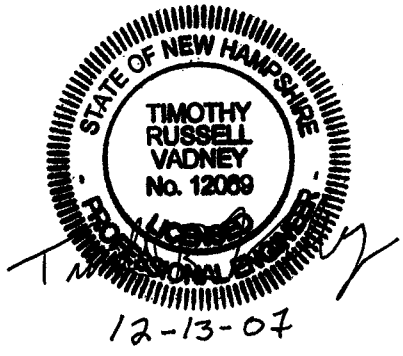
ADDENDUM NO. 1

TO

CITY OF PORTSMOUTH, NEW HAMPSHIRE

MECHANIC STREET PUMPING STATION ELECTRICAL UPGRADE



December 2007

PREPARED BY:
WRIGHT-PIERCE
230 Commerce Way
Portsmouth, New Hampshire 03801

ADDENDUM NO.1

CITY OF PORTSMOUTH, NEW HAMPSHIRE

MECHANIC STREET PUMPING STATION ELECTRICAL UPGRADE

As a point of clarification, it should be understood that the Contract Documents govern all aspects of the project. Informal discussions held during the Pre-Bid Conference or over the telephone are informational only. All official changes to the Contract Documents are made only by addenda. The following changes and additional information are hereby made a part of the Contract Documents.

SPECIFICATIONS

1. Section A-2.5, INFORMATION FOR BIDDERS, "VIEWING OF PROJECT SITE": **DELETE** the existing sentence in its entirety and **REPLACE** with the following paragraph: "One additional site visit will be allowed on December 14, 2007 at 10:00 AM at the Mechanic Street Pumping Station."

2. Section 01515, Temporary Bypass Pumping Systems. **DELETE** the original version of the specification in its entirety and **REPLACE** with the attached version.

3. Section 11250, Paragraph 2.1.C.1 - Skid Mounted Odor Control System: **DELETE** the existing paragraph in its entirety and **REPLACE** with the following paragraph: "1. Each Skid Mounted system shall be supplied with an air motive fan assembly factory mounted with accessories on a structural steel skid. Each fan shall be AMCA Certified with a 3 phase, 60 hz, 460v TEXP explosion proof motor, graphite impregnated fan, 7.5 HP. Acoustical enclosure to be provided for fan to limit dBa level to less than 70 at 7 feet in a free field environment. As unit will be located on an elevated steel platform, water- and vibration-resistant acoustical enclosure shall enclose entire fan (including underside). Refer to Drawings for location."

4. Section 15841, Paragraph 2.4.A.2 - Fiberglass Ductwork and Fittings: **DELETE** the existing paragraph in its entirety and **REPLACE** with the following paragraph: "2. Provide saddles, guides, sleeves, sleeve liners, etc. as recommended by the manufacturer to support the ductwork and fan. Fan shall be supported independently from the ductwork. Supports shall be anchored to the building."

5. Section 16400, Electrical Distribution (Variable Frequency Drive System), Paragraph 2.1.A.8: **ADD** the following paragraphs after Paragraph 2.1.A.8.c:

    d. Provide a Harmonic System Study and Report for the entire pump station electrical system. The report shall be complete and shall provide final values for both total harmonic voltage and current distortion levels as defined by IEEE-519-1992. The report shall also determine any specific harmonic values such as 3^{rd}, 5^{th}, 7^{th} etc. specific to the electrical system network for this location which needs to be considered.

    e. Upon completion of the installation and start-up of this equipment an on-site harmonic testing shall be performed and recorded for all VFD equipment. This testing shall verify and

establish the Harmonic System Study and Report results submitted for this location. Any testing results which are not within the acceptable values established in the Report shall be remedied by the equipment supplier at no additional costs to the Owner.

DRAWINGS

No new drawings will be issued for the following minor corrections.

1. Drawing S-1, Foundation Plan: **DELETE** the following dimension: "6'-1" **"; and **REPLACE** with the following dimension: "6'-7" **"

2. Drawing S-1, Framing Plan: **DELETE** the following dimension: : "6'-1" **"; and **REPLACE** with the following dimension: "6'-7" **"

3. Drawing PR-2: **DELETE** the text associated with Demolition Note 4 and **REPLACE** with the following: "REMOVE / DEMOLISH EXISTING LOCKSET AND HARDWARE."

4. Drawing PR-3, Existing Valve Vault Detail: **ADD** the following note: "Granite curbing adjacent to the south edge of the Valve Vault may need to be removed, stored and reset in order complete the work associated with Bid Alternate B."

5. Drawing E-2, General Note 25. **DELETE** the phrase "Section 16050, Paragraph 3.1.E.15" and **REPLACE** with the phrase "Section 16050, Paragraph 3.1.E.12".

6. Drawing E-3, Notes. **ADD** the following note: "9. Remove all existing nameplates, references, etc. to existing MCC compartments where demolition is shown. Clean and vacuum compartments and install new lamacoid nameplates which reference new equipment being fed from these locations as shown on the modification drawings."

7. Drawing E-6, Notes. **ADD** the following note: "8. Ground Floor Plan. Provide control conduit ½"-4 #14 between AC condensing unit (SAC-1) on roof and AC wall unit (SAC-1)."

SIGNIFICANT QUESTIONS AND RESPONSE DURING THE BIDDING PERIOD

1. Q: What is envisioned for timing of the forcemain cut-in?
   R: The forcemain-cut in will have to be done during periods of minimum flow using septage trucks to pump from the wetwell and haul to the WWTF. The estimated flow rate to be bypassed will be approximately 1,000 to 2,000 gpm. The cut-in will need to be done when there is no recent or forecasted inclement weather. This work will require close coordination with the Owner.

2. Q: How do we isolate the forcemain from the Valve Pit?
   R: There is a buried gate valve just outside the valve pit. This valve was replaced within the last 5 years and is presumed to be operational.

3. Q: The Salvage Notes on PR-2 indicate the equipment shall be provided to the owner in a "like-new" condition, does this mean the equipment has to be refurbished?
   R: No, the intent is that the equipment be provided "as-is" meaning not damaged during removal and capable of being reused by the City.

4. Q: Will non-water-regenerable carbon types be accepted for the odor control unit?
   R: Non-water regenerable carbon types would be reviewed as a substitute product (e.g. Siemens Water Technologies, etc.) provided it has the equivalent calculated overall carbon life (compared to water-regenerable) without water regeneration and provided that it has the same general equipment footprint, electrical requirements, etc.

5. Q: What is the contact information for the named odor equipment?
   R: The equipment representative is The Maher Corporation (attn: Paul Sussman, 781-421-2600)

6. Q: Can electric bypass pumps be used for the lead pump? Are variable frequency drives required?
   R: The specification has been modified by this addenda to reflect a VFD-driven electric lead pump and diesel back ups, with all pumps critically silenced.

SECTION 01515

TEMPORARY BYPASS PUMPING SYSTEMS

PART 1 - GENERAL

1.1 DESCRIPTION

A. The Contractor shall furnish, install, operate, maintain and remove the temporary bypass pumping system. The temporary system shall be able to reliably pump all incoming, raw, unscreened wastewater flows up to 10 mgd. The temporary bypass pumping system shall be provided in order allow for the existing facilities to be shutdown during the upgrade of the electrical facilities.

B. The Contractor may utilize the existing Bypass Pump Wetwell and Flowmetering Vault as shown on the Contract Drawings, to facilitate installation and operation of the temporary bypass pumping system. The bypass pumping system shall draw sewage from the Bypass Pump Wetwell and convey it to the 16-inch force main located within the existing Flowmetering Vault.

C. The Bypass Pump Wetwell shall be enclosed in a temporary enclosure and shall be actively ventilated through activated carbon or equivalent acceptable technology.

D. The Contractor shall advise the Owner as to the status of the temporary bypass system on a daily basis. The Contractor is required to report alarm conditions immediately to the Owner by use of a teledialer (phone/pager numbers to be provided by Owner). The Contractor shall be responsible for all preventative and emergency maintenance associated with the temporary bypass pumping system.

E. The Contractor shall annunciate and log alarm conditions including high water level in the wetwell or upstream manhole and loss of primary pump. The alarm log shall include the type of alarm, time of alarm, time alarm acknowledged, and time alarm condition cleared.

1.2 RELATED WORK

A. Section 01010 - Summary of Work

B. Section 01340 - Submittals

1.3 SUBMITTALS

A. Submit the following in accordance with Section 01340 and as specified herein.

1. Proposed sequence of construction.
2. Coordination Drawings showing detailed layout of equipment, pumps, suction and discharge piping, piping fittings, valves, supports, materials, temporary enclosure and temporary odor control provided under this section. Provide catalog cut sheets/ technical data for equipment and appurtenances.
3. List of equipment, pumps, piping, fittings, valves, and materials to be utilized by the Contactor for the temporary bypass pumping system.
4. List of standby equipment and spare parts available on-site and off-site.

5. Performance curves for wastewater bypass pumps and suction lift, static head, headloss, and total dynamic head (TDH) calculations.
6. List of contact persons and communications equipment to be utilized.

PART 2 - PRODUCTS

2.1 WASTEWATER BYPASS PUMPING SYSTEM

A. General:

1. The Contractor shall furnish, install, operate, maintain and remove a wastewater bypass pumping system that will be capable of handling the following estimated range of flows, which includes inflow and infiltration. The Contractor is to determine the site specific head condition for the operation point based on the final bypass pumping forcemain arrangement and the existing forcemain hydraulics. The operation point of the existing submersible pump located in the Bypass Pump Wetwell is approximately 7,000 gpm at 70' total dynamic head (TDH).

Mechanic Street Pumping Station:

	FLOW	
CONDITION	**MGD**	**GPM**
Average	5	3,500
Peak	10	7,000

2. The pumps will be required to pump from the Bypass Pump Wetwell to the 16-inch forcemain within the onsite Flowmetering Vault. The total required length of temporary forcemain will be approximately 75-feet not including any pipe required to manifold multiple pumps together, etc.
3. The bypass pumping system shall include an electrically driven lead pump with diesel driven back-up pump(s). The lead pump shall convey no less than 3,500 gpm at full speed. All pumps shall be critically silenced to less than 68 decibels at 30 feet. Each pump shall be a skid-mounted unit.
4. The pump priming system shall be fully automatic, needing no form of adjustment or manual addition of water. The priming system shall be capable of priming the pump from a completely dry casing.
5. The pumps shall be centrifugal trash pumps suitable for handling raw, unscreened sewage with solids up to 3 inches in diameter, and capable of running completely dry for extended periods of time without damage. Pumps shall be capable of static suction lifts to 28 vertical feet, at sea level.
6. The lead pump will be equipped with a variable frequency drive (VFD) with transducer level controls and controller in a weatherproof enclosure. The controller shall be capable of automatically varying the lead pump speed to match varying flow conditions and maintain a constant level in the bypass pumping wetwell. The system shall be equipped with float back-ups.

7. Contractor to provide portable spill guard containment dikes for supplied pumps.
8. Bypass pumping systems shall be Dri-Prime pumpsets as supplied by Godwin Pumps, Manchester, New Hampshire, or equal.
9. The services of a representative of the bypass pumping system supplier shall be provided to inspect the installation and supervise the startup and testing of the system.
10. The Contractor shall operate and maintain the bypass pumping system at all times by providing an on-site operator.

PART 3 - EXECUTION

3.1 GENERAL:

A. The temporary bypass pumping system shall be furnished, installed, operated, maintained and removed as follows:
   1. The Contractor shall coordinate all Work as specified in Paragraph 3.2.
   2. The Contractor shall furnish, install, and test temporary bypass pumping system and discharge pipelines. Discharge piping shall be constructed of rigid galvanized steel pipe with ball and socket joints, Bauer HK Quick Coupling Piping or equal. Discharge piping connection to the existing piping shall be made via Class 53 Ductile Iron piping and tee within the Flowmetering Vault, as shown on the Drawings. Aluminum "irrigation" type piping or glued PVC pipe shall not be allowed.
   3. The Contractor shall test and debug all systems and verify that all necessary equipment, materials, spare parts, and labor are available on-site prior to operation of the system and prior to the demolition of any part of the existing pumping station facilities.
   4. The Contractor shall operate and maintain the system until the new electrical upgrade facilities and completed, demonstration tested and accepted by the Owner and Engineer.
   5. Upon receipt of approval by the Owner and Engineer, the Contractor shall remove the temporary bypass pumping system, including all appurtenant piping, and reinstall the ductile iron spool piece and coupling within the Flowmetering Vault. Contractor shall restore the area impacted by the temporary bypass pumping system to a like-new condition.

3.2 COORDINATION OF WORK

A. Provide all labor and equipment necessary to coordinate work of this section and maintain communications.

C. Notify all personnel seven days in advance of any temporary bypass pumping work. The Owner will identify personnel to be notified in addition to those identified by the Contractor.

END OF SECTION

CITY OF PORTSMOUTH, NEW HAMPSHIRE
MECHANIC STREET PUMPING STATION ELECTRICAL UPGRADE

PRE-BID CONFERENCE MEETING MINUTES

December 10, 2007 - 9:00AM

Identifications

Owner: City of Portsmouth
1 Junkins Avenue
Portsmouth, New Hampshire 03801
Telephone: (603) 766-1416
Contact: Peter Rice, City Engineer
Paula Anania, Chief Operator

Engineer: Wright-Pierce Engineers
230 Commerce Way
Portsmouth, NH 03801
Telephone: (603) 570-7104
Contact: Ed Leonard, Project Manager
Tim Vadney, Project Engineer
Dave Laskey, Electrical Engineer

1. The purpose of the Pre-Bid Meeting is to answer questions from potential bidders relating to the contract documents. It is extremely important to note that bids must be based solely on information contained in the contract documents, including any addenda. Nothing stated in this meeting modifies the contract documents unless it is followed up in the context of an Addendum to the contract documents. The Pre-Bid Meeting is mandatory and attendance is a pre-requisite to submitting a responsive bid.

2. There have been no addenda issued to date for this project. There will be an addenda issued after this meeting. All addenda must be acknowledged on the Bid Form. Oral statements may not be relied upon and will not be binding or legally effective

3. The location of this project is the Mechanic Street Pumping Station in Portsmouth, NH.

4. The project is expected be partially funded by a grant from the New Hampshire Department of Environmental Services State Aid Grant Program (SAG). The Section D requirements typically seen on SRF funded projects are not required for this project.

5. Bid opening is scheduled for 2:00 P.M., December 20, 2007 at the office of the Purchasing Agent, 1 Junkins Avenue, Portsmouth, NH 03801. Bids will only be accepted from those who are on record as having bought a set of Bidding Documents from the Issuing Office (City).

6. Bids must include (see page A-2.2 in Bid):

   - Completed Bid Form (including answers to questions 1-16)
   - Bid Bond or Bid Security (5% of total bid)

7. The contract, if awarded, will be awarded to the lowest responsible bidder (based on Total Bid) within 60 days of the bid opening. See Information for Bidders and Bid sections of Contract Documents.

8. One additional site visit will be available at 10 AM on December 14, 2007 at the Pumping Station.

9. Prospective bidders should familiarize themselves with coordination specific to:

   - City of Portsmouth
   - Utility Companies (PSNH, Verizon, Gas Company)

10. The scope of the work was summarized (refer to Section 01010A of the Specifications) and includes the following major components:

    - Upgrade of Variable Frequency Drives
    - New Pump Control / Instrumentation System
    - Supplemental Building Air Conditioning
    - Odor Control System and appurtenant work (Bid Alternate)
    - Meter Vault Access Hatch Replacement (Bid Alternate)

    Contractor must maintain operation of the existing facilities at all times during construction. The Contractor shall provide a minimum of 1-week notice prior to intended start-up of bypass pumping.

11. Engineer will have a part-time Resident Project Representative on-site during construction. This person has not yet been determined.

12. The City of Portsmouth is paying for quality control material testing. Detailed information on this is contained in Section 01400.

13. The Contractor shall be responsible for obtaining all applicable federal, state and local permits as outlined in the General Conditions of the Contract Documents. The fees for all local permits shall be waived by the City of Portsmouth

14. All proposed staging areas must be coordinated with the City. Very limited staging is available on-site. The Contractor needs to allow for access by the abutting property owner. Some additional staging area is available at the WWTF site.

15. The Contractor shall not mobilize or commence construction activities at the Pump Station until the Variable Frequency Drive Submittals (section 16400) and the Odor Control System

Submittals (Section 11250) are reviewed with no exceptions taken by the Engineer and until a firm shipping date commitment is received from the Manufacturers.

16. Note the completion times per the Contract Documents:
    - 190 days to Substantial Completion*
    - 250 days to Final Completion*

    *Due to the nature and timing of the work, Contractor shall be limited to a maximum of 85 calendar days on-site over the entire Contract Period

    Liquidated damages will be in the amount of $800.00 for each calendar day of delay from the dates established for Substantial and Final Completion.

17. Bidders were directed to sign the attendance sheet. This attendance sheet will be attached to the issued addenda.

18. Copies of the latest list of Plan-holders can be obtained by contacting Lori MacGinnis of the City of Portsmouth (603) 610-7227.

19. Sole Source Items:
    - Electrical Installations, Inc. - Controls System Integrator (Bid Allowance)
    - Allen-Bradley - Variable frequency drives

20. Bid Alternates:
    - A - Upgrade Odor Control System
    - B - Upgrade Flowmeter Vault Access Hatch

21. Questions

    Q: The Salvage Notes on PR-2 indicate the equipment shall be provided to the owner in a "like-new" condition, does this mean the equipment has to be refurbished?
    R: No, the intent is that the equipment be provided "as-is" meaning not damaged during removal and capable of being reused by the City.

22. Site Tour. A site tour was conducted of the Mechanic Street Pumping Station.

SIGN-IN-SHEET
PRE-BID CONFERENCE
CITY OF PORTSMOUTH, NH
MECHANIC STREET PUMPING STATION ELECTRICAL UPGRADE
W-P PROJECT NO. 11020A
BIDS DUE DATE: December 20, 2007 at 2:00 PM
BIDS DUE AT: Purchasing, City of Portsmouth, 1 Junkins Avenue, Portsmouth, NH

Name *(please print legible)*	Organization Name Mailing Address	Phone Number	Fax Number
Peter Rice	City of Portsmouth	766 1416	
Ed Leonard / Tim Vadney / Dave Cushing	Wright - Pierce	570-7104	430-4083
Tim Goodheart	Keymont Const. Inc	584-3103	
Mark McPheters	T. Buck Const	207-783-6223	207-783-3970
Chuck Fritz	Electrical Installations.	603-253-4525	603-253-6284
Pete McGinny	Godwin Pumps, Inc	860-889-2343	860-889-0673
Wes Wixson	Infrastructure Const. Corp.	603-224-1001	603-224-[illegible]
Ralph Bailey	Eastern Elec.	207-885-0861	207-396-6680
Tim Rousseau	Penta Corp	603-476-5525	603-476-5106
David Iverson	Ayer Electric LLC. PO Box 1363 Dover NH	603-868-6446	603-868-7290
Phil Dube	Cianbro Corp.	207-553-2741	207-773-7617
O'Neil Bonins	Cianbro. Corp.	207 415-3779	207 773 7617

Portsmouth, NH - Mechanic Street Pumping Station Pre-Bid Mtg 12-10-2007

SIGN-IN-SHEET
PRE-BID CONFERENCE
CITY OF PORTSMOUTH, NH
MECHANIC STREET PUMPING STATION ELECTRICAL UPGRADE
W-P PROJECT NO. 11020A
BIDS DUE DATE: December 20, 2007 at 2:00 PM
BIDS DUE AT: Purchasing, City of Portsmouth, 1 Junkins Avenue, Portsmouth, NH

Name *(please print legible)*	Organization Name Mailing Address	Phone Number	Fax Number
John MACK	WATERLINE INDUSTRIES	603-760-0160	474-85[illegible]
Tom Ferland	Scarponi Electric 45 Allen St. Unit 5 Rochester, NH 03867	(603)-332-5011	(603)-332-5066
George Roy	Methuen Construction	603-328-2222	603-328-2233
John Goddard	Methuen Construction	603 308 7289	
BILL PERRY	ROCKWELL AUTOMATION	207-482-5828	207 879-0997
JEFF Todd	Apex Construct	603 330 3600	330369[illegible]
Phil Davidson	Emig Electric Co Inc	608-463-8852	463-9323