CONTRACT: 278-78
PROJECT: Mason Farm WWTP Fermenter Mixing Improvements
DATE: October 8, 2021

DOCUMENT 00 91 13

ADDENDA

ADDENDUM NUMBER 1

DATE: October 8, 2021

PROJECT: MASON FARM WWTP FERMENTER MIXING IMPROVEMENTS

OWASA CIP NUMBER: 278-78

OWNER: ORANGE WATER AND SEWER AUTHORITY

ENGINEER: BROWN AND CALDWELL

TO: Project Planholders

This Addendum forms a part of the Contract Documents and modifies the Bidding Documents dated July 2021 and September 2021, Addendum Number N/A issued N/A, with amendments and additions noted herein below.

Acknowledge receipt of this Addendum in the space provided in the Bid form. Failure to do so may disqualify the Bidder.

This Addendum consists of 4 pages:



10. 8, 2021

CONTRACT: 278-78
PROJECT: Mason Farm WWTP Fermenter Mixing Improvements
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CHANGES TO THE SPECIFICATIONS:

SECTION 00 41 43-30

1. Insert the MBE/WBE Good Faith Effort Guidelines included as Attachment 3 in Section 00 41 43 between pages 00 41 43-30 and 00 41 43-31.

SECTION 43 05 13

2. Replace Section 43 05 13 Rigid Equipment Mounts with Attachment 1 included in this Addendum.

APPENDIX A

1. Replace Appendix A: COVID-19 Prevention at OWASA Facilities with Attachment 2 included in this Addendum.

CLARIFICATIONS FOLLOWING THE PRE-BID MEETING:

Question:	**Answer:**
Does the 10% MBE/WBE requirement include a requirement for half to be each, MBE and WBE?	No, the 10% MBE/WBE requirement is a collective requirement and can be any combination of the two.
Are there hazardous area classifications that will inform the requirements of the electrical portion of the improvements?	Inside the fermenter tank, on the cover of the fermenter tank, and within 5 feet of the exterior fermenter tank walls are Class 1 Division 1 classified areas. Inside the digester building, including the pump vault, is a Class 1 Division 2 area. The Solids Building Electrical Room is unclassified, as is the cable tray run, except when it's within 10 feet (Class 1 Division 2) or 5 feet (Class 1 Division 1) of a digester. The exterior wall of the Digested Biosolids Pump Station (where the pump motor starter will be located) is unclassified. These area classifications are called out on the electrical drawings. The pump motors and all instruments being provided by the Systems Integrator are rated for the space they will be located in. The electrical contractor shall abide by NFPA 70 requirements for electrical work in these hazardous areas.

What does it mean for the Notice to Proceed (NTP) to be flexible?	The NTP date will be agreed upon during the Preconstruction Meeting. We understand there are supply chain challenges and expect that the selected Contractor will have identified any lead time issues that would impact its ability to meet the contract schedule. These challenges will be discussed in the Preconstruction Meeting as part of the process of agreeing to a NTP date; the NTP date will be adjusted to reflect any specific lead time challenges identified that would make meeting the contract schedule impractical. The contract schedule reflects the limited scope of the work, and the Owner's desire to complete it expeditiously.
What changes were made between this bid and the previous bid for this project?	The biggest changes made since the last time this project was bit were: • The repairs to the seal between the Fermenter cover and walls were removed in favor of only an internal inspection of the PVC liner. • Instead of two pumps, only a single pump will be installed. It will be installed in the basement of the Digester Building, eliminating improvements on the first floor. • Modifications were added to the hatch outside the fermenter building to accommodate the new pump location. • The surface withdrawal modifications in the fermenter tank were removed and the standpipe will now remain.
Are grooved couplings included in the design, similar to the previous bid documents?	As shown on Sheet 850-M-14 of the Drawings, grooved couplings are no longer required, however, dismantling joints have been added to facilitate easy disassembly of piping for maintenance.
Is there a minimum bidder rule?	Yes, we need at least three bidders to open. If there are not three bidders, we will return the bids and the project will be immediately rebid, and bids will be opened seven days later. The minimum bidder rule would not apply to the rebid.

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ATTACHMENTS:

1. Section 43 05 13 Rigid Equipment Mounts
2. Supplemental Site, Safety, and Prevention of COVID Requirements
3. MBE/WBE Good Faith Effort Guidelines
4. Meeting Agenda and Sign-in from October 6, 2021, Pre-bid Meeting
5. Destructive Weather Checklist for CIP

-END OF DOCUMENT-

SECTION 43 05 13

RIGID EQUIPMENT MOUNTS

PART 1 GENERAL

1.01 DESCRIPTION

A. Scope:

1. This section specifies minimum requirements for rigid equipment mounts. Completed equipment mounts shall consist of equipment pads, equipment anchors, and mounting plates (baseplates, soleplates, or fabricated steel frames) set in grout.
2. Equipment mounts shall conform to the requirements specified in the Equipment Mounting Schedule included in this specification. Where equipment mounting requirements are not specifically identified in the Equipment Mounting Schedule, the default mounting configuration for equipment shall consist of Pad Anchored Equipment Pads per Detail B on Sheet 000-S-01, mounting plates leveled within 0.005 inch/foot, anchored to the equipment pad with grouted equipment anchors per Detail B on Sheet 000-M-04, equipment anchor sleeve length is 10 times the bolt diameter, and the mounting plate is grouted in position using non-shrink grout.
3. If a conflict exists between this section and requirements of individual equipment manufacturers, the more restrictive requirements shall prevail.

B. Definitions:

1. Specific equipment mounting terminology used in this section conforms to the following definitions:
    a. Baseplate: A mounting plate configured with a top plate and a perimeter edge of the mounting plate that is below the top plate. Baseplates have a cavity between the top plate and a horizontal plane at the bottom edge of the perimeter of the mounting plate.
    b. Soleplate: A machined or pre-formed mounting plate with a uniform horizontal surface across the entire underside of the mounting plate, excepting shear lugs/keys, grout pour holes, vent holes, and attachment hardware (nuts, bolts, tapped holes, etc.). Soleplates have a top plate but lack the perimeter bottom edge that extends below the underside of the top plate that is a defining feature of baseplates.
    c. Fabricated Steel Frame: An equipment mounting plate constructed of rolled steel shapes and plates welded into a frame. Fabricated steel frames do not have top plates.
    d. Equipment Pad: Concrete foundation (block or slab) supporting and elevating mounting plates above the supporting structural floor slab or local grade.
    e. Mounting Pads: Milled/machined areas of baseplates, soleplates, and fabricated steel frames where the feet or mounting surfaces of mounted equipment and drivers are bolted to the baseplate, soleplate, or fabricated steel frame.
    f. Leveling Blocks: Steel blocks temporarily placed under baseplates, soleplates, or fabricated steel frames at leveling positions (at equipment anchors) for the purpose of leveling baseplates, soleplates, or fabricated steel frames prior to grouting.

g. Shims: Thin stainless steel plates of uniform thickness used for fine adjustment of level. Shims are used on top of leveling blocks for mounting plate leveling or used between equipment drivers and baseplates, soleplates, or fabricated steel frames for equipment alignment.

h. Wedges: Pairs of uniformly tapered metal blocks that are stacked with the tapered surfaces reversed (relative to the other wedge) so that the top and bottom surfaces of the wedges are parallel. Wedges are used between equipment pads and baseplates, soleplates, or fabricated steel frames for the purpose of leveling mounting plates.

i. Mounting Stud: Threaded rod or bolts anchored to baseplates, soleplates, or fabricated steel frames for the purpose of mounting equipment or ancillary devices onto baseplates, soleplates, or fabricated steel frames.

j. Reinforcement Dowels or Reinforcement Hooks: Steel reinforcement rods embedded in concrete, across a cold joint, for the purpose of transferring loads or force across the joint.

k. Leveling Position: A location on the top of a concrete equipment pad where leveling tools and equipment will be temporarily installed or used for the purpose of leveling baseplates, soleplates, and fabricated steel frames prior to grouting.

l. Grout Manufacturer: Refers to the manufacturer of the grout product used for installation of rigid equipment mounts.

m. Grout Manufacturer's Technical Representative(s): Refers to the technical representative(s) of the Grout Manufacturer. The Grout Manufacturer's Technical Representative shall not be an employee of the Contractor.

1.02 QUALITY ASSURANCE

A. References:

1. This section contains references to the following documents. Referenced documents are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

2. References to documents shall mean the documents in effect at the time of Advertisement for Bids or Invitation to Bid. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, whether or not the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ACI 318, Appendix D	Building Code and Commentary, Anchorage to Concrete
ANSI/HI 1.4	Centrifugal Pumps – Installation, Operation and Maintenance
ANSI/HI 2.4	Vertical Pumps – Installation, Operation and Maintenance
API RECOMMENDED PRACTICE 686	Recommended Practices for Machinery Installation and Installation Design

ASTM E329	Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as Used in Construction
ASTM F593	Stainless Steel Bolts, Hex Cap Screws, and Studs
ASTM F1554	Anchor Bolts, Steel, 36, 55 and 105 ksi Yield Strength
MIL-PRF-907E	Anti-Seize Thread Compound, High Temperature
SSPC	Society for Protective Coatings Specifications, Vol. 2
IBC	International Building Code (including local amendments)

B. Quality Control By Contractor:
   1. To demonstrate conformance with the specified requirements for rigid equipment mounts, the Contractor shall provide the services of an independent testing laboratory that complies with the requirements of ASTM E329. The testing laboratory shall sample and test materials installed as part of rigid equipment mounts as specified in this Section. Costs of testing laboratory services shall be borne by the Contractor.
   2. Where epoxy grout is specified in individual equipment specifications, the Contractor shall furnish the services of a grout manufacturer's technical representative who has been factory trained by the grout manufacturer. The grout manufacturer's technical representative shall perform training and quality control of epoxy grout installation for rigid equipment mounts as specified in this section.

C. Special Inspection for Equipment Anchors:
   1. Equipment anchors shall comply with special inspection requirements specified in Section 05 05 20.

1.03 SUBMITTALS

A. The following information shall be provided in accordance with the submittal requirements specified in Section 01 33 00.
   1. A copy of this specification section, including addendum updates, (referenced sections need not be included for this Section) with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations shall be sufficient cause for rejection of the entire submittal with no further consideration. Copies of this specification section shall be numbered and marked (specification number and equipment number) for inclusion (filing) with submittal materials furnished for individual equipment specifications.

2. Name, employer, a copy of the employee's Qualified Millwright card or other equivalent certificate of journeyman qualifications for millwrights who will install rigid equipment mounts, as specified in paragraph 3.03 Leveling.
3. Certificates or other documentation issued by the epoxy grout manufacturer that demonstrates that the grout manufacturer's technical representative has been factory trained on installation of epoxy grout for equipment mounts, as specified in paragraph 1.02 Quality Control by Contractor.
4. Shop drawings for equipment pads, equipment anchors, and baseplate, soleplate or fabricated steel frame details. Shop drawings shall depict size and location of equipment pads and reinforcement; equipment drains; equipment anchor, size, location, and projection; expansion joint locations; elevation of top of grout and grout thickness; elevation of top of baseplate, soleplate, or mounting block; size and location of electrical conduits; and any other equipment mounting features embedded in equipment pads. Shop drawings for equipment pads, equipment anchors, and baseplate, soleplate, or fabricated steel frames shall be numbered and marked (specification number and equipment number) for inclusion (filing) with the associated equipment submittal requirements.

PART 2 PRODUCTS

2.01 GENERAL

A. Equipment mounts shall conform to the requirements specified in the Equipment Mounting Schedule.

B. Equipment and drivers shall be rigidly mounted on a common mounting plate and grouted into place on a concrete equipment pad unless alternate requirements are specified in the Contract Drawings or the Equipment Mounting Schedule in this section. Unless otherwise specified in the individual equipment specification, mounting plates shall be anchored to equipment pads with a layer of grout between the equipment pad and the mounting plate.

2.02 EQUIPMENT PADS

A. Materials:
   1. Equipment pads shall be reinforced concrete as shown in Detail B on Sheet 000-S-01.
   2. Minimum dimensions for equipment pads are shown on structural drawings where the equipment pad is required to provide a minimum mass for vibration dampening.

Equipment Mounting Schedule

Equipment Number	Specification Section	Specification Title	Equipment Pad Detail	Mounting Plate Leveling Tolerance (inch/foot)	Equipment Anchor Type	Equipment Anchor Sleeve Length	Grout Type	Application Notes
P-8521	*43 24 73*	*Sludge Pump Mix System*	*Detail B – 000-S-01*	*0.005*	*Detail B – 000-M-04*	*10D*	*Non-shrink*	
MME 857		*Condensate Accumulator*	*Detail B – 000-S-01*	*0.005*	*Detail B – 000-M-04*	*10D*	*Non-shrink*	

2.03 EQUIPMENT ANCHORS:

A. Equipment Anchor Materials:

1. Equipment anchors shall be all thread rod with heavy hex welded nuts, heavy hex bolts, Post-installed anchors (wedge, sleeve, undercut, expansion, and adhesive anchors), or adjustable canister anchors as specified in the Equipment Mounting Schedule.
2. Post-installed anchors (wedge, sleeve, undercut, expansion, and adhesive anchors) shall conform to the requirements of Section 05 05 23.
3. Equipment anchor materials shall conform to the following table for the area exposure condition where the equipment is installed.

Area Exposure	Equipment Anchor Materials
Indoor, Dry	Carbon Steel, ASTM F1554, Grade 36, weldable per S1 for threaded rod
Indoor, Wet	Galvanized Carbon Steel, ASTM F1554, Grade 36, weldable per S1 for threaded rod
Outdoor	304 Stainless, ASTM F593, Cond. CW
Submerged, Immersed	316 Stainless, ASTM F593, Cond. CW
Process Corrosive	316 Stainless, ASTM F593, Cond. CW
Chemical Corrosive	316 Stainless, ASTM F593, Cond. CW

B. Equipment Anchor Design:

1. The size (diameter) of anchors for clamping/fastening mounting plates to equipment pads shall be as specified by the equipment manufacturer.

C. Equipment Anchor Tension:

1. Unless alternate bolt torque/tension requirements are specified by the equipment manufacturer, equipment anchors shall be tightened to provide a final clamping force that produces a tensile stress of 15,000 psi in each equipment anchor. Adjustable canister anchors shall be tightened to the manufacturer's maximum safe working load. Equipment anchors consisting of Post-installed anchors shall be tightened to manufacturer's recommendations.
2. Bolt torque values required to produce the specified bolt tension based on well lubricated plain finish national coarse thread bolts are presented in the following table. Revise bolt torque values per equipment manufacturer's recommendations for alternate thread patterns, thread lubrication, bolt material, or bolt finish.

Bolt Diam. (in)	3/8	1/2	5/8	3/4	7/8	1	1-1/8	1-1/4	1-1/2
Final bolt torque for 15,000 psi bolt stress (ft*lbs)	8	15	30	50	80	125	180	250	400

3. Prior to leveling and grouting mounting plates, grouted equipment anchors (Detail B, Sheet 000-M-04) shall be pull tested to the values specified in the following table.

Anchor Diam. (in)	3/8	½	5/8	3/4	7/8	1	1-1/8	1-1/4	1-1/2

Pull test load (kips)	2.1	3.8	6.1	9.1	13	17	22	28	43

D. Anchor Sleeves:
   1. Equipment anchors shall be fitted with sleeves as specified in the Equipment Mounting Schedule. Sleeve length for equipment anchors shall be 15 times the bolt diameter unless otherwise specified in the Equipment Mounting Schedule. Sleeves may be installed at the Contractor's option if not specified in the Equipment Mounting Schedule.
   2. Adjust equipment anchor length/embedment depth shown in Detail B, Sheet 000-M-04.
   3. Anchor sleeves shall be flexible polyurethane foam, steel cylinder/tubes, or ribbed plastic sleeves.
   4. Fill steel cylinders/tubes and ribbed plastic sleeves with a flexible room temperature vulcanizing (RTV) sealant prior to embedment/installation.

2.04 MOUNTING PLATES

A. Refer to Section 43 24 73 for mounting plates associated with Owner furnished equipment to be installed by Contractor.

2.05 GROUT FOR EQUIPMENT PADS

A. Epoxy Grout for Equipment Mounting:
   1. Where epoxy grout is specified in the Equipment Mounting Schedule, grout for setting bearing surfaces of baseplates, soleplates, and fabricated steel frames on equipment pads shall be Epoxy Grout for Equipment Mounting as specified in Section 03 60 00. Where the term epoxy grout is used in the context of details and specifications for equipment mounting it shall mean Epoxy Grout for Equipment Mounting as specified in Section 03 60 00.

B. Cementitious Nonshrink Grout:
   1. Where non-shrink grout is specified in the Equipment Mounting Schedule, Cementitious Non-shrink Grout, specified in Section 03 60 00, may be used for setting bearing surfaces of baseplates, soleplates, or fabricated steel frames. Where the term non-shrink grout or cementitious grout is used in the context of details and specifications for equipment mounting it shall mean Cementitious Non-shrink Grout as specified in Section 03 60 00. Training and quality control by the grout manufacturer's technical representative is not required for rigid equipment mounts installed with cementitious non-shrink grout.

2.06 EPOXY PRIMER

A. Epoxy primer shall be a high-strength, lead free, chrome free, and rust inhibiting two-component epoxy primer specifically designed for use on metal substrates and in conjunction with epoxy grout. The epoxy primer's bond strength to sandblasted metal shall not be less than 1500 psi. Epoxy primer shall be Phillybond Phillyclad 1000 Series, or approved equal.

2.07 ANTI-SEIZE/ANTI-GALLING COMPOUND

A. Anti-seize or anti-galling compound shall be a molybdenum disulfide and graphite combination in aluminum complex base grease conforming to MIL-PRF-907E. Acceptable products include Jet Lube 550 by Jet Lube, Inc., E-Z Break by LA-CO, or approved equal.

2.08 PRODUCT DATA

A. The following information shall be provided in accordance with the product data requirements specified in Section 01 33 00:
   1. Equipment anchor calculations demonstrating compliance with paragraph 2.03 Equipment Anchor Design.
   2. Results of grout strength tests, as specified in paragraph 3.03 Grouting.
   3. Completed Rigid Equipment Mount Installation Inspection Checklist Forms (43 05 13-A), as specified in paragraph 3.02 Epoxy Grout Quality Control.
   4. List of Contractor's equipment installation staff that has completed epoxy grout manufacturer's grout installation training specified in paragraph 3.02 Epoxy Grout Training.

PART 3 EXECUTION

3.01 GENERAL

A. General Requirements:
   1. Roughen the underside of soleplates and fabricated steel frames and wipe with a residue-free solvent as recommended by the epoxy primer manufacturer before placement of the baseplate, soleplate, and fabricated steel frames on the equipment pad for leveling. Roughen surfaces of mounting plates that will be in contact with grout by power tool cleaning. Cleaning shall be performed by power wire brushing, power sanding, power grinding, power tool chipping or power tool descaling. Cleaning shall impart a minimum profile of 1.0 mil.
   2. Prior to placement on the equipment pad for leveling, exposed grout surfaces of pre-grouted baseplates shall be roughened and wiped with a residue-free solvent as recommended by the manufacturer of the epoxy grout used for pre-grouting.
   3. Prepare the underside of corrosion-resistant FRP baseplates and polymer concrete baseplates per the baseplate manufacturer's recommendations prior to placement of the baseplate on the equipment pad for leveling.
   4. Grout for equipment mounting shall be as specified in the Equipment Mounting Schedule.
   5. Grouting for installation of equipment on equipment pads shall take place prior to connecting any field piping or electrical and instrumentation systems.
   6. Unless the Construction Manager accepts an alternate installation procedure in writing, baseplates, soleplates, and fabricated steel frames shall be leveled and grouted with the equipment removed.
   7. Pumps shall be installed in accordance with this section and ANSI/HI 1.4 or ANSI/HI 2.4, as appropriate for the type of pumping equipment installed.

8. Connecting piping with flexible connections and/or expansion joints shall be anchored such that the intended function of these joints is maintained in the piping system without imposing strain on the equipment connections.

B. Alternate Piping Connections (NOT USED)

3.02 EPOXY GROUT TRAINING AND QUALITY CONTROL

A. Epoxy Grout Training:
   1. Prior to commencing rigid equipment mount installation work on equipment pads, the Contractor shall furnish the services of a grout manufacturer's technical representative to conduct a training school for the workers who will be using epoxy grout for rigid equipment mount installations. The school shall be not less than 4 hours in length and shall cover all aspects of using the products, including form construction for each equipment installation, surface preparation, mixing, application, void prevention/elimination, and clean up. This requirement, however, shall not be construed as relieving the Contractor of overall responsibility for this portion of the work. The epoxy grout manufacturer shall furnish a list of school attendees who have been satisfactorily trained to perform epoxy grout installation for equipment mounting.

B. Epoxy Grout Quality Control:
   1. For equipment mounted with epoxy grout, the epoxy grout manufacturer's technical representative shall provide quality control services for epoxy grout installation in rigid equipment mounts. The epoxy grout manufacturer's technical representative shall be on site to inspect and verify that the installation personnel have successfully performed surface preparation, epoxy grout application, and Quality Control Inspection in accordance with these specifications for a representative portion of the epoxy grout installation work.
   2. Specifically, the epoxy grout manufacturer's technical representative shall perform the following services for at least one rigid equipment mount installation for each equipment type and size installed with epoxy grout:
      a. Inspect ambient conditions during various phases of epoxy grouting installation for conformance with the epoxy grout manufacturer's requirements.
      b. Inspect the surface preparation of concrete substrates onto which epoxy grout materials are to be applied, for conformance to the specified application criteria, including but not limited to substrate profile, degree of cleanliness, and moisture.
      c. Inspect the surface preparation of the metallic substrates onto which the epoxy primer is to be applied.
      d. Inspect the epoxy-primed metallic substrate for coverage and adhesion.
      e. Inspect preparation and application of epoxy grout form work for conformance to the specifications.
      f. Inspect and record that the "pot life" of epoxy grout materials is not exceeded during installation.
      g. Inspect epoxy grout for cure.
      h. Inspect and record that localized repairs made to grout voids conform to the specification requirements.

i. Conduct a final review of completed epoxy grout installation for conformance to these specifications.

j. Attest to conformance of the Contractor's work by signing appropriate entries in the "Rigid Equipment Mount Inspection Checklist," Form 43 05 13-A in Section 01 99 90.

3.03 INSTALLATION

A. Concrete Equipment Pad Preparation:

1. Roughen the top of the equipment pad after the concrete has reached its 28-day compressive strength.
2. Remove all laitance and defective or weak concrete.
3. Roughened surface profile shall be 0.25 inch amplitude, minimum.
4. Expose broken aggregate without dislodging unbroken aggregate from the cement matrix and without fracturing concrete and aggregate below the concrete surface.
5. Roughen using a light-duty (15 pounds or less), hand-held chipper with a chisel type tool.
6. Abrasive blast, bush-hammer, jack hammers with sharp chisels, heavy chipping tools, or needle gun preparation of concrete surfaces to be grouted are not acceptable.
7. Demonstrate removal of defective or weak concrete to the Construction Manager prior to leveling.
8. The chipped surface of the concrete shall be such that the final elevation of the equipment pad provides the grout manufacturer's recommended thickness between the surface of the equipment pad and the lower baseplate flange, underside of the soleplate, or underside of the fabricated steel frame.
9. All dust, dirt, chips, oil, water, and any other contaminants shall be removed and the surface protected with plastic sheeting until grout is installed.
10. Concrete equipment pad surfaces that have been finished smooth and level for use as leveling positions shall be protected from damage during chipping activities. Alternatively, leveling positions may be restored on chipped surfaces. Leveling positions shall be restored by installing leveling blocks or leveling plates for jackscrews on a high compressive strength epoxy putty (Philadelphia Resins, Phillybond Blue 6A, or equal). Leveling blocks and leveling plates shall be installed level on the epoxy putty.

B. Leveling:

1. Except where union rules require installation by another trade, all equipment and machinery shall be mounted and leveled by a Qualified Millwright.
2. Use precision surveying equipment for leveling.
3. Machinists' spirit levels will not be permitted for leveling purposes for any baseplate, soleplate, or fabricated steel frame with a plan dimension greater than 4 feet.
4. Baseplates, soleplates, and fabricated steel frames shall be leveled to the tolerance specified in the Equipment Mounting Schedule or as otherwise required by the equipment manufacturer, if more stringent.
5. An anti-seize or anti-galling compound specified in paragraph 2.07 shall be applied to all equipment anchor threads prior to beginning baseplate, soleplate, or fabricated steel frame leveling.

6. All baseplates, soleplates, and fabricated steel frames shall be leveled against steel surfaces (jackscrew plates, leveling blocks, leveling nuts, support plates, or other steel surfaces). Use of other materials for leveling purposes is strictly and specifically prohibited.
7. Leveling equipment and tools shall be stainless steel leveling blocks and shims, steel wedges, or jackscrews bearing on leveling plates.
8. Leveling nuts may be used for leveling baseplates, soleplates, and fabricated steel frames weighing less than 200 pounds (including the weight of the equipment if leveled with the equipment on the mounting plate).
9. Leveling blocks shall be stainless steel, 4 inches square and 1.5 inches thick with an open-ended slot terminating in the center for the equipment anchor.
10. Leveling blocks shall be machined flat on all horizontal surfaces and placed under the baseplate or soleplate at each equipment anchor.
11. Shims shall be pre-cut stainless steel, slotted for removal after grouting. Leveling blocks and shims shall be coated with a light oil just prior to beginning the leveling and grouting work. Shims shall be placed so the tabs on the shims are easily accessible.
12. Clamp baseplates, soleplates, or fabricated steel frames in position (after leveling) by installing the equipment anchor nuts and washers.
13. Bolt tension to fix the position of mounting plates during grouting shall be 30 to 60 percent of the final clamping force applied to clamp the mounting plate to the equipment pad.
14. Prior to grouting, verify that the correct level and position of the baseplate, soleplate, or fabricated steel frame has been maintained after clamping it to the equipment pad.

C. Grouting:
1. Design forms for a minimum of 6 inches hydrostatic head above the final elevation of the grout.
2. Install grout expansion joints at 4 to 6 foot intervals, perpendicular to the centerline of baseplates. Design expansion joints in accordance with the grout manufacturer's written instructions.
3. Coat forms with three coats of paste wax on all areas of the forms that will be in contact with the grout.
4. Wax forms before assembly.
5. Prevent accidental application of wax to surfaces where the grout is to bond.
6. Remove any foreign material, such as oil, sand, water, wax, grease, etc., from concrete surfaces that will contact grout before forms are installed.
7. Forms shall be liquid tight. Seal any open spaces or cracks in forms, or at the joint between forms and the foundation using sealant, putty, or caulking compound.
8. Vertical and horizontal edges of the grout shall have 45-degree chamfers as specified in equipment pad details. The 45-degree perimeter chamfer strip shall be located at the final elevation of the grout.
9. Match chamfers in concrete portions of the equipment pad.
10. Install block outs at all leveling positions to allow removal of leveling equipment and leveling nuts to be backed off after the grout has cured.

11. Coat jackscrews with a light oil or other acceptable bond-breaking compound prior to grouting.
12. Final elevation of grout on fabricated steel frames shall be at the top of the lower flange of the perimeter I-beams or C-channel.
13. Top of grout elevation for baseplates and soleplates shall be at least 0.125 inch but not more than 0.5 inch above the bottom or underside of the perimeter edge of the baseplate or soleplate.
14. Seal equipment anchor sleeves to protect the sleeved length of the anchor from contact with grout.
15. Wrap exposed portions of equipment anchors with duct tape to protect them from grout splatter and to prevent bonding to grout.
16. Adjust ambient temperature to maintain mounting plate, foundation, and grout temperatures to grout manufacturer's recommended temperature.
17. Mix grout for equipment mounting in accordance with the grout manufacturer's written recommendations.
18. Epoxy grout shall be placed in a manner that avoids air entrapment, using a head box to pour grout into the grout holes.
19. Place grout at one end of the baseplate or soleplate and work grout toward the opposite end to force the air out from beneath the baseplate or soleplate.
20. Pour grout through a head box into grout pouring holes.
21. When the head box is moved to the next grout hole, a 6 inch standpipe shall be placed over the grout hole and filled with grout.
22. Use of vibrating tools and/or jarring (rapping or tapping) forms to facilitate grout flow is not permitted during placement of epoxy grout.
23. Never allow the grout in the head box to fall below the top of the baseplate or soleplate once the grout has made contact with the baseplate or soleplate.
24. Grout placement shall be continuous until all portions of the space beneath the baseplate, soleplate, or fabricated steel frame have been filled.
25. Prepare subsequent batches of grout prior to depleting the preceding batch.
26. Maintain grout height in standpipes after the space under the baseplate, soleplate, or fabricated steel frame has been filled.
27. When the grout has started to take an initial set (typically this is determined by a noticeable increase in temperature and no flow of grout at the vent holes) the standpipes shall be removed and excess grout cleaned from all surfaces.
28. Check for leaks throughout grout pours. Leaks shall be repaired immediately to prevent formation of voids.
29. Check baseplate, soleplate, or fabricated steel frame level and elevation before the grout sets.
30. Cure grout in accordance with the grout manufacturer's written instructions.
31. Where specified in the individual equipment specifications, a grout sample shall be taken for each equipment pad.
    a. Samples shall be placed in a cylinder of sufficient size to yield three 2-inch cubes as test samples.
    b. Samples shall be tagged with project name, date, time, the equipment number, and ambient temperature at the time of placement.

c. Place samples next to the foundation of the equipment being grouted and cure for 48 hours.

d. Test grout samples in accordance with the grout manufacturer's recommendations.

e. Grout samples shall be tested by the independent testing laboratory specified in paragraph 1.02 Quality Control by Contractor.

f. Test results shall be reported directly to the Construction Manager.

D. Completion:

1. Upon acceptance by the Construction Manager and the equipment manufacturer's representative and after the grout has reached sufficient strength, grout forms and block outs at leveling positions shall be removed. Leveling blocks and shims or wedges and support plates shall be removed, and leveling nuts and jack screws shall be backed off to allow the grout to fully support the baseplate, mounting block, or soleplate. Take care not to damage the grout during removal of extended shimming material or leveling equipment and tools.

2. The equipment anchor nuts shall be tightened, using calibrated indicating torque wrenches, to develop the full bolt tension specified in paragraph 2.03 Equipment Anchor Tension.

3. Equipment anchor nuts shall be tightened in increments of not more than 25 percent of the final torque value in an alternating pattern to avoid stress concentration on the grout surface. After tightening equipment anchor nuts to final values, apply additional wax, grease, or mastic to all exposed portions of the equipment anchor beneath the baseplate, soleplate, or mounting block.

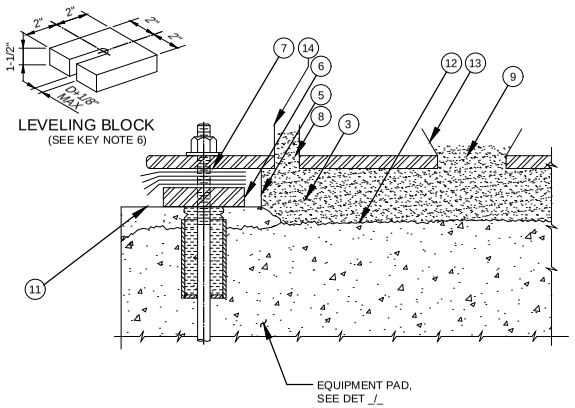
4. After applying additional wax or mastic to exposed portions of equipment anchors, block outs (pockets) for access to leveling nuts, leveling blocks and shims, or wedges shall be filled with the grout material installed under baseplates, soleplates, or fabricated steel frames and pointed after the equipment anchor nuts have been tightened to final values. Jackscrews shall be removed and holes in the baseplate, soleplate, or fabricated steel frames filled with a flexible sealant (silicone rubber) or a short cap screw.

5. Check for baseplate, soleplate, or fabricated steel frame movement (soft foot) by individually loosening and re-tightening each equipment anchor. Vertical movement at each equipment anchor shall be measured and recorded during loosening and retightening and shall not exceed 20 micrometers (0.001 inch). Vertical movement shall be measured using a magnetic-based dial indicator on the baseplate, soleplate, or fabricated steel frame referenced to the epoxy grout surface of the equipment pad or other approved method. Soft foot conditions shall be sufficient cause for removal and reinstallation of grout and baseplates, soleplates, or fabricated steel frames.

6. Check for grout voids by tapping along the upper surfaces of the baseplate, soleplate, or mounting block. Grout voids shall be sufficient cause for removal and reinstallation of grout and baseplates, soleplates, or fabricated steel frames. Grout voids shall be marked. At the discretion of the Construction Manager, grout voids may be repaired as specified in Chapter 5, Section 3.16 of API RP 686.

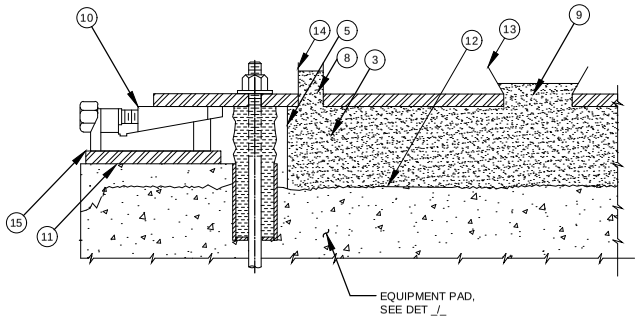
3.04 FINAL INSPECTION

A. The Construction Manager will conduct a final inspection with the Contractor for conformance to requirements of this section.

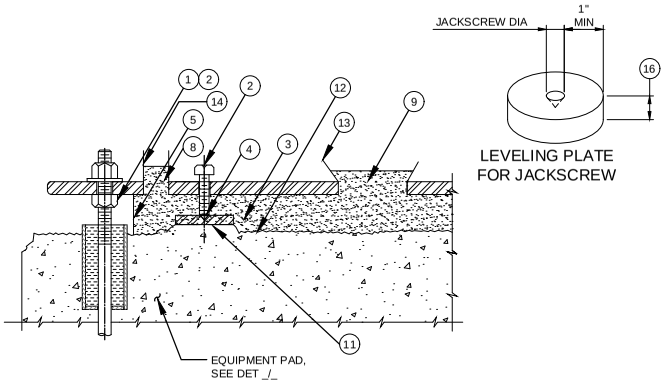


LEVELING BLOCK
(SEE KEY NOTE 6)

EQUIPMENT LEVELING WITH SHIMS AND LEVELING BLOCK



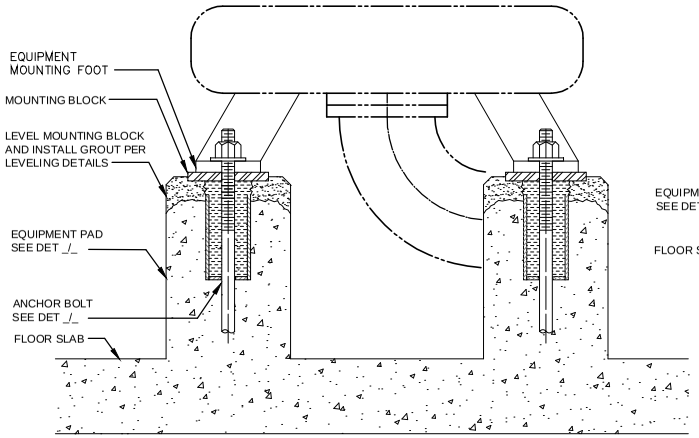
EQUIPMENT LEVELING WITH WEDGES



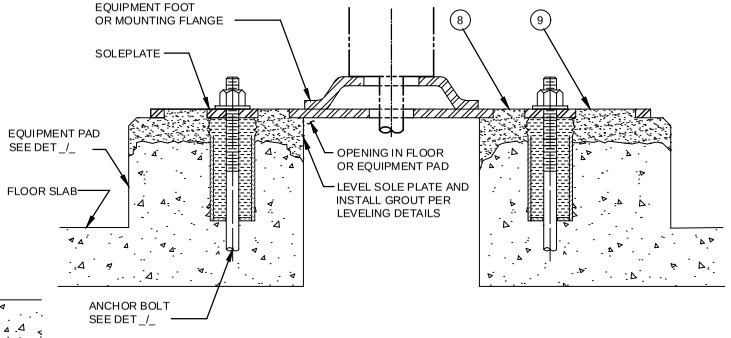
LEVELING PLATE FOR JACKSCREW

EQUIPMENT LEVELING WITH LEVELING NUTS OR JACKSCREWS

WHEN BASE PLATE WEIGHS <200 POUNDS - SEE KEY NOTE 4



TYPICAL EQUIPMENT MOUNTING ON MULTIPLE EQUIPMENT PADS AND MOUNTING BLOCKS



TYPICAL EQUIPMENT MOUNTING ON SOLE PLATE

CONCRETE EQUIPMENT BASE

DETAIL VAR

NO SCALE

KEY NOTES:

1. LEVELING NUTS MAY BE USED FOR LEVELING BASEPLATES, SOLEPLATES AND MOUNTING BLOCKS WEIGHING LESS THAN 200 POUNDS. PROVIDE BLOCK OUT FOR BACKING OFF LEVELING NUT AFTER GROUT HAS CURED. OMIT JACK SCREWS AND LEVELING PLATE (KEY NOTE 4) IF LEVELING NUTS ARE USED FOR LEVELING.
2. OMIT THE LEVELING NUTS (SEE KEY NOTE 1) AND PROVIDE VERTICAL JACKING SCREWS OPERATING AGAINST LEVELING PLATES IF JACK SCREWS ARE USED FOR LEVELING (SEE KEY NOTE 4). GREASE JACKSCREW TO PREVENT BONDING WITH GROUT. BACK OFF AFTER GROUT HAS SET.
3. EPOXY GROUT. CEMENTITIOUS GROUT MAY BE USED FOR EQUIPMENT WITH DRIVERS 5 HP AND LESS IF EQUIPMENT WEIGHS LESS THAN 1000 POUNDS.
4. LEVELING PLATE FOR JACK SCREW, SEE DETAIL ABOVE.
5. BLOCK OUT FOR ACCESS TO LEVELING EQUIPMENT AFTER GROUTING BASEPLATE/SOLEPLATE.
6. 4"x4"x1-1/2" THICK STAINLESS STEEL SLOTTED LEVELING BLOCK.
7. STAINLESS STEEL SHIMS, 5 MAX.
8. GROUT RELIEF HOLE, TYPICAL FOR BASE PLATES AND SOLE PLATES.
9. GROUT POURING HOLE, TYPICAL FOR BASE PLATES AND SOLE PLATES.
10. WEDGES.
11. SMOOTH, LEVEL CONCRETE SURFACE AT LEVELING POSITIONS.
12. ROUGHENED SURFACE OF CONCRETE FOR GROUT BOND.
13. GROUT POURING FUNNEL.
14. GROUT RELIEF STANDPIPE.
15. STEEL SUPPORT PLATE
16. LEVELING PLATE THICKNESS SHALL NOT BE LESS THAN JACKSCREW DIAMETER, 1/2" MINIMUM.

END OF SECTION

Orange Water and Sewer Authority

OWASA is Carrboro-Chapel Hill's not-for-profit public service agency delivering high quality water, wastewater, and reclaimed water services.

Supplemental Site, Safety, and Prevention of COVID Requirements

at Mason Farm Wastewater Treatment Plant (WWTP)

The term 'contractor' below includes all contractors, technicians, consultants, vendors and other hired visitors (as distinguished from OWASA staff or members of the public) working at OWASA facilities.

*It is the responsibility of the OWASA staff member that hires a contractor to review **Part 2** of this form with the appropriate Department Manager for the site, and to provide this form to the contractor.*

It is the responsibility of a contractor to communicate safety requirements to their subcontractors.

Form last updated August 2021.

Issued to (contractor): _____

Issued by: _____

Issue date: _____

Expected duration of work: _____

Expected locations of work: _____

Part 1: Minimum requirements for OWASA facilities and work sites:

- **Stay away if sick:** contractors must not report to OWASA facilities if exhibiting COVID-19 symptoms or have received a positive COVID-19 test result within 14 days prior. If contractors begin to exhibit symptoms while onsite leave OWASA facilities immediately.
- **Do not enter buildings:** contractors must not enter an OWASA building, including for use of restrooms, unless explicitly authorized by the appropriate OWASA Department Manager.
- **Face coverings:**
  - contractors must use masks per OWASA guidelines whenever inside buildings (if authorized - see above), and whenever riding in vehicles with two or more people;
  - contractors are encouraged to use masks in outdoor settings if 6 feet of distance cannot be maintained or if OWASA staff have masks on.
- **Social distancing:** maintaining personal space of at least 6 feet is strongly encouraged.
- **Communication:** must be in regular communication with designated OWASA staff as to locations and activities of work. Contractors must have a means of daily tracking job-related personnel should there be a need for contact tracing.
- **Duty to Report:** Upon learning of an infection, the contractor must immediately notify the appropriate OWASA Department Manager, while maintaining confidentiality of the infected worker.
- Contractors for longer term projects (generally longer than three weeks) must submit a health and safety plan to address job-specific hazards, including measures to prevent spread of COVID-19. The plan must be reviewed by the OWASA staff member responsible for the hiring and the appropriate Department Manager for compliance with the applicable requirements of OWASA's safety programs, including these COVID-19 safety measures.

Part 2: Additional WTP-specific requirements, if applicable:

- Communications and Coordination Designated OWASA Staff:
  i) WWTP: Plant Manager, Operators Supervisor, Maintenance Supervisor
  ii) CIP Project: Project Manager
- Access to the WWTP is granted either with an OWASA issued access card at the readers or by calling the Operator (phone number is located at the entry gate). *(Note that the Operator on duty has many responsibilities and may not immediately respond to the calls; therefore, it is recommended that Contractor supervision with access cards take responsibility with regards to their employees, subcontractors, deliveries, etc. at the gate entrances. In addition, the Contractor is to manage WWTP access to control and reduce the vehicles and minimize multiple entries.)*
- Emergency evacuation rally point is the grassy area (location marked in image below) near the parking lot in front of the Administrative Building. Should an emergency occur, all personnel should move to that location for accounting. Supervisors are responsible for assembling their teams at the rally point and reporting to the WWTP Supervisors (either Operations, Maintenance, Lab, or Manager).



- Plant activities may require areas to be barricaded or marked off for safety of others and OWASA staff, which includes, but is not limited to confined space entry, equipment repair, chemical deliveries, maintenance activities, other Contractors' work. Do not enter areas defined by safety cones, barricades, caution tape, or other visual means of marking restricted access.
- Contractors are responsible for disposal waste and debris resulting from their activities and that of their own subcontractors and site visitors (e.g. deliveries and consultants working for the contractor). All trash, including cigarette butts, drink bottles, and sharps (nails/screws/etc.) are to be removed from working areas at the end of each day.

- Smoking is only to occur in the OWASA approved designated areas. For the WWTP, the only location is the gazebo.
- It is critical to immediately communicate spills that may be hazardous and/or affect plant operations. If a liquid spill occurs, call the Operator cell phone immediately (919-369-1545). Only proceed with containing and cleaning up the spill if it can be done safely and in accordance with applicable training. Personnel should not attempt clean-up without the appropriate training. *(Note that several areas within the plant site have drainage outlets that directly impact wastewater treatment and/or a nearby stream. Measures are available to prevent a spill from impacting these sensitive areas, therefore, prompt notification of Operators is required to ensure the measures are implemented quickly to avoid contamination.)*
- During construction, if an area becomes too hazardous to navigate (e.g. slippery or uneven surfaces, trip hazards, etc.), then barriers and/or warning signage must be posted. *(Note that throughout the day and night, the Operators make multiple rounds to inspect plant operations, however, hazards easily visible during the day are not as clearly visible at night, so safety measures must be clearly visible day or night.)*
- Traffic flow within the plant should be maintained at all times, with as few interruptions as possible. Interruptions to plant vehicle and pedestrian routes must be pre-approved by OWASA as part of a plan prepared and managed by the Contractor. Park vehicles in approved designated areas only, to maintain necessary plant operation, safety, and emergency access at all times. *(Note that having to locate someone to move a Contractor vehicle or equipment is not acceptable and may necessitate OWASA to implement restrictions.)*

All OWASA staff have the authority and responsibility to call a "Safety Timeout" and report violations of safety protocols by contractors to their supervisor.

OWASA reserves the right to stop a project if safety precautions are not being followed. Depending on the situation, negligence in following these safety protocols could result in termination of the contract.

Thank you for your attention to these guidelines as we all work to protect each other and the public while maintaining critical services.

Orange Water and Sewer Authority
OWASA is Carrboro-Chapel Hill's not-for-profit public service agency
delivering high quality water, wastewater, and reclaimed water services.

Good Faith Effort Guidelines

Note: It is mandatory that the Identification of Minority Participation form and Affidavit "A" Listing of Good Faith Efforts be properly completed as defined in the document specifications and submitted with the Bid (unless the prime contractor intends to perform 100% of the work with Own Workforce and properly executes Affidavit B).

Adequate good faith efforts mean that the bidder took all necessary and reasonable steps to achieve the goal which, by their scope, intensity, and appropriateness, could reasonably be expected to obtain sufficient MBE/WBE participation. Adequate good faith efforts also mean that the bidder actively and aggressively sought MBE/WBE participation. Mere *pro forma* efforts are not considered good faith efforts.

OWASA will consider the quality, quantity, and intensity of the different kinds of efforts a bidder has made.

Listed below are examples of the types of actions a bidder will take in making a good faith effort to meet the goals. This list is not intended to be exclusive or exhaustive, nor is it intended to be a mandatory checklist.

(A) Soliciting through all reasonable and available means (e.g. attendance at pre-bid meetings, advertising, written notices, use of verifiable electronic means) the interest of all certified MBEs/WBEs who have the capability to perform the work of the contract. **The bidder must solicit this interest within at least 10 days prior to bid opening** to allow the MBEs/WBEs to respond to the solicitation. The bidder must determine with certainty if the MBEs/WBEs are interested by taking appropriate steps to follow up initial solicitations.

(B) Selecting portions of the work to be performed by MBEs/WBEs in order to increase the likelihood that the MBE and WBE goals will be achieved.

(1) Where appropriate, break out contract work items into economically feasible units to facilitate MBE/WBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces.

(1) Negotiate with subcontractors to assume part of the responsibility to meet the contract MBE/WBE goals when the work to be sublet includes potential for MBE/WBE participation (2nd and 3rd tier subcontractors).

(C) Providing interested MBEs/WBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(D) (1) Negotiating in good faith with interested MBEs/WBEs. It is the bidder's responsibility to make a portion of the work available to MBE/WBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available MBE/WBE subcontractors and suppliers, so as to facilitate MBE/WBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of MBEs/WBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as

to why additional agreements could not be reached for MBEs/WBEs to perform the work.

(2) A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including MBE/WBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using MBEs/WBEs is not in itself sufficient reason for a bidder's failure to meet the contract MBE or WBE goals, as long as such costs are reasonable. **Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Bidding contractors are not, however, required to accept higher quotes from MBEs/WBEs if the price difference is excessive or unreasonable.**

(E) Not rejecting MBEs/WBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The bidder's standing within its industry, membership in specific groups, organizations, or associates and political or social affiliations (for example, union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids in the bidder's efforts to meet the project goal. **Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.**

(F) Making efforts to assist interested MBEs/WBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or bidder.

(G) Making efforts to assist interested MBEs/WBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

(H) Effectively using the services of available minority/women community organizations; minority/women contractors' groups; Federal, State, and local minority/women business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of MBEs/WBEs.

(I) Any other evidence that the bidder submits which shows that the bidder has made reasonable good faith efforts to meet the MBE and WBE goal.

In addition, OWASA may take into account the following:

(1) Whether the bidder's documentation reflects a clear and realistic plan for achieving the MBE and WBE goals.

(2) The bidders' past performance in meeting the MBE and WBE goals.

(3) The performance of other bidders in meeting the MBE and WBE goals. For example, when the apparent successful bidder fails to meet the goals, but others meet it, you may reasonably raise the question of whether, with additional reasonable efforts the apparent successful bidder could have met the goals. If the apparent successful bidder fails to meet the MBE and WBE goals, but meets or exceeds the average MBE and WBE participation obtained by other bidders, OWASA may view this, in conjunction with other factors, as evidence of the apparent successful bidder having made a good faith effort.

ORANGE WATER AND SEWER AUTHORITY (OWASA)
MASON FARM WWTP FERMENTER MIXING IMPROVEMENTS

PRE-BID MEETING

October 6, 2021
3:00 P.M.

1. **INTRODUCTIONS**

   OWASA
   Brown & Caldwell

2. **PURPOSE**

   The purpose of this meeting is to introduce the project to prospective bidders, field questions regarding the project, and provide an opportunity to visit the project site. Questions will be discussed and/or clarified by addenda. Nothing during this meeting, as far as clarifications and/or answers is to be taken as an official answer. Bids shall be based solely on the bid documents plus any addenda.

3. **PROJECT INFORMATION**

   The project includes the following work.

   1. Demolition of existing pipe and mixing headers and their associated structural supports inside the fermenter tank up to wall pipe connections.
   2. Demolition of two submersible pumps and associated piping up to the fermenter wall pipes in the basement of the Old Digester Control Building.
   3. Excavation and demolition of underground fermenter gas condensate pipe, as well as its associated drip trap in the basement of the Old Digester Building.
   4. Optional removal and reinstallation of a 6-foot by 6-foot section of concrete cover for the fermenter tank to provide easier access to the interior of the fermenter. This would include the associated PVC liner repair.
   5. Installation of new mixing nozzles and associated pipe and supports in the fermenter tanks, as well as new withdrawal piping and supports in the fermenter tank. This includes spot repairs to the existing PVC liner as required.
   6. Installation of a vertically mounted centrifugal chopper pump in the basement vault of the Old Digester Control Building, as well as required structural modifications to fit the new pump in the vault.
   7. Installation of new pipe, valves, and supports in the basement of the Old Digester Control Building.
   8. Installation of new gas condensate accumulator and associated drain and vent piping improvements.
   9. Repair and coating of corroded sampling hatches in the fermenter cover.
   10. Electrical improvements for power and controls of new equipment.
   11. Installation of new level and flow instruments and integration of new controls with the plant-wide SCADA system, as defined in the CITI scope of supply (Appendix C)
   12. Inspection of Fermenter Tank wall as described in Specification Section 03 01 00.
   13. And all associated appurtenances as described in the Specifications and as shown on the Drawings.

   Note: OWASA has already procured the pumped mixing system (pumps and in-tank nozzles) and the equipment is in storage at Mason Farm WWTP. Contractor is responsible for the installation of

the system.

4. CONSTRUCTION SEQUENCE (MOPO)

Specification 01 12 16 – Specific work sequence and constraints

- Gas piping must be isolated and purged to confirm it is below the lower explosive limit (LEL)
- Frequency and duration of outages to fermented sludge pumps shall be minimized.
- Electrical outages shall be coordinated with the Owner to minimize duration and impact of shutdowns. This includes tie-ins and relocations of power conduits in the pump room area.
- Fermenter tank work requires permits for confined space entry to be obtained by the Contractor. Consideration due to the presence of groundwater above the bottom of the tank is required. Structural details limit embedment depth of anchors and dowels in the fermenter tank and the Digester Control Building's basement slabs to a maximum of 4-inches.

5. SAFETY, COVID-19 MANAGEMENT, AND DESTRUCTIVE WEATHER PRECAUTIONS

Appendix A provides OWASA's required safety precautions to prevent the spread of the virus at OWASA Facilities.

A Destructive Weather Checklist for Capital Improvements Projects is attached to this agenda.

6. CONTRACT TIME

120 days to substantial completion; 150 days to final

The Vaughan Rotamix mixing system is in storage at the Mason Farm WWTP.

Notice to Proceed date is flexible.

7. BID FORM

Lump Sum for all work except:

- Instrumentational and Controls Allowance by CITI
- Contingency Allowance ($25,000)

Section 00 41 43a includes the "Bidder's Checklist", outlining all the items that must be included with the Bid.

8. SUBCONTRACTORS

Note major subcontractors on the bidding documents

10% goal for M/WBE participation

Submit M/WBE documentation with bids

9. ADDENDA

Addendum No. 1 will be issued to capture any questions arising from this Pre-Bid conference.

10. GENERAL DISCUSSION AND QUESTIONS

Written questions should be addressed to Natalie Archambault at narchambault@brwncald.com

Questions submitted after October 15, 2021, may not be addressed.

11. BIDS

Sealed bids will be opened at **2:00 P.M. on Friday, October 22, 2021**. Mailing address for bids can be found on the Bid Form

12. SITE WALKTHROUGH

Appendix B: Technical Memorandum – Mason Farm WWTP Fermenter Condition Assessment is provided for informational purposes and includes photographs of the interior of the fermenter tank.

Any additional site visits must be requested through OWASA 48 hours prior to preferred time of access.

Brown AND Caldwell

Sign-in Sheet

5430 Wade Park Boulevard, Suite 200
Raleigh, North Carolina 27607

T: 919.233.9178

Owner: Orange Water and Sewer Authority (OWASA)
Project: Mason Farm WWTP Fermenter Mixing Improvements
BC Project No.: 155193
Owner Project No.: CIP No. 278-78
Purpose of Meeting: Construction Pre-Bid Meeting
Date: January 14, 2021
Meeting Location: Mason Farm WWTP

Name	Organization	Phone No.	Email	Signature
Tom Nangle	Brown and Caldwell	919.424.1520	tnangle@brwncald.com	
Brad Barber	OWASA	919.537.4245	bbarber@owasa.org	
Maren Deal	Brown and Caldwell	919.424.1453	mdeal@brwncald.com	
Chad Green	Carolina Civilworks Inc.	919-598-9850	cgreen@carolinaciviltworks.com	
John Gilbert III	Gilbert Engineering Co	704 902.0468	jgilbert3@gilbertengineering.com	
Luke Marmer	Kiewit Infrastructure	919-722-937[illegible]	luke.marmer@kiewit.com	
Scott Stewart	Haren Construction	423-263-5561	COSborne@HarenConstruction.com	

CIP Manager will review this spreadsheet for completeness on the 1st of the month from June through December, and at each of the various planning modes when Destructive Weather protocol has been implemented.

DESTRUCTIVE WEATHER CHECKLIST FOR CIP

Pre-Planning (OWASA PM)	Review this checklist with construction team at pre-construction meeting
	Review this checklist with construction team at start of hurricane season
	Inspect the site monthly during hurricane season to identify trash, debris, and any construction equipment or materials that are no longer needed and should be removed by the contractor
	Confirm emergency contact info above and on next spreadsheet tab at start of hurricane season
72-hour Planning Mode (OWASA PM)	Inform construction team (typically: engineering project manager, construction observer, prime contractor project manager and superintendent) that destructive weather is expected within 72 hours
	Review this checklist with construction team
	Visit site and document pre-event site conditions
	Convey to contractor the expectations for actions to be taken for 48-hour Planning Mode
	If sewer bypass is expected to continue through potential destructive weather, ensure that bypass information is entered into GIS, maps are prepared and distributed per protocol, and arrange for onsite meeting with D&C Manager and/or Assistant Manager.
	Confirm emergency contact info above and on next spreadsheet tab
	Verify once contractor has completed all 72-hour Planning Mode actions
72-hour Planning Mode (Contractor)	Continue with normal construction operations but with added diligence to regular daily housekeeping, such as consolidation of rubbish and construction materials.
	Communicate to personnel / subcontractors that destructive weather is expected within 72 hrs.
	Ensure that 48-hr Planning Mode actions can be quickly met should timing of event accelerate
	Ensure trailers are properly anchored (including conex boxes).
48-hour Planning Mode (OWASA PM)	Monitor weather forecasts to assess the possibility/timing that 24-hour planning mode will be set
	Visit job site to determine what actions need to be taken if 24-hour planning mode is set.
	Notify contractor that immediate action may be required should the 24-hour planning mode be set
	If 24-hour planning mode may be enacted on a weekend/holiday, confirm that the contractor will be required to respond during daylight hours (whether Saturday or Sunday) to immediately meet all requirements for that condition.
	Verify once contractor has completed all 48-hour Planning Mode actions
48-hour Planning Mode (Contractor)	Normal construction operations may continue, but active preparation of job sites must begin.
	Communicate to personnel / subcontractors that destructive weather is expected within 48 hrs.
	Confirm to OWASA PM that the 24-hour actions can be quickly met, if required (i.e., should timing accelerate), including if 24-hour planning mode falls on weekend/holiday.

CIP Manager will review this spreadsheet for completeness on the 1st of the month from June through December, and at each of the various planning modes when Destructive Weather protocol has been implemented.

24-hour Planning Mode (OWASA PM)	Instruct contractor to report to job site at first daylight to take the actions below
	Inspect active job sites at 1st daylight to ensure that requirements for this condition have been met.
	Email CIP Manager to confirm that 24-hr planning mode requirements have been met.
24-hour Planning Mode (Contractor)	Interrupt construction operations and shift priority to preparing the site for destructive weather.
	Communicate to personnel and subcontractors that destructive weather is expected within 24 hours and these specific action items are required.
	Conduct all actions with idea that the job site may have to be evacuated within hours.
	Remove all missile hazards from the site.
	Securely close all building openings.
	Disconnect all temporary power.
	Remove or secure all equipment
	Remove or firmly secure (by banding, cables, or rope) all bulk materials.
	Firmly secure all scaffolding. Remove all planking.
	Contractor shall not secure the job site for the day until the above requirements have been met.

12-hour Planning Mode	All outside work on OWASA job sites will have been secured. Construction team will closely monitor local media to stay abreast of weather developments.

Destructive weather has passed (OWASA PM)	Coordinate with contractors/consultants to visit each active job site for damage assessment
	Document damage with photographs
	Email CIP Manager with damage assessment summary and site-specific recovery plans.