

B. Delete Article 5 – Paragraph 5.05 in its entirety and replace with the following:

"5.05 Contractor shall purchase for the benefit of the Owner liability insurance that will protect owner against claims which may arise from operations under the Contract Documents."

C. Delete Article 5 – Paragraph 5.07 in its entirety

D. Delete the last two sentences of Article 6 – Paragraph 6.06.B in their entirety, the first of which begins with "Contractor shall submit an acceptable replacement…"

Technical Specifications:

Item 3-6. Specification Section 01025 – Measurement and Payment

A. Add the following to the end of Section 1.05 – Alternates:

6) Bid Alternate F – Buy American Requirement:

a) The Contractor shall meet the requirements of the Buy American provision of the American Recovery and Reinvestment Act of 2009, as described below:

b) Buy American Requirement

i) In accordance with the Buy American provision in the American Recovery and Reinvestment Act of 2009, the Contractor agrees that all of the iron, steel, and manufactured goods used in the project are to be produced in the United States.

c) Information regarding the Buy American Provision:

i) This requirement shall not apply in any case or category of cases in which the head of the Federal Environmental Protection Agency finds that:
(1) applying the Buy American provision (a) would be inconsistent with the public interest;
(2) iron, steel, and the relevant manufactured goods are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
(3) inclusion of iron, steel, and manufactured goods produced in the United States will increase the cost of the overall project by more than 25 percent.

ii) If the head of a Federal Environmental Protection Agency determines that it is necessary to waive the application of the Buy American requirement based on a finding as defined above, the head of the Environmental Protection Agency shall publish in the Federal Register a detailed written justification as to why the provision is being waived.

iii) The Buy American requirement shall be applied in a manner consistent with United States obligations under international agreements.

iv) The Contract shall submit documentation to Engineer with each Application for Payment that provides certification that all materials and manufactured goods subject to this provision have been produced in the United States.

7) Bid Alternate G – Wage Rate Requirements:

a) The Contractor shall meet the Wage Rate requirements of the American Recovery and Reinvestment Act of 2009, as described below:

b) Wage Rate Requirements

i) In accordance with the American Recovery and Reinvestment Act of 2009 (ARRA) and notwithstanding any other provision of law and in a manner consistent with other provisions in the ARRA, all laborers and mechanics employed by contractors and subcontractors on this project shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code. With respect to the labor standards specified in this section, the Secretary of Labor shall have the authority and functions set forth in Reorganization Plan Numbered 14 of 1950 (64 Stat. 1267; 5 U.S.C. App.) and section 3145 of title 40, United States Code.

ii) It is the responsibility of the Contractor, before bid opening, to request if necessary, any additional information on Minimum Wage Rates for those trades people who may be employed for the proposed work under this contract. The Contractor shall notify the Engineer of his intentions to employ persons in trades or occupation not listed herein in sufficient time for the Engineer to obtain wage rates for such trades. A copy of current available prevailing wage rates can be found in Section 00450 – Prevailing Wage Rates.

iii) The Contractor and all subcontractors who are subject to this requirement shall keep a true and accurate record of all trades people performing work showing name, address and occupational classification of each such employee, the hours worked by and the wages paid to all such employees. The Contractor and the Subcontracts shall submit a certified copy of said record to the Engineer on a weekly basis.

Item 3-7. Specification Section 01540 – Demolition and Removal of Existing Structures and Equipment

A. Insert after Paragraph 1.05.C:

"D) The Contractor is informed that one composite paint sample from the existing bridge to be demolished tested at 7% lead by weight."

Item 3-8. Specification 08950 – Translucent Wall Systems

A. Delete Paragraph 08950-1.05.C in its entirety and insert the following in its place:

"C) Insulated Aluminum Faced Infill Panels – provide factory installed, and sealed to translucent panels and trim sections 20 gauge fully adhered opaque aluminum facing over translucent wall panels. The entire assembly shall be supported by and integral to the structural performance requirements of the translucent wall panel system. Frames shall extend continuously from sill to underside of structure above without intermediate support. Opaque aluminum faced insulated wall panels shall be the same thickness and thermal performance as translucent wall panels. The color and finish of the Opaque aluminum faced insulated wall panels shall match the frames. All structural components required to provide support for the Louver, Trim and Translucent panel shall be provided as work of Specification Section 08950 without additional cost to the owner."

B. Add the following to the end of Paragraph 08950-2.01.A:

"3) Major Industries, Inc. Panel Model: Guardian 275 - 45G, Phone: (201) 541-7444"

C. Delete Paragraph 08950-2.03.B in its entirety and replace with "Not Used"

D. Delete Paragraph 08950-2.05.A in its entirety and insert the following in its place:

"A) Thermally Broken Wall panels with Thermal Insulation shall have a thickness of 2-3/4" with NFRC laboratory tested "U" factor of 0.15 thermally broken by NFRC 100. System shall be NFRC certified, and have a light transmission of 19% or less and a solar heat gain of .20 or lower"

Item 3-9. Specification Section 13209 – Fiberglass Reinforced Plastic Double Wall Storage Tanks;

A. Delete Paragraph 1.03.F in its entirety and replace with "Not Used".

B. Insert the following after Paragraph 2.01.A.2):

"3) Edwards Fiberglass, Inc."

C. Delete Paragraph 3.01.C in its entirety.

Item 3-10. Specification Section 13260 – Intake Screens and Air Sparging System

A. Delete Paragraph 1.02.E and replace with the following:

"E. Section 17300 – Remote Terminal Unit and Instrumentation - Reservoir"

B. Paragraph 1.10.C – Delete text "Section 13300 – RTU and Instrumentation" and replace with "Section 17300 – Remote Terminal Unit & Instrumentation - Reservoir"

Item 3-11. Specification Section 13955 – Foam-water Sprinkler System

A. Insert the attached Specification Section 13955 – Foam-water Sprinkler System

Item 3-12. Specification Section 15100 – Valves and Actuators

A. Immediately after Paragraph 2.34.B.3, insert the following:

"4. Gates shall have a design operating head of 30 feet."

"5. Gates and actuator shall be designed for throttling to free discharge at full design head and to prevent cavitation."

B. After Paragraph 2.34.C.3 – Insert the following:

"4. Nonshrink grout shall be installed between gate frame and existing wall so as to prevent leakage."

C. In Paragraph 2.34 F.2 - delete the number "304" and replace with "316".

D. Delete Paragraph 2.43.G.1 in its entirety and replace with the following:

"1. Stem guides shall be fabricated from 316L stainless steel. The guide shall be equipped with an UHMWPE bushing. Guides shall be adjustable and shall be spaced in accordance with the manufacturer's recommendation. Adhesive anchor bolts shall be used to attach stem guides and wall, and be constructed of 316 stainless steel and embedded per manufacturer's instructions. The L/r ratio shall not be greater than 200."

E. Table 6 – Schedule of Non-motorized valves (Non-BFV); Delete Entries for "Residuals Drying Beds Inlet", "Emergency Storage Tank Inlet" and "Emergancy Truck Connection" and replace with the following:

Emergency Truck Connection	3	Plug	1	150

F. In Table 7 – Slide Gate Schedule, delete the entry for the "Raw Water Isolation Slide Gate" and replace with the following:

Raw Water Isolation Slide Gate	20" dia.	Slide Gate	02 010	150	Open/Close	120	208/3

Item 3-13. Specification Section 15589 – Hot Water Unit Heaters

A. Insert the following to the end of Paragraph 2.01:

"H) Unit heaters in chemical areas shall have corrosion resistant fans and fin tubes consisting of the following provisions:

1) Monel fin tube heating elements attached to junction box with leak proof threaded fittings. All sheetmetal parts protected by zinc chromate primer and 2 coats of epoxy enamel, all factory painted.

2) Fans shall be painted with one coat zinc chromate primer and two coats corrosion resistant epoxy paint.

3) The chemical area unit heaters are as follows: UH-4, UH-7, UH-8"

Item 3-14. 16721 – Fire Alarm System

A. Delete Paragraph 2.04.E in its entirety and replace with "NOT USED"

B. Delete Paragraph 2.04.F in its entirety and replace with "NOT USED"

Item 3-15. Specification Section 17100 – Control and Information System Hardware, General;

A. In Paragraph 1.01.C.5, delete the text "Three (3) operator work stations" and replace with "Two (2) operator work stations"

Item 3-16. Specification Section 17171 – Printers;

A. In Paragraph 2.01 – delete the text "Hewlett Packard LaserJet 6P" and replace with "Hewlett Packard LaserJet CP2025N".

B. Delete Paragraph 2.02 in its entirety and replace with "NOT USED"

Item 3-17. Specification Section 17640 – Rotameters

A. Paragraph 2.01.A – delete the phrase: "Meters shall have nominal length of 65 mm. scaled in specified engineering units." and replace with **"**Meters shall be scaled as specified in the schedule."

B. In Paragraph 2.01.C – Delete the phrase "1/4 inch"

C. Delete the Schedule in Paragraph 2.02 – Schedule in its entirety and replace with the following:

Rotameters			
Tag Number	Service Description	State/Span	Remarks
N/A	Service Water in Coagulant System at Static Mixer	0-10 gpm	
N/A	Service Water in Polymer System at Static Mixer	0-10 gpm	
N/A	Service Water in Sodium Hydroxide System at Static Mixer	0-10 gpm	
N/A	Service Water in Polymer System at Polymer Blending Unit 1	0-800 gph	
N/A	Service Water in Polymer System at Polymer Blending Unit 2	0-800 gph	
N/A	Service Water in Polymer System at Polymer Blending Unit 3 (Residuals)	0-800 gph	
N/A	Service Water in Sodium Hypochlorite System at Floated Water Pipe	0-10 gpm	
N/A	Service Water in Sodium Hypochlorite System at Filtered Water Pipe	0-10 gpm	
N/A	Service Water for PAC Slurry at PAC Unit	0-75 gpm	

Item 3-18. Specification Section 17650

A. Delete the Schedule in Paragraph 2.02 – Schedules in its entirety and replace with the following:

Pressure Gauges			
Tag Number	Service Description	State/Span	Remarks
PI - 05 246	DAF Pump #1 Inlet Pressure	0-150 psig	
PI - 05 256	DAF Pump #2 Inlet Pressure	0-150 psig	
PI - 05 266	DAF Pump #3 Inlet Pressure	0-150 psig	
PI - 05 216	DAF Pump #1 Outlet Pressure	0-150 psig	
PI - 05 226	DAF Pump #2 Outlet Pressure	0-150 psig	
PI - 05 236	DAF Pump #3 Outlet Pressure	0-150 psig	
PI - 05 606	Air Compressor #1 Outlet Pressure Indicator	0-200 psig	
PI - 05 616	Air Compressor #2 Outlet Pressure Indicator	0-200 psig	
PI - 05636	Air Receiver Pressure Indicator	0-200 psig	
PI - 05 646	Air Filter #1 Inlet pressure indicator	0-200 psig	
PI - 05 656	Air Filter #2 Inlet pressure indicator	0-200 psig	
PI - 05 666	Air Filter #1Outlet Pressure Indicator	0-200 psig	
PI - 05 676	Air Filter #2 Outlet Pressure Indicator	0-200 psig	
PI - 05 766	DAF Air Pressure Regulating Valve - Inlet Pressure Indicator	0-200 psig	
PI - 05 786	DAF Air Pressure Regulating Valve - Outlet Pressure Indicator	0-200 psig	
PI - 05 816	Saturator #1 Inlet Pressure Indicator	0-200 psig	
PI - 05 826	Saturator #2 Inlet Pressure Indicator	0-200 psig	
PI - 05 916	Saturator #1 Pressure Indicator	0-200 psig	
PI - 05 926	Saturator #2 Pressure Indicator	0-200 psig	
PI - 07 016	ASB - Inlet Filter Pressure Indicator	0-200 psig	
PI - 07 026	ASB - Inlet Silencer Pressure Indicator	0-200 psig	
PI - 07 046	ASB - Discharge Silencer Pressure Indicator	0-200 psig	
PI - 07 066	ASB - Discharge Pressure Indicator	0-200 psig	
PI - 10 116	Finished Water pump #1 Suction Pressure	0-200 psi	
PI - 10 126	Finished Water pump #2 Suction Pressure	0-200 psi	
PI - 10 136	Finished Water pump #3 Suction Pressure	0-200 psi	
PI - 10 146	Finished Water pump #4 Suction Pressure	0-200 psi	
PI - 10 216	Finished Water pump #1 Discharge Pressure	0-200 psi	
PI - 10 226	Finished Water pump #2 Discharge	0-200 psi	

Pressure Gauges			
Tag Number	Service Description	State/Span	Remarks
	Pressure		
PI - 10 236	Finished Water pump #3 Discharge Pressure	0-200 psi	
PI - 10 246	Finished Water pump #4 Discharge Pressure	0-200 psi	
PI - 09 116	Floated Solids Pump #1 Suction Pressure	0-25 psi	
PI - 09 126	Floated Solids Pump #2 Suction Pressure	0-25 psi	
PI - 09 216	Floated Solids Pump #1 Discharge Pressure	0-25 psi	
PI - 09 226	Floated Solids Pump #2 Discharge Pressure	0-25 psi	
PI - 11 216	Pressure Indicator Coagulant Metering Pump #1	0-150 psi	
PI - 11 226	Pressure Indicator Coagulant Metering Pump #2	0-150 psi	
PI - 12 016	Polymer Blending Unit #1 Discharge Pressure	0-150 psi	
PI - 12 026	Polymer Blending Unit #2 Discharge Pressure	0-150 psi	
PI - 12 236	Residuals Dewatering Polymer Discharge Pressure	0-150 psi	
PI - 13 216	Caustic Metering Pump #1 Discharge Pressure	0-150 psi	
PI - 13 226	Caustic Metering Pump P - #2 Discharge Pressure	0-150 psi	
PI - 14 216	Sod. Hypo Metering Pump #1 Discharge Pressure	0-150 psi	
PI - 14 226	Sod. Hypo Metering Pump #2 Discharge Pressure	0-150 psi	
PI - 14 316	Intermediate Sod. Hypo Metering Pump #1 Discharge Pressure	0-150 psi	
PI - 14 326	Intermediate Sod. Hypo Metering Pump #2 Discharge Pressure	0-150 psi	

Drawings:

Item 3-19. Drawing C-7

A. Near the pipe exiting CB-4, change the label from "12" HDPE x 54' w/ FES" to "12" CPE x 54' w/ FES"

Item 3-20. Drawing C-8

A. Decant Weir Box Section A-A: Delete label "5 FT. HIGH x 3 ½' WIDE ADJUSTABLE ALUMINUM WEIR GATE" and replace with "5 FT. HIGH x 3 ½' WIDE ADJUSTABLE STAINLESS STEEL WEIR GATE"

Item 3-21. Drawing C-11

A. Insert 3" plug valve on each Drying Bed inlet pipe – 8 total valves to be inserted.

Item 3-22. Drawing S-1

A. See attached Sketch S1-SK-01 for modifications to the design

Item 3-23. Drawing S-2

A. See attached Sketches S2-SK-01 and S2-SK-02 for modifications to the design

Item 3-24. Drawing S-11

A. Delete waterstop and key at the following locations:

1. EL 58.00, Column lines L and J

2. EL 65.83
    a. Above and below slab on walls east and west of Column lines L and J

    b. Below slab on Column lines L and J

Item 3-25. Drawing S-12

A. Delete waterstop and key at the following locations:

1. EL 58.00, Column line G

2. EL 65.83
    a. Above and below slab on walls east and west of Column line G
    b. Below slab on Column lines G

Item 3-26. Drawing S-13:

A. Delete waterstop and key at EL 67.00 on Column lines 1 and 6

Item 3-27. Drawing S-14

A. See attached Sketch S14-SK-01 for modifications to the design

Item 3-28. Drawing S-15

A. Delete waterstop and key at EL 67.00 on Column line E.9

Item 3-29. Drawing S-19

A. Delete waterstop and key at top and bottom of wall to north of column line 4 between EL 67.00 and 73.00

Item 3-30. Drawing S-25

A. In Section A, delete all waterstop and keys at top of walls on underside of slab at EL 67.00.

B. In Section C, delete waterstop and keys on weir walls at EL 58.00.

Item 3-31. Drawing A-3

A. Insert at the end of note 07160.0 the following: 'Provide crystalline waterproofing on inside face of all process tank walls where the other side of the wall is an interior dry space.'

B. Delete note "08950.1 Removable Translucent wall panel" in its entirety and insert the following in its place:

> "08950.1 Translucent Wall Panel Assembly – Provide complete assembly of translucent wall panel set under nominal 24-inch high aluminum faced infill panel running horizontal and louvers for windows types W1 through W6. Vertical frames shall run continuous from sill to head. Finish and color of Insulated Aluminum Faced Infill Panels and Louvers shall match frames. Refer to note 08950.2 for louvers and trim support"

Item 3-32. Drawing A-6

A. Delete note "08950.1 Removable Translucent wall panel" in its entirety located along the easterly wall of Room 107 "Coagulant Room" and Room 108 "Sodium Hydroxide Room" and replace with note "08950.0 Translucent Wall Systems"

Item 3-33. Drawing A-8

A. At Room 128 “Laboratory” delete in its entirety the label “095651.0 Resilient Flooring” and replace with label “09740.0 HD-CT”.

B. Delete label “12525.0 Solar Control Device” in its entirety and insert the following “08521.2 Light Shelf”

C. At the wall partition between Room 120 “Control Room” and Room 119 “Administration” delete wall partition label “4S 0” and replace with “4B 0”

D. At wall partition between Room 122 “Conference Room” and Room 121 “Chief Operator Office” delete wall partition label “4S 0” and replace with “4B 0”

E. At wall partition between Room 123 “Break Room” and Room 119 “Administration” delete wall partition label “4S 0” and replace with “4B 0”

F. At wall partition between Room 124 “Laboratory” and Room 119 “Administration” delete wall partition label “4S 1” and replace with “4B 1”

Item 3-34. Drawing A-10

A. Add one ship ladder along column line E.9 and centered on “Roof Pavers”

B. Add one ship ladder along column line M and centered on “Roof Pavers”

C. Delete Detail 1 in its entirety and replace with Detail 1 in attached Sketch A10-SK-01

D. Add label at each ship ladder to state “Ship Ladder- See Detail 1/A10.”

Item 3-35. Drawing A-12

A. Delete text referencing “08950.1 Removable Translucent wall panel” located along the East Elevation and in its entirety replace with text referencing “08950.0 Translucent Wall Systems”

Item 3-36. Drawing A-28

A. Door Schedule:

1. Door 101-1, delete text “coiling” and replace with “P”.

2. Door 101-1, delete text “10’-0” X10’-0” in door opening dimension and replace with “8’-0” x 11’-0”.

3. Door 101-1, delete text “B” in Door Type and replace with “E”.

Item 3-37. Drawing A-29

A. Delete reference to note “08950.1 Removable Translucent wall panel” indicated on windows types W33, W34 and W35 and replace with reference to note “08950.0 Translucent Wall Systems”

B. Insert reference to “08950.1 - Translucent Wall Panel Assembly” indicating the requirements for windows types W1 through W6.

C. Insert reference to note: “12491.0 – Mechanical Shades” for window types W8, W9, W10, W13, W14.

Item 3-38. Drawing M-1

A. Detail 1 – Enlarged Plan; Add “3-inch” to note “Air Release Valve”

B. Delete label “6” WATER” and replace with “6” Service Water”

Item 3-39. Drawing I-2

A. Add “ (typical of 2)” to the label “Laptop Computer”

Item 3-40. Drawing I-11

A. Delete text “Emergency Storage Tank”

B. Delete pipe lateral and plug valve shown going to “Emergency Storage Tank”

C. Delete all 4” pipe labels on the discharge side of the Floated Solids Transfer Pumps and replace with 3”

Item 3-41. Drawing I-15

A. Delete one of the fill station connection details shown for the Sodium Hydroxide system and connect the remaining fill connection to both bulk tanks.

Item 3-42. Drawing H-14

A. In Detail 1 – FLOW SCHEMATIC
   1. Delete references to ‘3” HPS&R’ and replace with ‘2 1/2 ” HPS&R’

2. Delete text ‘3” TO HX-1 & HX-2 IN PIPE GALLERY’ and replace with ‘2.5” TO HX-1 & HX-2 IN PIPE GALLERY’

B. Detail 2 – HEAT SOURCE WATER HEAT EXCHANGER ELEVATION – Delete the two “3” “ labels on the Supply/Return to heat Pumps lines.

Item 3-43. Drawing P-4

A. Delete all references on north side of Column line 1 to ‘6” DCW’ and replace with ‘6” Service Water’.

B. In Room 102, at 6” FP Main CFF, provide the following for sprinkler service to Room 101:

1. 3” double check valve and isolation valves
2. Tee connection for foam suppression system
3. Sprinkler piping from Room 102 to Room 101
4. Foam suppression systems per Specification Section 13955 – Foam-water Sprinkler System

C. In Room 101, provide piping and two sprinkler heads.

Item 3-44. Drawing P-5

A. Delete all references on north side of Column line 2 to ‘6” DCW’ and replace with ‘6” Service Water’.

Item 3-45. Drawing P-7

A. Delete all references on north side of Column line 2 to ‘2” DCW’ and replace with ‘6” Service Water’.

Item 3-46. Drawing E-2

A. On the Label - “LOCATION OF RADIO ANTENNA ON 40’ PINE POLE. REFER TO DETAIL 3/E-32” located on the lower left portion of the drawing, delete “E-32” and replace with “I-32”.

Item 3-47. Drawing E-8

A. Add lighting panel LPC to be fed from the spare 100A/3P breaker at MCC-2 (10E). See attached panel schedule.

Item 3-48. Drawing E-12

A. Delete the text “TO MCC-1” associated with pump P-06013 located near column line intersection G3 and replace with “TO PPA-19”.

B. The pump shall be provided with a vender supplied simplex control panel and float controls which shall be installed and wired by the electrical contractor. Provide ¾” C with 2#14 from simplex panel to Remote I/O#3 9DI-397).

Item 3-49. Drawing E-16

A. Add “ and 1 inch conduit with fiber optic cable (Ethernet) from each OIT to the managed switches at PLC-1 enclosure via loop network as shown on the SCADA block diagram” to key notes, diamond note 6.

B. Add diamond note 6 to the RIO-6 panel, located along Column line 6.

Item 3-50. Drawing E-18

A. Add “ and 1 inch conduit with fiber optic cable (Ethernet) from each OIT to the managed switches at PLC-1 enclosure via loop network as shown on the SCADA block diagram” to key notes, diamond note 6.

Item 3-51. Drawing E-20

A. Delete the text “to MVPA-31,33,35” associated with MOV 02 010 at column M4 and replace with “to UPB-18,20,22”

Item 3-52. Drawing E-22

A. Add “Provide 3/4” C with 4#14 to FACP” to the label located at column Q-2 associated with the fire alarm tamper and flow switches.

Item 3-53. Drawing E-24

A. Provide additional magnetic door contact at all entry doors and wire to the local security alarm panel.

Item 3-54. Drawing E-31

A. Provide a 20A/3P branch circuit breaker at panel UPB.

Item 3-55. Drawing E-32

A. Delete the “Water Treatment Plant Lighting Fixture Schedule” and replace with the attached schedule

Item 3-56. Drawing E-36

A. Detail 1 - Delete the text “Class I, Div I, Group D area”

B. Detail 1 – Junction box note located on the left hand side of the detail – Delete text “XP RATED” and replace with “NEMA 4X SS RATED”

C. Detail 1 –Delete all EYS fittings from the Detail.

Item 3-57. Drawing BR-C-1

A. This Drawing is being reissued for clarity due to print quality issues. No changes have been made to the drawing.

Item 3-58. Drawing BR-C-2

A. This Drawing is being reissued for clarity due to print quality issues. No changes have been made to the drawing.

Item 3-59. Drawing BR-M-4

A. Note 4; Delete “340” and replace with “316”.

Addenda

Item 3-60. Addendum #2

A. Item 2-21.A – Delete referenced page number “15100-50” and replace with “15100-57”

Attachments:

Pictures of Bellamy Dam Repair Requirements shown on Drawing BR-S-5
Residuals Testing Data 7-19-07
Residuals Testing Data 3-19-08
Specification Section 00410 – Bid Form - revised
Specification Section 00450 – Prevailing Wage Rates
Specification Section 13955 – Foam-Water Sprinkler System
Sketch S01-SK-01
Sketch S02-SK-01
Sketch S02-SK-02
Sketch S14-SK-01
Lighting Fixture Schedule E-2
Drawing BR-C-1
Drawing BR-C-2

-- END –

Picture on BR-S-5: Right Retaining Wall

Picture on BR-S-5: Right Abutment Wall

Picture on BR-S-5: Monolith #10

Picture on BR-S-5: Joint Between Monolith 9 and 10

Picture on BR-S-5: Monolith #2

Picture on BR-S-5: Left Abutment

analytics environmental laboratory LLC

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Portsmouth, New Hampshire 03801
603-436-5111 Fax 603-430-2151
800-929-9906
www.analyticslab.com

STEVE SCOTTON
~~Mr. Peter Armstrong~~
City of Portsmouth Water Works
680 Peverly Hill Road
Portsmouth, NH 03801

Report Number: 59156

Revision: Rev. 0

Re: Madbury Drying Beds **2007**

Enclosed are the results of the analyses on your sample(s). Samples were received on 09 July 2007 and analyzed for the tests listed below. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

Lab Number	Sample Date	Station Location	Analysis	Comments
59156-1	07/06/07	PORTS RESIDUALS 2007 DRYING BED COMPOSITE	EPA 9095 Paint Filter Liquids Test	
	07/06/07	PORTS RESIDUALS 2007 DRYING BED COMPOSITE	TCLP Extraction	
	07/06/07	PORTS RESIDUALS 2007 DRYING BED COMPOSITE	TCLP RCRA Metals	

Sample Receipt Exceptions: None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, New York, Virginia, Pennsylvania, and is validated by the U.S. Navy (NFESC). A list of actual certified parameters is available upon request.

If you have any further question on the analytical methods or these results, do not hesitate to call.

Authorized signature _____
Stephen L. Knollmeyer Lab. Director

Date 7/19/2007

Maine Environmental Laboratory

Report of Analyses

One Main Street Yarmouth, Maine 04096-1107 Tel (207) 846-6569 Fax (207) 846-9066 e-mail: melab@maine.rr.com

Melissa Gulli
Analytics Environmental Lab, LLC
195 Commerce Way, Suite E
Portsmouth, NH 03801

July 18, 2007

Report No.: AEL4447-07

Enclosed are the results of the analyses requested on your samples as received by the laboratory. Samples were received in acceptable condition and analyzed within method holding times with all quality control data within laboratory acceptance limits unless noted. Reporting detection limits are the minimum levels for reporting quantitative data. These limits are 3.18 times the method detection limit as defined in CFR 40 Part 136, Appendix B. Data reported between the reporting and method detection limits are J flagged as estimated. Maine Environmental Laboratory is certified by Maine, Massachusetts, New Hampshire and NELAP (cert.#2031). A list of certified parameters is available on request. The results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report.

The complete report consists of the following sections: Maine Environmental Laboratory report
Chain of custody form

References

EPA - EPA600/4-79-020, Methods for Chemical Analysis of Water and Wastes, USEPA, Cincinnati, Ohio, March 1983.
SW8 - SW846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA, third edition, 1986.
STM - Standard Methods for the Examination of Water and Wastewater, 18th edition, APHA,AWWA,WPCF, 1992.
CLP - USEPA CLP Statement of Work for Inorganics, ILMO3.0.
AOA - Official Methods of Analysis of the Association of Official Analytical Chemists, 14th edition, 1984.

Authorized signature

Herbert S. Kodis, laboratory director

Maine Environmental Laboratory

Report of Analyses

One Main Street Yarmouth, Maine 04096-1107 Tel (207) 846-6569 Fax (207) 846-9066 e-mail: melab@maine.rr.com

Melissa Gulli
Analytics Environmental Lab, LLC
195 Commerce Way, Suite E
Portsmouth, NH 03801

July 18, 2007

Report No:	AEL4447-07	Sampler:	No Data
Date received:	07/11/07	Sampling date:	07/06/07
Project ID:	Madbury Drying Beds 2007	Sample matrix:	Extract
Laboratory ID:	AEL444707-01	Sample ID:	Ports. Residuals 2007 Drying Bed Composite (59156-1)

Toxicity Characteristic Leaching Procedure

TCLP - Method 1311 - SW846

Parameter	Results	units	Date Analyzed	Reporting Detection Limit	Regulatory Limit	Matrix Spike % recovery	Method References
Arsenic	ND	mg/L	07/13/07	0.1	5.0	83.0	1311/7060A
Barium	2.2	mg/L	07/17/07	0.4	100	97.0	1311/3010A/7080A
Cadmium	ND	mg/L	07/17/07	0.04	1.0	98.0	1311/3010A/7130
Chromium	ND	mg/L	07/17/07	0.4	5.0	98.0	1311/3010A/7190
Lead	ND	mg/L	07/13/07	0.4	5.0	96.0	1311/3010A/7420
Mercury	ND	mg/L	07/13/07	0.005	0.2	90.0	1311/7470A
Selenium	ND	mg/L	07/12/07	0.1	1.0	82.0	1311/7740
Silver	ND	mg/L	07/17/07	0.5	5.0	82.0	1311/7760A

ND = not detected J = estimated B = detected in blank S = RDL increased due to sample matrix

Maine Environmental Laboratory

Report of Analyses

One Main Street Yarmouth, Maine 04096-1107 Tel (207) 846-6569 Fax (207) 846-9066 e-mail: melab@maine.rr.com

Melissa Gulli
Analytics Environmental Lab, LLC
195 Commerce Way, Suite E
Portsmouth, NH 03801

July 18, 2007

Report No: AEL4447-07
Date received: 07/11/07
Project ID: Madbury Drying Beds 2007
Laboratory ID: AEL444707-02

Sampler: No Data
Sampling date: 07/09/07
Sample matrix: Extract
Sample ID: TCLP Blank-B07097-TCLP Metals (59156-2)

Toxicity Characteristic Leaching Procedure

TCLP - Method 1311 - SW846

Parameter	Results	units	Date Analyzed	Reporting Detection Limit	Regulatory Limit	Matrix Spike % recovery	Method References
Arsenic	ND	mg/L	07/13/07	0.1	5.0	83.0	1311/7060A
Barium	ND	mg/L	07/17/07	0.4	100	97.0	1311/3010A/7080A
Cadmium	ND	mg/L	07/17/07	0.04	1.0	98.0	1311/3010A/7130
Chromium	ND	mg/L	07/17/07	0.4	5.0	98.0	1311/3010A/7190
Lead	ND	mg/L	07/13/07	0.4	5.0	96.0	1311/3010A/7420
Mercury	ND	mg/L	07/13/07	0.005	0.2	90.0	1311/7470A
Selenium	ND	mg/L	07/12/07	0.1	1.0	82.0	1311/7740
Silver	ND	mg/L	07/17/07	0.5	5.0	82.0	1311/7760A

ND = not detected J = estimated B = detected in blank S = RDL increased due to sample matrix

Maine Environmental Laboratory

Report of Analyses

One Main Street Yarmouth, Maine 04096-1107 Tel (207) 846-6569 Fax (207) 846-9066 e-mail: melab@maine.rr.com

Mary MacDonald
Resource Management, Inc.
P. O. Box 1081
Ashland, NH 03217

March 19, 2008

Report No:	WMR3100-08	Sampler:	K. O'Donnell
Date received:	03/04/08	Sampling date:	02/20/08
Project ID:	Hydrosolids Program	Sample matrix:	Solid-Composite
Laboratory ID:	WMR310008-01	Sample ID:	Hydrosolids Program

Data reported on a dry weight basis.

Parameter	Results		units	Date Analyzed	Method Detection Limit	Reporting Detection Limit	Method	Reference
Arsenic, total	15.4		mg/kg	03/13/08	0.2	0.7	7060A/3050B	SW8
Cadmium, total	0.5	U	mg/kg	03/11/08	0.5	1.8	7130/3050B	SW8
Chromium, total	6		mg/kg	03/11/08	2	6	7190/3050B	SW8
Copper, total	8		mg/kg	03/11/08	2	6	7210/3050B	SW8
Lead, total	23		mg/kg	03/11/08	3	9	7420/3050B	SW8
Mercury, total	0.11		mg/kg	03/10/08	0.04	0.09	7471A	SW8
Molybdenum, total	2.0		mg/kg	03/13/08	0.2	0.9	7481/3050B	SW8
Nickel, total	6	J	mg/kg	03/11/08	3	9	7520/3050B	SW8
Selenium, total	1.3		mg/kg	03/17/08	0.2	0.7	7740/3050B	SW8
Zinc, total	20		mg/kg	03/11/08	2	6	7950/3050B	SW8
Antimony, total	0.4	U	mg/kg	03/10/08	0.4	0.9	7041/3005A	SW8
Beryllium, total	0.33		mg/kg	03/10/08	0.02	0.07	7091/3050B	SW8
Silver, total	2	U	mg/kg	03/11/08	2	6	7760A/3050B	SW8
Thallium, total	0.4	J	mg/kg	03/10/08	0.4	1.1	7841/3050B	SW8
pH	6.00		pH units	03/05/08	0.01		9045D	SW8
Total Solids	54.39		%	03/05/08	0.01		CLP 4F	CLP
Nitrate/Nitrite-N	23		mg/kg	03/05/08	5	16	9056	SW8
TKN	1800		mg/kg	03/13/08		26	4500N-C	STM
Ammonia-N	32		mg/kg	03/12/08		14	4500NH3-BH	STM
Organic-N	1768		mg/kg	03/13/08		26	Calculation	
Potassium, total	570		mg/kg	03/19/08	150	460	7610/3050B	SW8
Phosphorus, total	420		mg/kg	03/14/08	60	180	4500P	STM

U=not detected J=estimated B=detected in blank S=RDL increased due to sample matrix

SECTION 00410

BID FORM

CITY OF PORTSMOUTH, NH
MADBURY WATER TREATMENT PLANT UPGRADE
AND
BELLAMY RESERVOIR IMPROVEMENTS

BID PROPOSAL # 1077
FEBRUARY 2009
Revised by Addendum No. 3

TABLE OF ARTICLES

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

FINANCE/PURCHASING DEPARTMENT
CITY HALL
1 JUNKINS AVENUE
PORTSMOUTH, NH 03801
ATTN: PURCHASING CLERK

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

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

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

Addendum No.	Addendum Date
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.

D. Bidder has carefully studied all: reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in GC-4.02 or SC-4.02.

E. Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

I. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

K. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4 – FURTHER REPRESENTATIONS

4.01 Bidder further represents that:

A. this Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over Owner.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

A. Lump Sum Bid Price

A lump sum bid price for all items shall be provided. The basis for bid shall be the Total Lump Sum Bid price for all Items, including Unit Price work. See Specification 01025 – Measurement and Payment for a description of the work included in Item I and II. The Owner reserves the right to award only Item I or Item II to the successful bidder based on available funding for the Project.

Lump Sum Bid Price for Item I only:

_____ **$** _____

(Lump Sum Bid Price for Item I to include Item I Unit Price Total from 5.01.B) (words) (numerals)

Lump Sum Bid Price for Item II only

_____ **$** _____

(Lump Sum Bid Price for Item II to include Item II Unit Price Total from 5.01.B) (words) (numerals)

Total Lump Sum Combined Bid Price for Items I and II:

_____ **$** _____

(Total Lump Sum Combined Bid Price does not have to equal the sum of Items I and II) (words) (numerals)

All specified cash allowances and unit price work are included in the price(s) set forth above and have been computed in accordance with Paragraph 11.02 of the General Conditions.

B. Unit Price Bid Price

Item No.	Description		Unit	Estimated Quantity	Bid Unit Price	Bid Price
Item I Unit Prices for Work at Madbury Water Treatment Plant						
1-1	Additional Soil Excavation (See Specification 02220)		CY	50	$_____	$_____
1-2	Additional Rock Excavation (See Specification 02224)		CY	2	$_____	$_____
1-3	Additional Structural Fill (See Specification 02229, 2.01.B.3)		CY	10	$_____	$_____
1-4	Additional Common Fill (See Specification 02229, 2.01.B.5)		CY	10	$_____	$_____
1-5	Additional Reinforcing Steel (See Specification 03200)		Ton	0.5	$_____	$_____
1-6	Additional Class A1 Concrete (See Specification 03300)		CY	10	$_____	$_____
1-7	Additional Control System Programming (See Specification 17000, 3.03)		Hours	80	$_____	$_____
1-8	Sludge Dewatering and Hauling (See Specification 01025, 1.06.B.1)	Mobilization	each	3	$_____	$_____
		Dewatering	Dry Ton	660	$_____	$_____
		Hauling	Wet Ton	5400	$_____	$_____
	Sum of Mobilization, Dewatering and Hauling:					
1-9	Utility Charges (See Specification 16421, 1.06.B.2)		Allowance	N/A	*Allowance*	$ 100,000
1-10	Repair of Freshet Road	Reclamation	SY	8,000	$_____	$_____
		Paving	SY	8,000	$_____	$_____

Total of Item I Bid Prices for Item I Unit Prices (Include in Item I Bid Price and Combined Bid Price in 5.01.A)

_____ **(words)** **$**_____

Item II Unit Prices for Work at Bellamy Reservoir					
2-1	Underwater Excavation and Disposal, Sediment	CY	100	$_____	$_____
2-2	Underwater Excavation and Disposal, Rock	CY	1	$_____	$_____
2-3	Provide Dam Repair - Crack Injection	LF	50	$_____	$_____
2-4	Provide Dam Repair - Spall Repair	CF	45	$_____	$_____
Total of Item II Bid Prices for Item II Unit Prices (Include in Item II Bid Price and Combined Bid Price in 5.01.A):					
_____ **(words)**				**$**_____	

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

C. Bid Alternates

Lump sum bid prices shall be provided for the following deduct Alternates, as detailed in Specification 01025 – Measurement and Payment. Alternate prices shall include all labor, materials and overhead and profit to complete the work described. If a bidder determines a deduct Alternate as described will not result in a decrease to the Contract amount, the bidder shall enter 'NO DEDUCT' as the bid price. If a bidder determines an Add Alternate as described will not result in an increase to the Contract amount, the bidder shall enter 'NO ADDER' as the bid price. Bid alternates may or may not be accepted by the Owner. Alternates are listed in order of priority, with Alternate A having the highest priority

Alternate A – Delete Construction of Residual Drying Beds		
Deduct	$_____ (words)	$_____ (numerals)
Alternate B – Delete Reservoir Aeration System		
Deduct	$_____ (words)	$_____ (numerals)
Alternate C – Furnish and Install Carbon Steel Piping in lieu of Stainless Steel Piping		
Deduct	$_____ (words)	$_____ (numerals)
Alternate D – Mill and Pavement Overlay for Existing Roadways		
Add	$_____ (words)	$_____ (numerals)
Alternate E – Delete Reservoir Flow Directing Curtain		
Add	$_____ (words)	$_____ (numerals)
Alternate F – Buy American Requirement		
Add	$_____ (words)	$_____ (numerals)
Alternate G – Wage Rate Requirement		
Add	$_____ (words)	$_____ (numerals)

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 14.07.B of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

ARTICLE 7 – ATTACHMENTS TO THIS BID

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

A. Required Bid security in the form of a Bid Bond conforming to the requirements of Specification Section 00430.
B. List of Proposed Subcontractors
C. List of Proposed Suppliers
D. Required Bidder Qualification Statement with Supporting Data conforming to Section 00435 – Bidders Qualification Statement
E. Affidavit of Non-Collusion (Section 00420)

ARTICLE 8 – DEFINED TERMS

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

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____ (SEAL)

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

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____
Type (General Business, Professional, Service, Limited Liability):_____

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

Name (typed or printed): _____

Title: _____ (CORPORATE SEAL)

Attest _____

Date of Authorization to do business in NEW HAMPSHIRE is _____/_____/_____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

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

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

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

Bidder's Business Address _____

_____

Phone No. _____ Fax No. _____

SUBMITTED on _____, 20_____.

State Contractor License No. _____. (If applicable)

NO TEXT ON THIS PAGE

SECTION 00450

PREVAILING WAGE RATES

General Decision Number: NH080013 01/09/2009 NH13

Superseded General Decision Number: NH20070015

State: New Hampshire

Construction Type: Building

County: Rockingham County in New Hampshire.

Building construction projects (does not include single family homes and apartments up to and including 4 stories)

Modification Number	Publication Date
0	02/08/2008
1	03/21/2008
2	04/25/2008
3	05/30/2008
4	06/20/2008
5	07/11/2008
6	08/01/2008
7	08/08/2008
8	12/19/2008
9	12/26/2008
10	01/09/2009

BOIL0029-010 10/01/2008

	Rates	Fringes
Boilermaker	$ 30.19	26.6% + 8.96

CARP0111-007 03/01/2007

TOWN OF SALEM:

	Rates	Fringes
Carpenter _includes acoustical ceiling installation, drapery blind installation, drywall hanging, form work, hardwood floor installation, and scaffold building)	$ 28.43	20.09
Millwright	$ 28.43	20.09

CARP0118-003 10/01/2007

DOES NOT INCLUDE THE TOWN OF SALEM:

	Rates	Fringes
Carpenter _includes acoustical ceiling installation, drapery blind		

```
        installation, drywall
        hanging, form work,
        hardwood floor
        installation, and
        scaffold building.....$ 22.17            12.76
  Millwright.....$ 22.17            12.76

Carpenters:
  Work on all designated hazardous material work sites, where
  the worker is in direct contact with hazardous material and
  when protective equipment is required for Levels A, B and
  C, as defined by the designated health and safety plan: 10%
  per hour additional.
----------------------------------------------------------------
 ELEC0490-001 09/01/2007

                                  Rates          Fringes

  Electricians:
     _does not include teledata
        work.....$ 25.35       3% + 13.10

  Work performed from scaffolding suspended by ropes or cables
  30 ft. in the air: 10% per hour additional.

  Work requiring the wearing of a canister respirator: 10% per
  hour additional.
----------------------------------------------------------------
 ELEC0490-004 09/01/2007

                                  Rates          Fringes

Teledata System Installer
     _Work on radio,
        fiber-optics,
        holovision, video,
        recording voice, sound,
        nurse calls, emergency
        call, microwave and
        visual production and
        reproduction apparatus,
        equipment and
        appliances used for
        domestic, commercial,
        education and
        entertainment purposes;
        work on
        telecommunication
        systems; work on fire
        alarm systems; work on
        hold-up alarm, burglar
        alarm surveillance
        systems, CCTV, CATV,
        card access, Systems RS
        232 Ethernet; and/or
        any local area network
        system associated with
        computer installation....$ 19.01       3% + 10.80
----------------------------------------------------------------
 ENGI0004-019 12/01/2008
```

	Rates	Fringes
Power equipment operators:		
_GROUP 1	$ 25.33	19.03
_GROUP 2-A	$ 26.24	19.03
_GROUP 2-B	$ 27.08	19.03
_GROUP 2-C	$ 27.99	19.03
_GROUP 2-D	$ 28.79	19.03
_GROUP 2-E	$ 29.95	19.03
_GROUP 3	$ 26.06	19.03
_GROUP 4	$ 25.16	19.03
_GROUP 5	$ 19.94	19.03
_GROUP 6	$ 23.21	19.03

PAID HOLIDAYS:
New Year's Day, President's Day, Memorial Day, Fourth of July, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day and Christmas Day.

DEFINITION OF GROUPS:

GROUP 1:
Backhoe; crane and truck crane, boom length including jib up to and including 150 ft.; excavator; forklift; front end loader (except when pushing)

GROUP 2-A:
Crane, and truck crane, boom length including jib over 150 ft. up to and including 185 ft.

GROUP 2-B:
Crane, and truck crane, boom length including jib over 185 ft. up to and including 210 ft.

GROUP 2-C:
Crane, and truck crane, boom length including jib over 210 ft. up to and including 250 ft.

GROUP 2-D:
Crane, and truck crane, boom length including jib over 250 ft. up to and including 350 ft.

GROUP 2-E:
Crane, and truck crane, boom length including jib over 350 ft.

GROUP 3:
Bulldozer, mechanic, roller

IRON0007-009 03/15/2008

	Rates	Fringes
Ironworker, reinforcing and structural	$ 21.15	16.75

LABO0022-016 06/01/2007

Town of Salem:

	Rates	Fringes
Laborer, general	$ 24.00	14.60

LABO0327-001 06/01/2007

Does not include the town of Salem:

	Rates	Fringes
Laborer, general	$ 18.43	13.80

Work with hazardous waste, and handling of hazardous material, including acids, chlorine, epoxies, asbestos, and lead abatement: $2.50 per hour additional.

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* PAIN0035-025 01/01/2009

	Rates	Fringes
Drywall finishers:		
_New construction and power plants	$ 23.73	12.65
_Repaint work	$ 21.05	12.65
Painters, brush and roller:		
_New construction and power plants	$ 23.73	12.65
_Repaint work	$ 21.05	12.65

Drywall finisher:
Work using power vacuum, drywall sander, bazooka or box and wipers working behind them: $1.40 per hour above the new construction rate.

---

* PLAS0534-008 01/01/2009

	Rates	Fringes
Cement mason		
_All other work	$ 30.50	20.44
_Work on projects of 50,000 sq. ft. or less (with respect to plastering work, includes only interior veneer-type plastering not to exceed 5,000 sq. ft.)	$ 30.40	19.26

Work on a suspended staging, which is not supported from the ground: $.35 per hour additional.

SHEE0017-014 07/01/2007

	Rates	Fringes
Sheet metal worker (includes HVAC duct work)	$ 24.57	17.85

SUNH2005-006 11/01/2005

	Rates	Fringes
Pipefitter		
_includes HVAC piping	$ 23.65	11.35
Plumber	$ 18.77	4.62

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

==========

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

In the listing above, the "SU" designation means that rates listed under the identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

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

* an existing published wage determination

* a survey underlying a wage determination

* a Wage and Hour Division letter setting forth a position on a wage

determination matter

* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries

of surveys, should be with the Wage and Hour Regional Office for the area in

which the survey was conducted because those Regional Offices have

responsibility for the Davis-Bacon survey program. If the response from this

initial contact is not satisfactory, then the process described in 2.) and

3.) should be followed.

With regard to any other matter not yet ripe for the formal process

described here, initial contact should be with the Branch of Construction

Wage Determinations. Write to:

Branch of Construction Wage Determinations

Wage and Hour Division

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party

(those affected by the action) can request review and reconsideration from

the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7).

Write to:

Wage and Hour Administrator

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested

party's position and by any information (wage payment data, project

description, area practice material, etc.) that the requestor considers

relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested

party may appeal directly to the Administrative Review Board (formerly the

Wage Appeals Board). Write to:

Administrative Review Board

U.S. Department of Labor

200 Constitution Avenue, N.W.

Washington, DC 20210

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

END OF GENERAL DECISION

General Decision Number: NH080010 02/08/2008 NH10

Superseded General Decision Number: NH20070012

State: New Hampshire

Construction Types: Heavy Dredging

Counties: Hillsborough and Rockingham Counties in New Hampshire.

HOPPER DREDGING

Modification Number	Publication Date
0	02/08/2008

SUNH1993-001 05/24/1993

HILLSBOROUGH and ROCKINGHAM

	Rates	Fringes
Self-Propelled Hopper Dredge Drag Tenders	$ 8.21	

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

==========

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* a Wage and Hour Division letter setting forth a position on a wage determination matter
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On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour

Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

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==========

END OF GENERAL DECISION

General Decision Number: NH080029 12/26/2008 NH29

Superseded General Decision Number: NH20070031

State: New Hampshire

Construction Type: Heavy

County: Rockingham County in New Hampshire.

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	02/08/2008
1	03/21/2008
2	04/25/2008
3	05/30/2008
4	07/11/2008
5	07/18/2008
6	12/19/2008
7	12/26/2008

* BOIL0029-013 10/01/2008

	Rates	Fringes
Boilermaker	$ 30.19	26.6% + 8.96

CARP0111-009 03/01/2007

TOWN OF SALEM:

	Rates	Fringes
Millwright	$ 28.43	20.09

CARP0118-005 10/01/2007

DOES NOT INCLUDE THE TOWN OF SALEM:

	Rates	Fringes
Millwright	$ 22.17	12.76

ENGI0004-012 12/01/2008

	Rates	Fringes
Power equipment operators:		
_Backhoe; crane and truck crane, boom length including jib up to and including 150 ft.; excavator; forklift; front end loader (except when pushing)	$ 25.33	19.03
_Bulldozer; mechanic	$ 26.06	19.03
_Crane and truck crane, boom length including		

```
        jib over 150 ft. up to
        and including 185 ft.....$ 26.24            19.03
     _Crane and truck crane,
        boom length including
        jib over 185 ft. up to
        and including 210 ft.....$ 27.08            19.03
     _Crane and truck crane,
        boom length including
        jib over 210 ft. up to
        and including 250 ft.....$ 27.99            19.03
     _Crane and truck crane,
        boom length including
        jib over 250 ft. up to
        and including 350 ft.....$ 28.79            19.03
     _Crane and truck crane,
        boom length including
        jib over 350 ft.........$ 29.95             19.03

PAID HOLIDAYS:
  New Year's Day, President's Day, Memorial Day, Fourth of
  July, Labor Day, Columbus Day, Veteran's Day, Thanksgiving
  Day and Christmas Day.
-----------------------------------------------------------------
  SUNH2006-007 03/01/2006

                                   Rates          Fringes

  Carpenter
     _includes form work.........$ 19.90             3.90

  Laborer, general...............$ 13.85             3.75

  Truck driver, dump.............$ 14.04             2.21
-----------------------------------------------------------------

WELDERS - Receive rate prescribed for craft performing

operation to which welding is incidental.

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Unlisted classifications needed for work not included within
the scope of the

classifications listed may be added after award only as
provided in the labor

standards contract clauses (29 CFR 5.5(a)(1)(ii)).



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In the listing above, the "SU" designation means that rates
listed under the
```

identifier do not reflect collectively bargained wage and fringe benefit

rates. Other designations indicate unions whose rates have been determined

to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

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* a survey underlying a wage determination

* a Wage and Hour Division letter setting forth a position on a wage

determination matter

* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries

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Administrative Review Board
U.S. Department of Labor
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Washington, DC 20210

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END OF GENERAL DECISION

General Decision Number: NH080009 10/03/2008 NH9

Superseded General Decision Number: NH20070011

State: New Hampshire

Construction Type: Heavy Dredging

Counties: Hillsborough and Rockingham Counties in New Hampshire.

NEW HAMPSHIRE

All Dredging, except self propelled hopper dredges, on the Atlantic Coast

Modification Number	Publication Date
0	02/08/2008
1	10/03/2008

* ENGI0025-001 10/01/2008

STATEWIDE

	Rates	Fringes
Dredging:		
CLASS A	$ 32.89	7.85+a+b
CLASS B1	$ 28.49	7.85+a+b
CLASS B2	$ 26.84	7.85+a+b
CLASS C1(a)	$ 25.55	7.55+a+b
CLASS C1	$ 26.14	7.55+a+b
CLASS C2	$ 25.29	7.55+a+b
CLASS D(a)	$ 20.43	7.25+a+b
CLASS D	$ 21.09	7.25+a+b

CLASSIFICATIONS:

CLASS A: Lead Dredgeman, Operator, Leverman.

CLASS B1: Licensed Tug Operator over 1000 HP, Derrick Operator, Spider/Spill Barge Operator, Engineer, Electrician. Chief Welder, Cheif Mate, Fill Placer, Operator II, Maintenance Engineer.
CLASS B2: Licensed Boat Operator, Certified Welder.
CLASS C1: Mate, Drag Barge Operator, Steward, Assistant Fill Placer.
CLASS C1(a): Welder.

CLASS C2: Boat Operator
CLASS D: Shoreman, Deckhand, Rodman, Scowman, Cook, Messman, Porter/Janitor.
CLASS D(a) Oiler.

PREMIUMS: Additional 20% for hazardous material work

FOOTNOTES APPLICABLE TO ABOVE CRAFTS:

a. PAID HOLIDAYS: New Year's Day, Martin Luther King, Jr.'s Birthday, Memorial Day, Good Friday, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and Christmas Day

b. VACATION: Seven percent (7%) of the straight time rate, plus $.20, multiplied by the total hours worked.

INCENTIVE PAY: (Add to Hourly Rate)

Operator (NCCCO License/Certification) $0.50 Licensed Tug Operator over 1000 HP (Assigned as Master) (USCG licensed Master of Towing Vessels (MOTV) $1.00;
Licensed Boat Operator (Assigned as lead boat captain) USCG licensed boat operator $0.50;
Engineer (QMED and Tankerman endorsement or licensed engineer (USCG) $0.50
Oiler (QMED and Tankerman endorsement (USCG) $0.50; All classifications (Tankerman endorsement only) USCG $0.25;
Deckhand or Mate (AB with Lifeboatman endorsement (USCG) $0.50; All classifications (lifeboatman endorsement only (USCG) $0.25; Welder (ABS certification) $0.50

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

==========

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END OF GENERAL DECISION

SECTION 13955

FOAM-WATER SPRINKLER SYSTEM

PART I - GENERAL

1.01 Description

A. Scope:

1. The Contractor shall provide all labor, material, equipment and incidentals as shown, specified and as required to furnish and install a complete and workable system of Foam sprinklers including all piping, sprinkler heads and accessories.

1.02 Related Sections

1. Section 15070 - Interior Piping.

1.03 References

A. Requirements of Regulatory Agencies:

1. Building Codes: Comply with applicable requirements of all governing authorities and the following codes:

a. New Hampshire State Uniform Fire Prevention and Building Code.

b. NFPA Standard No. 13, "Standard for the Installation of Sprinkler Systems".

c. NFPA Standard No. 14, "Standard for the Installation of Standpipe and Hose Systems".

d. NFPA Standard No. 16, "Deluge Foam - Water Sprinkler Systems and Foam – Water Spray Systems".

e. Permits: Contractor shall obtain and pay for all required permits, fees, inspections and approvals by authorities having jurisdiction.

f. Factory Mutual System Engineering and Research, Standard No. 2-8N.

B. Except as modified herein, conform to the required and advisory provisions of NFPA 13 for design, equipment, materials, installation, workmanship, examination, inspection, and testing. Include for each system all materials, accessories, and equipment inside and outside the building for each system to be complete and ready for use. Design and provide each system to accommodate blind spaces, piping, electrical equipment, ductwork, and other construction and equipment in accordance with detailed drawings submitted for approval. Locate sprinkler heads in a consistent pattern with ceiling grid, lights, and supply air diffusers. Provide devices and equipment for fire protection service of a make or type which is UL listed and FM approved for use in sprinkler systems. In the NFPA publications references, the advisory provisions are considered to be mandatory, and throughout the word "shall" had been substituted for "should" wherever it appears.

C. Reference Standards: Comply with applicable provisions and recommendations of the following except as otherwise shown or specified:

1. ASTM A47, Malleable Iron Castings Grade 32510.

2. ASTM A48, Gray Iron Castings.

3. ASTM A53, Welded and Seamless Steel Pipe.

4. ASTM A120, Black and Hot-Dipped Zinc Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses.

5. ASTM A183, Heat-Treated Carbon Steel Track Bolts and Carbon Steel Nuts.

6. ASTM A126, Gray Iron Castings for Valves, Flanges and Pipes Fittings.

7. ANSI B16.1, Cast Iron Pipe Flanges and Flanged Fittings.

8. ANSI B16.4, Cast Iron Screwed Fittings, 125 and 250 lb.

9. ANSI B16.5, Steel Pipe Flanges, Flanged Valves and Fittings.

10. ANSI B2.1, Pipe Threads.

11. AWWA C104: Cement-Mortar Lining for Ductile-Iron and Gray-Iron Pipe and Fittings for Water.

12. AWWA C110: Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water and Other Liquids.

13. AWWA C703, Cold Water Meters-Fire Service Type.

14. NFPA 70: National Electrical Code.

15. NFPA 72A: Installation, Maintenance and Use of Local Protective Signaling Systems for Guard's Tour, Fire Alarm and Supervisory Service.

16. NFPA 72B: Installation, Maintenance and Use of Auxiliary Protective Signaling Systems.

D. Field Measurements: Take field measurements where required prior to preparation of Shop Drawings and fabrication to ensure proper fitting of work.

1.04 Submittals

In accordance with the procedures and requirements set forth in the General Conditions and Division 1, the Contractor shall submit the following:

A. Shop Drawings.

B. Installation Drawings.

C. Preliminary Operation and Maintenance Manuals.

D. Final Operation and Maintenance Manuals.

E. Spare Parts lists.

F. Special Tools list.

Each submittal shall be identified by the Specification Section Number.

Each submittal shall be complete in all respects, incorporating all information and data listed herein and all additional information required for evaluation of the proposed materials compliance with the Contract Documents.

Partial, incomplete or illegible submissions will be returned to the Contractor without review for resubmission.

A. Shop Drawings shall include but not be limited to:

1. Manufacturer's literature, specifications, illustrations and engineering data including dimensions, size, weights and materials for the following:

    a. Pipe and fittings.

    b. Unions.

    c. Flexible couplings.

    d. Valves.

    e. Strainers.

    f. Fire department connection.

    g. Gages.

    h. Sprinkler heads.

2. The Contractor shall submit for review to the Engineer a plan or layout of all areas with foam-water sprinkler protection showing proposed location of sprinkler heads with respect to lights, diffusers, ceiling grid, framing members, etc. After review of the reflected ceiling plan, the Contractor shall prepare working plans of the installation. The Contractor shall coordinate with the Electrical and HVAC Contractor. Data on these working plans shall include, but not be limited to the following: size of all piping; method of anchoring or hanging pipe lines; location and type of valves; position, type and temperature ratings of sprinkler heads, zone valves, fire hose racks, and detectors; material and equipment list indicating manufacturers' names and types; structural, mechanical, electrical and architectural coordinating information, and the various other items pertinent to the complete installation of the systems. Two (2) sets of working plans, specifications, etc. shall be submitted to the Owner for approval. The Contractor shall submit final approved working plans, hydraulic calculations, etc. for record purposes prior to starting any work.

B. Verify siamese connection hose thread types and sizes with the local fire department, if required.

1.05 Job Conditions

A. Protection: Properly plug or cap the open ends of all pipes at the end of each day's work or other stopping point throughout construction. Equipment shall be tightly covered and protected against dirt, water and chemical or mechanical injury.

B. The Contractor shall provide complete, new foam-water sprinkler fire protection water services complete with fire department siamese connections, sprinkler heads, piping, hangers, container of foam water and all appurtenances. It shall be understood that the final design of the foam-water sprinkler fire protection systems, including, but not limited to, the arrangement, size and locations of risers, feed mains, cross mains, test connections, branch lines and drains, and the location, spacing, number and types of heads or nozzles shall be the responsibility of the Contractor.

1.06 Operations and Maintenance Manuals

The Contractor shall submit operation and maintenance manuals in accordance with the procedures and requirements set forth in the General Conditions and Division 1.

Two copies of a preliminary O&M Manual shall be included in the Shop Drawings submittal. Without inclusion of these manuals, the submittal will be considered incomplete and will be returned without review.

1.07 Tools, Suppliers and Spare Parts

(not used)

1.08 Quality Assurance and Qualifications

The Contractor shall provide evidence to the Engineer that the manufacturer has a minimum of five (5) years experience, within the last seven (7) years, in the design, manufacture, and supervision of installation of equipment of the type required in this specification. The Contractor shall provide evidence to the Engineer that the equipment which is similar to the equipment required under this specification, has been in continuous and successful operation in at least five (5) separate facilities for the past five (5) years.

PART 2 - PRODUCTS

2.01 Design Conditions

A. General:

1. The PAC room protected by a foam sprinkler system.

2.02 Equipment

A. Brass Eductor

1. Manufacturer: Provide products of one of the following:

a. Akron Brass Model 3071 rated for 95 GPM.

b. Or equal.

2. Reference: UL listed, FM approved.

3. Furnish with dip tube and extension hose compatible with expansive foam

B. Foam:

1. Manufacturer: Provide products of one of the following:

a. VST Chemical Corporation.

b. Or equal.

2. Type: AFFF Foam rated for Class A and B Fires.

3. Materials: 30 Gallon Drum.

PART 3 - EXECUTION

3.01 Installation

A. General:

1. The installation of the sprinkler system shall conform to the requirements of the NFPA Standard No. 13.

2. Provide all necessary supports, angle iron stands, miscellaneous steel, inserts, anchor bolts and hangers required for all equipment furnished under this Section. Supports, angle iron stands, etc., shall be in accordance with Division 5, Metals.

3. Install all items as shown, specified, and as recommended by the manufacturer.

4. Request instructions from the Engineer when there is a conflict between the manufacturer's recommendations and the Drawings or Specifications.

5. Present conflicts between piping systems and equipment or structures to the Engineer who will determine corrective measures to be taken.

6. Do not modify structures to facilitate installation of piping unless specifically approved by the Engineer.

7. Defective Materials: Examine piping, fittings, valves, sprinkler heads, and accessories to be installed and reject those which are defective or in poor condition.

8. Cleaning: Thoroughly clean all piping, fittings, valves and accessories.

B. Signs:

1. Enameled signs with appropriate nomenclature as approved by the local fire marshal, shall be installed at each piece of equipment.

3.02 Field Quality Control

A. After Installation:

1. Remove and replace any items which are found to be defective after installation.

2. Clean all debris out of piping systems.

3. Maintain all piping, fittings, sprinkler heads valves and accessories in clean condition until accepted by the County.

4. Flush out all piping systems according to code.

B. Tests: Testing shall be performed in conformance with the requirements of the authority having jurisdiction and NFPA 13. Pipe system to be hydrostatically tested at 200 psi for two hours and have no leakage.

C. Acceptance Tests: All tests required by local authority having jurisdiction for new work shall be performed by the installer. When the Fire Marshal desires to be present when tests are conducted, the installer shall give the Fire Marshal advance notification of time when tests will be performed. When the representative of the Fire Marshal is not available and permission is granted by the Fire Marshal, test may be witnessed by the Owner or his representative and the Contractor's Material and Test Certificate shall be completed and forwarded to the Fire Marshal.

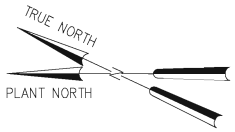
3.03 Service of Manufacturer's Representative

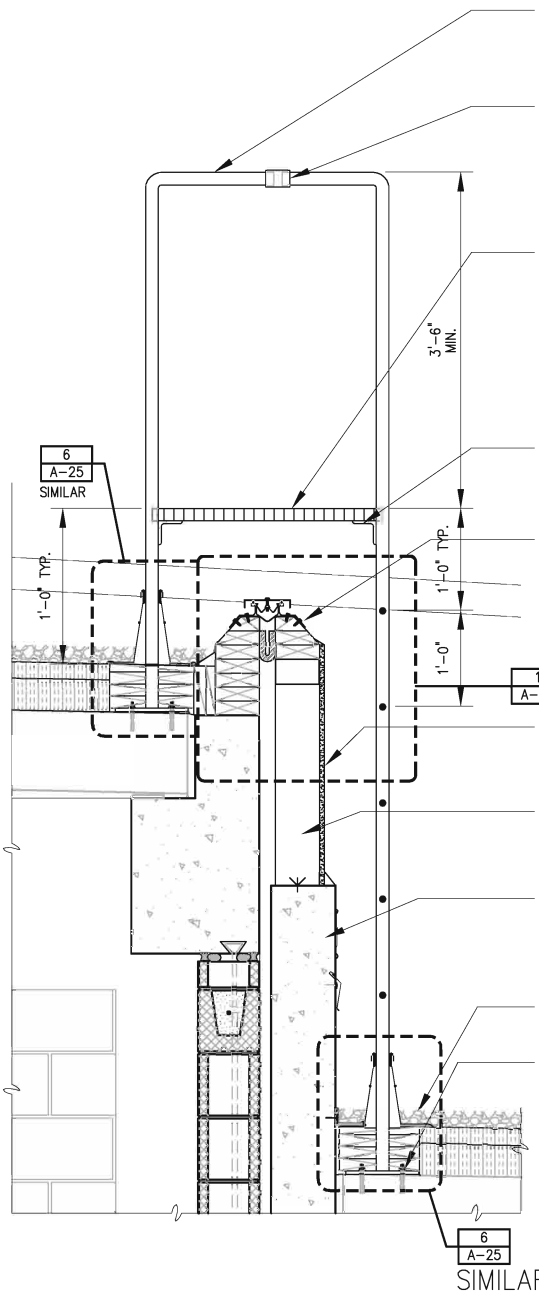
The Contractor shall provide the services of a factory representative who shall adequately supervise the installation and testing of all equipment furnished under this Contract and instruct the Contractor's personnel and the Owner's operating personnel in its maintenance and operation as outlined in Division 1. The services of the manufacturer's representative shall be provided for a period of not less than three (3) days as follows:

A. One trip of one (1) day during the installation phase of the equipment.
B. One trip of one (1) day during the guarantee period.

Any additional time required to achieve successful installation and operation shall be at the expense of the Contractor.

END OF SECTION





05521.0 WELDED PIPE RAILING– NON–PAINTED

PROVIDE SLIP FITTING AT HANDRAIL. ATTACH SLEEVE TO ONE END ONLY.

GALVANIZED VERTICAL LADDER WITH 30" WIDE X 1–1/2" GRATE PLATFORM. PLATFORM TO BE ATTACHED TO ONE END ONLY TO ACCOMMODATE BUILDING MOVEMENT SEE SPECIFICATION 05515 LADDERS.

GALVANIZED 3"X3"X⅜" ANGLE

07501.1 ROOF MOUNTED EXPANSION JOINT –

06100.0 CEMENTITOUS BOARD AT PARAPETS –

05400.0 COLD FORMED METAL FRAMING –

CONCRETE PARAPET SEE STRUCTURAL DRAWINGS

07501.2 BALLAST –

SECURE LADDER POST TO STRUCTURAL ROOF SLABS ONLY

1 ROOF EDGE AND SHIP LADDER

½"=1'–0"

1/2"=1'–0"

12" 0 1 3'

HAZEN AND SAWYER Environmental Engineers & Scientists HAZEN AND SAWYER, P.C. 155 FLEET STREET, PORTSMOUTH, N.H. 03801	CITY OF PORTSMOUTH MADBURY WTP UPGRADE AND BELLAMY RESERVOIR IMPROVEMENTS		ROOF EDGE DETAIL AND SHIP LADDER
		PROJ. NO. 09572–000 SKETCH BY: T.NARDONE DATE: FEB. 18 2009	ADDENDUM NO. 3 REF. DWG. NO. A–10 SKETCH NO. A10–SK–01

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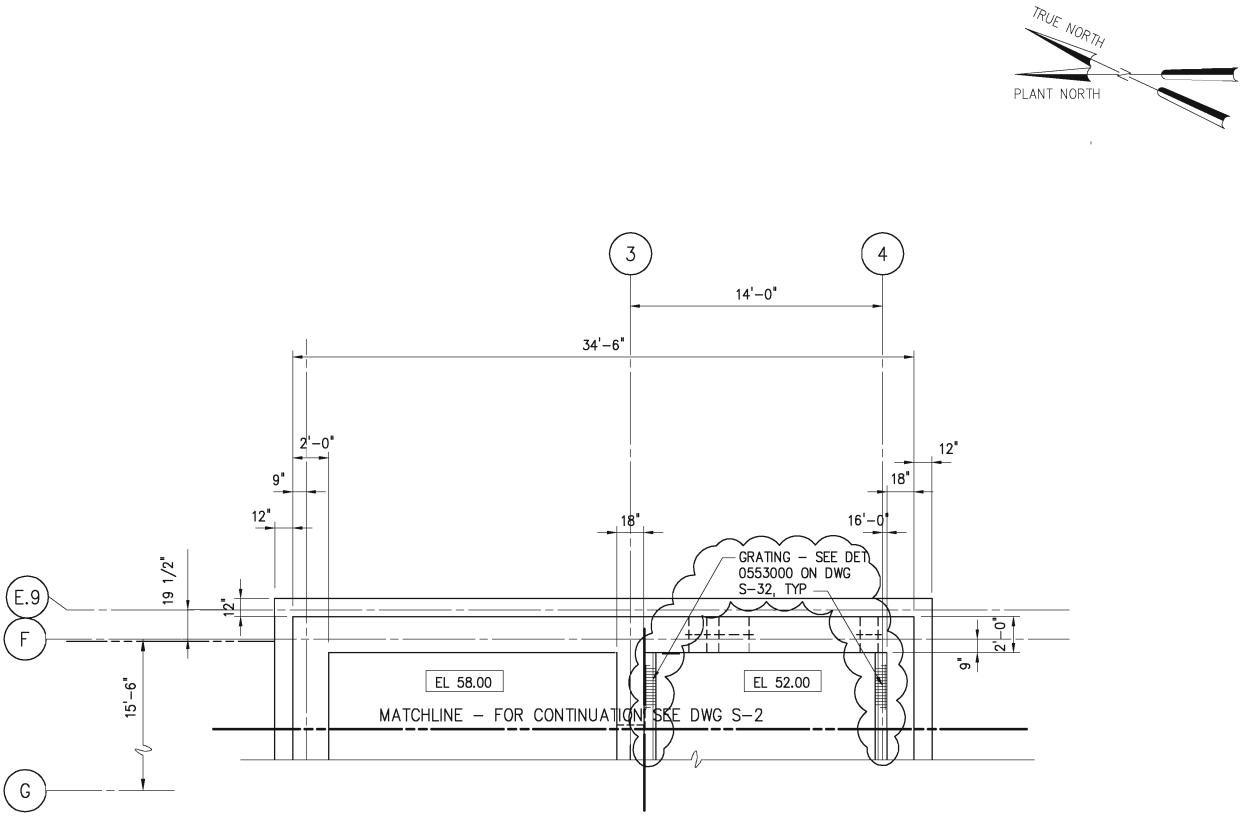

3/16"=1'-0"

6 4 2 0 5'

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Environmental Engineers & Scientists
HAZEN AND SAWYER, P.C.
155 FLEET STREET, PORTSMOUTH, NH 03801

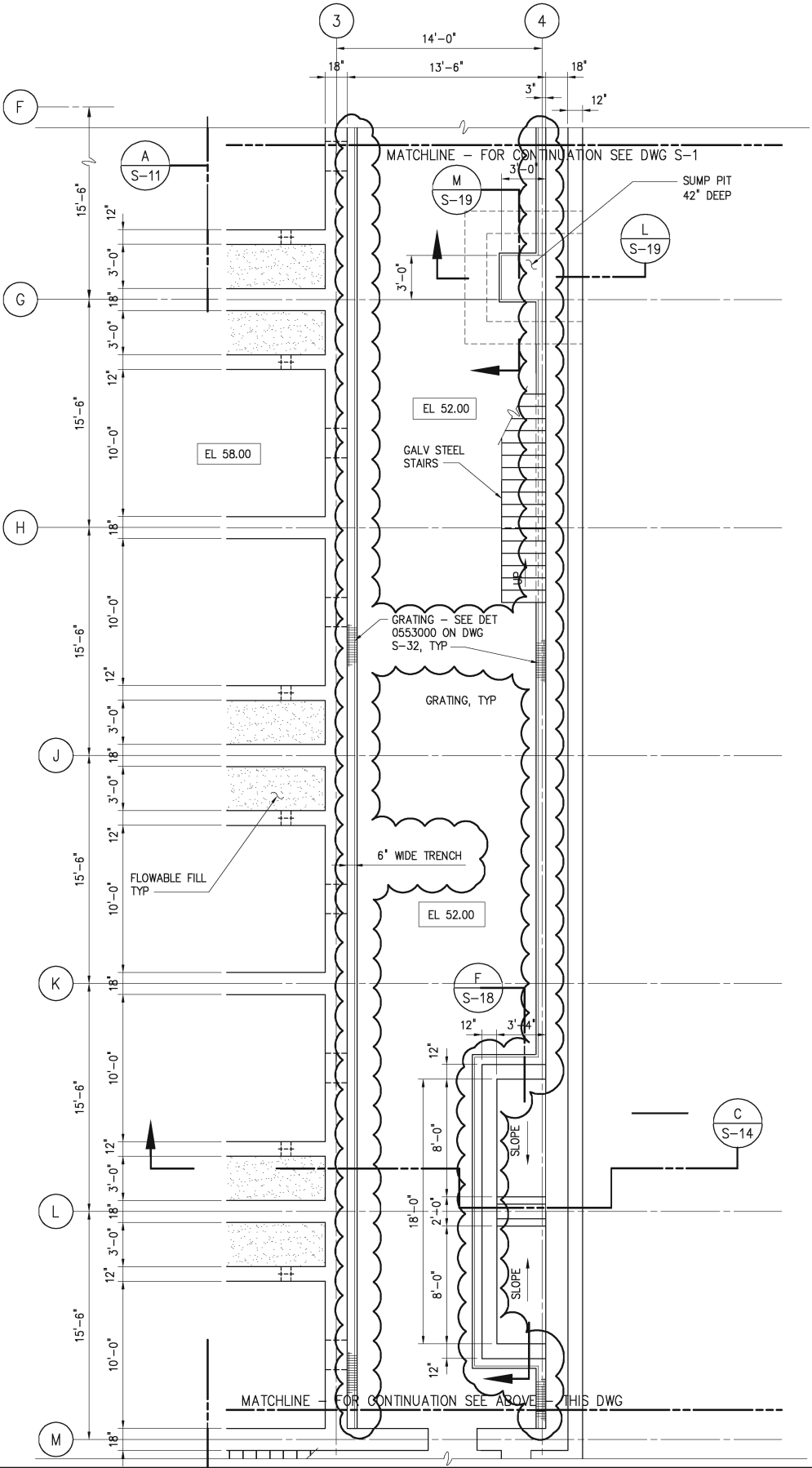
2/25/09 ADDENDUM #3

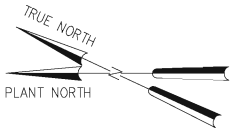
CITY OF PORTSMOUTH

MADBURY WTP UPGRADE
AND
BELLAMY RESERVOIR IMPROVEMENTS

TRENCH AT GALLERY

PROJ. NO. 09572-000	ADDENDUM NO. 3
SKETCH BY: D KELLOGGC	REF. DWG. NO. S-1
DATE: FEB 23, 2009	SKETCH NO. S1-SK-01





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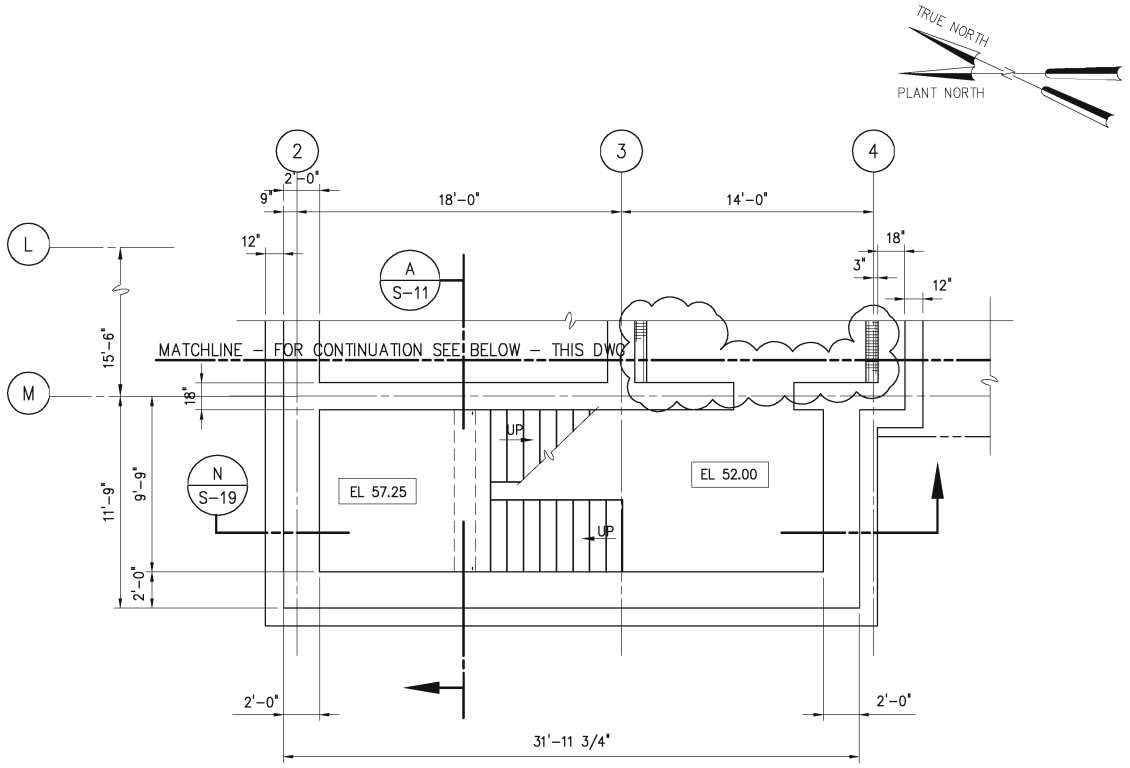
155 FLEET STREET, PORTSMOUTH, N.H. 03801

CITY OF PORTSMOUTH

MADBURY WTP UPGRADE
AND
BELLAMY RESERVOIR IMPROVEMENTS

TRENCH AT GALLERY

PROJ. NO. 09572-000	ADDENDUM NO. 3
SKETCH BY: D. KELLOGG	REF. DWG. NO. S-2
DATE: FEB. 23 2009	SKETCH NO. S2-SK-01



3/16"=1'-0"

6 4 2 0 5'

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HAZEN AND SAWYER, P.C.
155 FLEET STREET, PORTSMOUTH, N.H. 03801

CITY OF PORTSMOUTH

MADBURY WTP UPGRADE
AND
BELLAMY RESERVOIR IMPROVEMENTS

TRENCH AT GALLERY

PROJ. NO. 09572-000	ADDENDUM NO. 3
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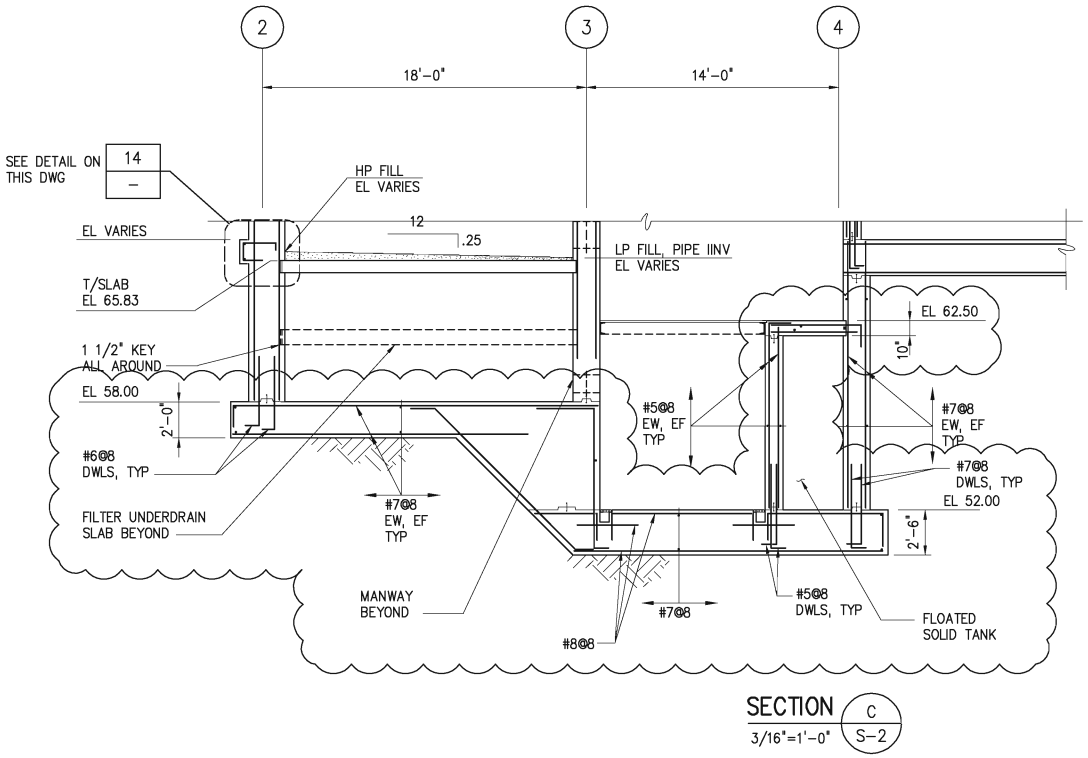

SECTION C / S-2

3/16"=1'-0"

3/16"=1'-0"

6 4 2 0 5'

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CITY OF PORTSMOUTH

MADBURY WTP UPGRADE
AND
BELLAMY RESERVOIR IMPROVEMENTS

REVISED SECTION C

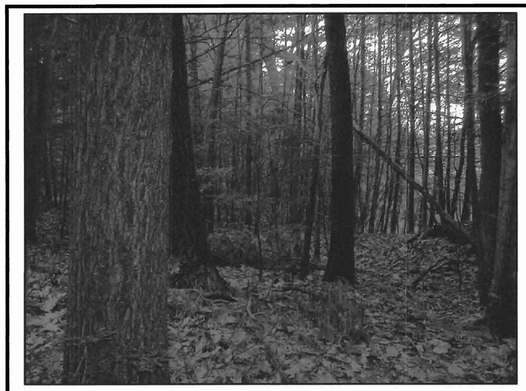
PROJ. NO. 09572-000	ADDENDUM NO. 3
SKETCH BY: D. KELLOGG	REF. DWG. NO. S-14
DATE: FEB 23, 2009	SKETCH NO. S14-SK-01

WATER TREATMENT PLANT LIGHTING FIXTURE SCHEDULE

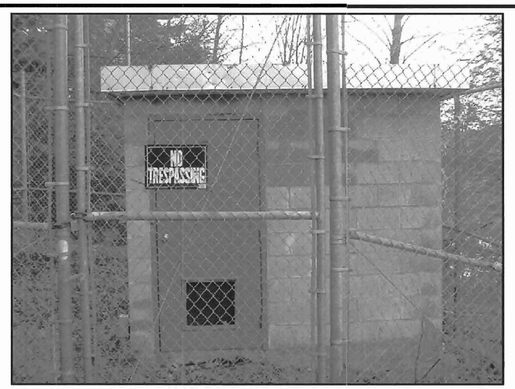
TYPE	MANUFACTURER	CATALOG NUMBER	TYPE	COLOR	MOUNTING	VOLTAGE	LAMPS	REMARKS	TOTAL WATTS
A	LINEAR LIGHTING CORP	IB24-B-2/2-ET5-277-NS-SXX-BW-ED-4	FLUOR	WHITE	PENDANT 8'-6" AFF	277	(4) 40WT5	MOUNT IN DROP CEILING PROVIDE GRID AS REQUIRED.	150
B	LINEAR LIGHTING CORP	HB22-D-2-EBX55-277-SBL-G-BW-ED-2	FLUOR	WHITE	RECESSED	277	(2) 40WT8	MOUNT PENDANT 8'-6" AFF AS REQUIRED BY ARCHITECT IN FIELD.	100
H EB	DUEL LITE	LN4XRW	EXIT	GRAY	WALL@ 8' ABOVE DOOR	120/277	LED	MOUNT SURFACE ON WALL ABOVE DOOR @ 8' A.F.F.	5
H EC	DUEL LITE	SESRWE	EXIT	WHITE	WALL@ 8' ABOVE DOOR	277	LED	MOUNT SURFACE ON WALL ABOVE DOOR @ 8' A.F.F.	30
EM1	DUEL LITE	N4X7-12V	EMERGENCY	GRAY	WALL@ 8'-0"	120/277	(2) 9.0 WATT	MOUNT SURFACE ON WALL @ 8' A.F.F.	23
EM2	DUEL LITE	LM33	EMERGENCY	GRAY	WALL@ 8'-0"	277	(2) 7.2 WATT	MOUNT SURFACE ON WALL @ 8' A.F.F.	23
H	HUBBELL	SWD250PBAPWH	MH	WHITE	PENDANT	277	(1) MVR250/C/VBU	MOUNT 11'-0" ABOVE FINISHED FLOOR	300
H1	HUBBELL	SWD250PBAPWH-QSS	MH	WHITE	PENDANT	277	(1) MVR250/C/VBU	MOUNT 11'-0" ABOVE FINISHED FLOOR WITH QUARTZ RESTRIKE LAMP.	300
I	HYDREL	4427-5-ALB-27	QUARTZ	-	SUBMERSIBLE	120	(1) 1000W	MOUNT AS DIRECTED BY ENGINEER IN BOTTOM OF TANKS.	1000
J	HUBBELL	LUN-8-259-EU-DR-SSL	FLUOR	WHITE	SURFACE	120/277	(2) T96T12	COORDINATE WITH MECHANICAL, PROCESS PRIOR TO INSTALLATION.	240
K	HUBBELL	LUN-4-232-E277-DRSSL	FLUOR	WHITE	SURFACE	277	(2) F32T12	COORDINATE WITH MECHANICAL, PROCESS PRIOR TO INSTALLATION.	80
L	HUBBELL	IC8-259-U-EU-1PK-ICFC-ICRC	FLUOR	WHITE	PENDANT @ 10'-0"	120/277	(2) 86WT8	COORDINATE WITH MECHANICAL, PROCESS PRIOR TO INSTALLATION.	200
M	HUBBELL	HLEZ-H-15-0-B2Q, W/QUARTZ RESTRIKE	FLUOR	GRAY	WALL @ 8'-0"	277	(1) 150W MH	COORDINATE WITH MECHANICAL, PROCESS, CLASS1, DIV1, GROUP D AREA	200
N	HUBBELL	PGM-150S-128-1L-PGWG-PBT-234	HPS	BRONZE	WALL 9'-4"	277	(1) 175W HPS	W/WIRE GUARD-PGWG, QUARTZ RESTRIKE, AND PBT-234 PHOTOCELL	220

KEY NOTE:

1. CHANGE TYPE EX TO TYPE EB THROUGHOUT DRAWINGS. CHANGE TYPE E & EA TO TYPE EB THROUGHOUT DRAWINGS.



EXISTING HARDWOODS AND SOFTWOODS AT NEW BUILDING SITE



EXISTING CMU BLOCK BUILDING

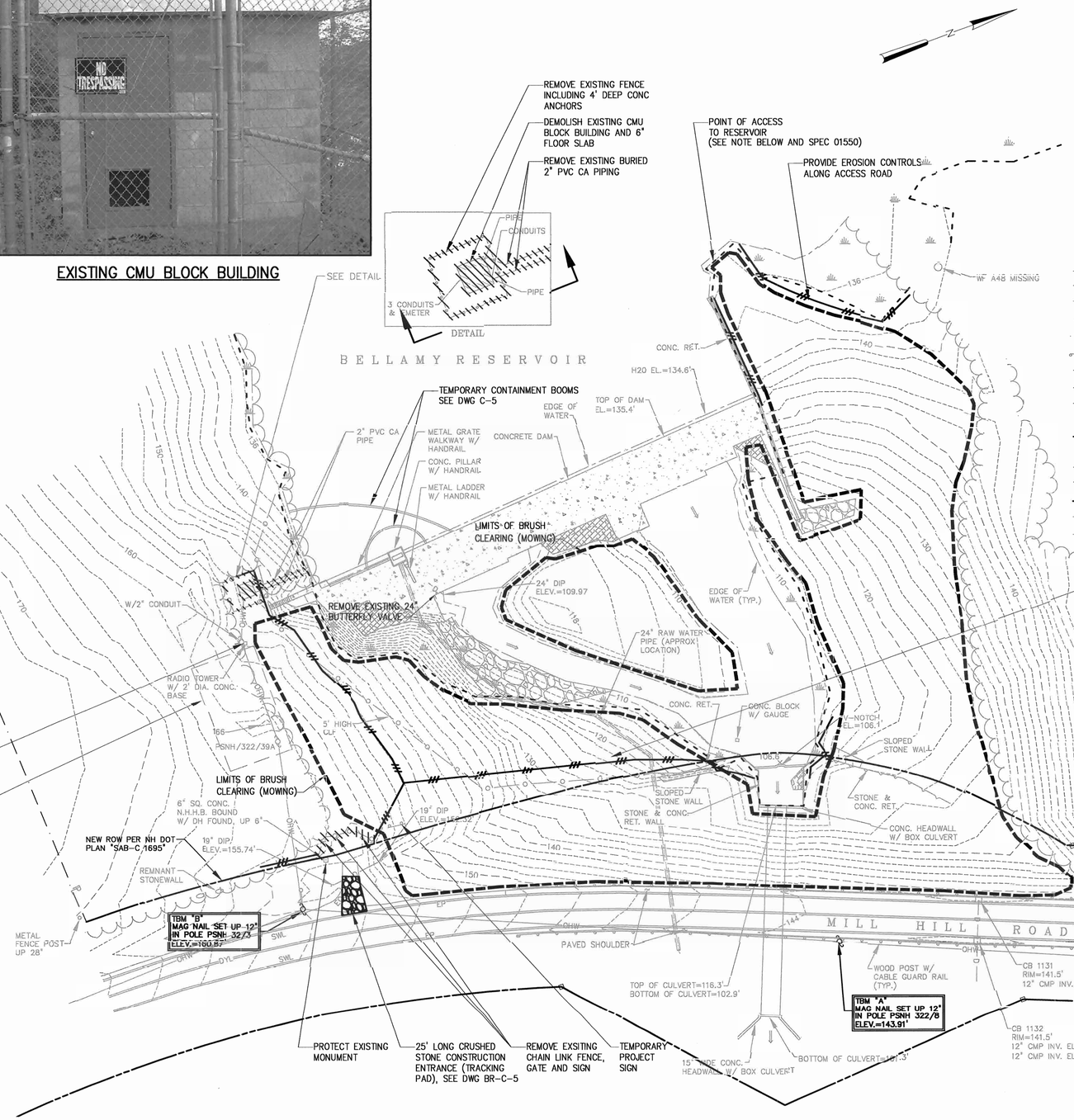
STAGING AREA AND FORMER ACCESS ROAD TO BE RESTORED

NOTE:

APPROXIMATELY 10000 SF OF AREA NORTH OF THE PROJECT SITE IS AVAILABLE FOR CONTRACTOR STAGING. THE AREA IS ACCESSIBLE FROM AN ACCESS ROAD APPROXIMATELY 100 FT NORTH OF THE SITE LIMITS SHOWN ON THIS DRAWING. PROPOSED STAGING AREA REQUIRES CLEARING BY CONTRACTOR IF IT IS TO BE USED. ACCESS ROAD WILL REQUIRE LIGHT CLEARING AND SPOT GRADING BETWEEN MILL HILL ROAD AND RESERVOIR. PERIMETER EROSION CONTROLS ARE REQUIRED AT STAGING AREAS. REFER SPEC SECTION 02450

GENERAL NOTES:

1. SITE SURVEY PREPARED BY DOUCET SURVEY, INC. (NEWMARKET, NH), MAY 2007.
2. WETLANDS DELINEATED BY NHSC, INC. (NEWMARKET, NH), MAY 2007.
3. COORDINATE SYSTEM BASED ON SURVEY POINTS ON SITE
   VERTICAL DATUM: NAVD 88 PER OPUS SOLUTION (GPS)
4. ADDITIONAL SITE INFORMATION FROM RECORD DRAWING: PEASE AIR FORCE BASE SURFACE WATER SUPPLY ARMY CORPS OF ENGINEERS, MAY 1961.
5. LOCATION OF STRUCTURES AND UTILITIES IS APPROXIMATE. CONTRACTOR SHALL VERIFY AND COORDINATE ALL UTILITY LOCATIONS.
6. PROVIDE TRACKING PAD AT CONSTRUCTION ENTRANCES



LEGEND

EXISTING	NEW or RELOCATED
	UTILITY POLE & GUY WIRE
	SIGN
	GRANITE BOUND FOUND
	CATCH BASIN
	JURISDICTIONAL WETLAND SYMBOL
	FLOW DIRECTION ARROW
	CONCRETE
	RIP RAP
	LEDGE OUTCROP
TYP.	TYPICAL
RET.	RETAINING
EP	EDGE OF PAVEMENT
SWL	SINGLE WHITE LINE
DYL	DOUBLE YELLOW LINE
CONC.	CONCRETE
OHW	OVERHEAD WIRES
D	DRAIN LINE
W	WATER LINE
	TREE LINE
	REMNANT STONE WALL
	GUARDRAIL
O	CHAINLINK FENCE
100	INDEX CONTOUR LINE
	INTERMIDIATE CONTOUR LINE
106.6'	SPOT ELELVATION
	EDGE OF JURISDICTIONAL WETLAND
	EDGE OF 50' WETLANDS BUFFER
	EDGE OF GRAVEL
	EDGE OF WATER
	APPROX PROPERTY LINES
	APPROX ABUTTERS LOT LINE
	EASEMENT LINE
	SILT FENCE

NO.	DATE	ISSUED FOR	BY
1	01/05/09	BIDDING	MTV

DESIGNED SDB
DRAWN JAF
CHECKED SDB
PROJ.ENGR. MTV
APPROVED SDB

SCALE 1"=40'-0"

THE STATE OF NEW HAMPSHIRE BRUCE W. PIERSTORFF No. 5204 LICENSED PROFESSIONAL ENGINEER P.E.

HAZEN AND SAWYER
Environmental Engineers & Scientists
HAZEN AND SAWYER, P.C.
155 FLEET STREET, PORTSMOUTH, N.H. 03801

CITY OF PORTSMOUTH
MADBURY WTP UPGRADE AND BELLAMY RESERVOIR IMPROVEMENTS

BELLAMY RESERVOIR IMPROVEMENTS
CIVIL
CLEARING/EROSION AND SEDIMENT CONTROL PLAN

DATE JANUARY 2009
SHEET 216 OF 239
DWG. NO. BR-C-1

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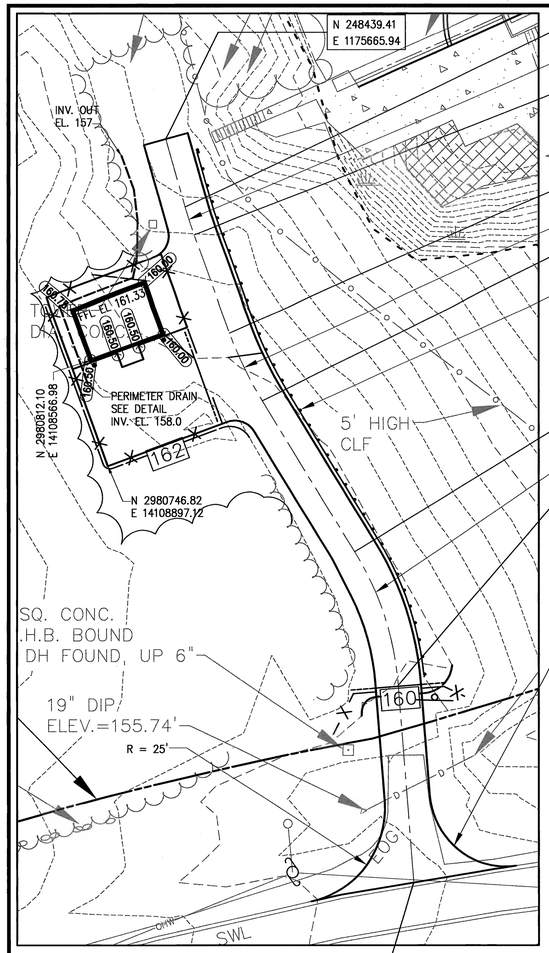


ENLARGED SITE PLAN 1

1"=20'-0"

N 248434.03±
E 1175872.13±

N 248437.99
E 1175684.68

R = 100'

N 248437.70
E 1175692.47

N 248437.76
E 1175719.61

R = 100'

N 248439.77
E 1175739.35

GUIDE RAIL

N 248449.08
E 1175785.07

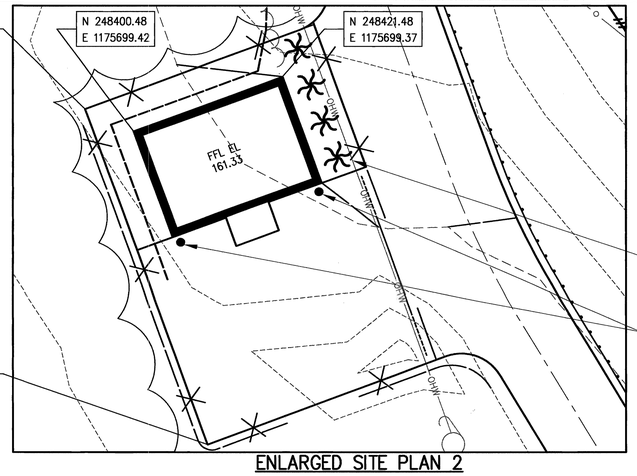
R = 80'

N 248447.80
E 1175822.36

R = 20'

N 248395.47
E 1175694.43
CORNER OF FENCE

N 248395.57
E 1175741.43
CORNER OF PAVING AND FENCE



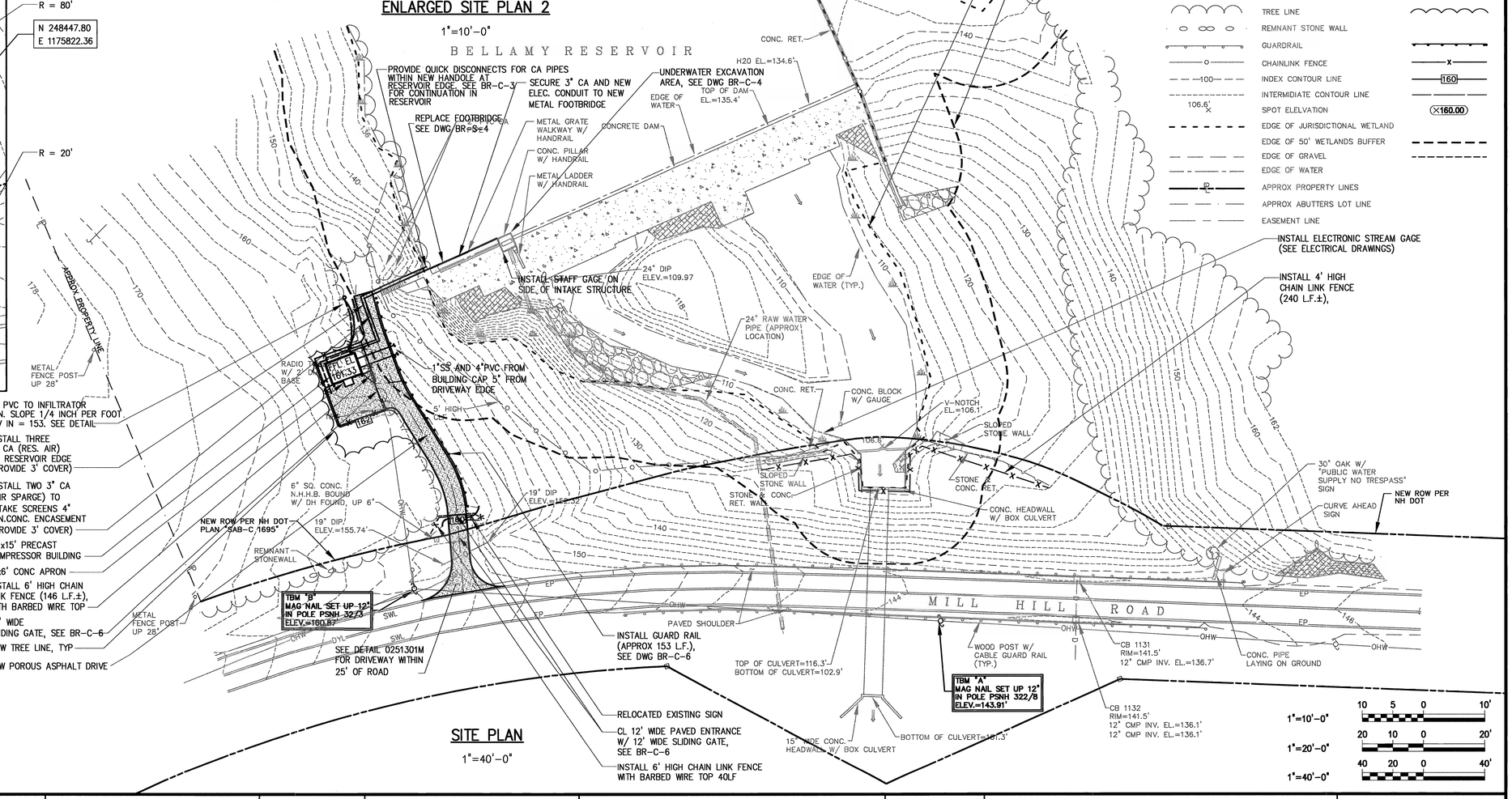
ENLARGED SITE PLAN 2

1"=10'-0"

LANDSCAPING SCHEDULE			
SYMBOL	QTY	SCIENTIFIC NAME	COMMON NAME
	4 SPACE 3' FT.OC	BUXUS x MICROPHYLA WINTERGREEN	WINTERGREEN BOXWOOD

LEGEND

EXISTING		NEW OR RELOCATED
	UTILITY POLE & GUY WIRE	
	SIGN	
	GRANITE BOUND FOUND	
	CATCH BASIN	
	JURISDICTIONAL WETLAND SYMBOL	
	FLOW DIRECTION ARROW	
	CONCRETE	
	RIP RAP	
	LEDGE OUTCROP	
TYP.	TYPICAL	
RET.	RETAINING	
EP	EDGE OF PAVEMENT	
SWL	SINGLE WHITE LINE	
DYL	DOUBLE YELLOW LINE	
CONC.	CONCRETE	
OHW	OVERHEAD WIRES	
D	DRAIN LINE	
	WATER LINE	
	TREE LINE	
	REMNANT STONE WALL	
	GUARDRAIL	
O	CHAINLINK FENCE	X
100	INDEX CONTOUR LINE	160
	INTERMIDIATE CONTOUR LINE	
106.6 ×	SPOT ELELVATION	×160.00
	EDGE OF JURISDICTIONAL WETLAND	
	EDGE OF 50' WETLANDS BUFFER	
	EDGE OF GRAVEL	
	EDGE OF WATER	
P.L.	APPROX PROPERTY LINES	
	APPROX ABUTTERS LOT LINE	
	EASEMENT LINE	



SITE PLAN

1"=40'-0"

1"=10'-0" 10 5 0 10'
1"=20'-0" 20 10 0 20'
1"=40'-0" 40 20 0 40'

NOTE:
SEE ELECTRICAL SITE PLAN FOR RELATED SITE WORK.
SEE DWG BR-E-2 AND BR-E-3.

ZONING INFORMATION:
DISTRICT: GENERAL RESIDENTIAL AND AGRICULTURAL
REQUIRED FRONT SETBACK: 50 FT
PROPOSED FRONT SETBACK: 130 FT
REQUIRED SIDE SETBACK: 15 FT
PROPOSED SIDE SETBACK: 120 FT

NO.	DATE	ISSUED FOR	BY
1	01/05/09	BIDDING	MTV

DESIGNED SDB
DRAWN JAF
CHECKED SDB
PROJ.ENGR. MTV
APPROVED SDB

SCALE
AS NOTED

THE STATE OF NEW HAMPSHIRE BRUCE W. PIERSTORFF No. 5204 LICENSED PROFESSIONAL ENGINEER P.E.

HAZEN AND SAWYER
Environmental Engineers & Scientists
HAZEN AND SAWYER, P.C.
155 FLEET STREET, PORTSMOUTH, N.H. 03801

CITY OF PORTSMOUTH
MADBURY WTP UPGRADE
AND
BELLAMY RESERVOIR IMPROVEMENTS

BELLAMY RESERVOIR IMPROVEMENTS
CIVIL
FINAL SITE PLANS

DATE JANUARY 2009
SHEET 217 OF 239
DWG. NO. BR-C-2

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