Addendum #1

Date: Monday, May 13, 2019

Project: City of Concord, NC

Highway 29 Elevated Water Storage Tank

Project No. 2018-017

To: All Plan Holders

You are hereby advised of this Addendum #1 as a supplement to the Bid Documents for Highway 29 Elevated Water Storage Tank (Project No. 2018-017). Please incorporate all information in the preparation and pricing of your bid. Please acknowledge receipt of Addendum #1 on your proposal/bid form.

Contractor Questions/Comments:

Comments and questions from potential bidders are presented in italics, responses are presented in bold. Potential bidder questions and comments presented below have been paraphrased to be as concise as possible.

Item 1: Bids are due May 17, 2019 at 2:00 pm. The prebid meeting was on May 1, 2019. We need another week to complete our designs, estimate and get responses from subcontractors. Can the bid date be extended one week to May 24, 2019?

• The bid opening date is REVISED to May 24, 2019 at 2:00PM.

Item 2: The bidding documents for the City of Concord North Carolina – Highway 29 Elevated Water Storage Tank, Section 33 16 13, Page 11, Part 3.2, Item 6 states, “Concrete pour height shall be a minimum of 6 ft. and a maximum of 12 ft.” Please consider revising the third sentence as follows: “Concrete pour height shall be a minimum of 4 ft. and a maximum of 12 ft.”

• The concrete pour height specifications will remain as written.

Item 3: We have concerns regarding the proximity of our crane to the overhead power line on the eastern side of the tank property. We need the east overhead power lines to be rerouted or...
buried underground to the transformer prior to our mobilization on site. Will the City power company do this and at no cost to us the bidder?

- The City of Concord Electric Department has agreed to place the overhead power line along the eastern side of the property underground. This will be completed prior to the successful bidder obtaining access to the project site.

**Item 4:** Due to the tight nature of the project site, we would like to utilize the driveway of the adjoining property to move construction equipment / trucks through. Can the City confirm that this will be allowed by the adjoining property owner?

- The successful bidder on this project will have full access to the site via Erwin Street. How prospective bidders turn around trucks and control their construction traffic is their responsibility. If a bidder chooses to not use the site ingress/egress provided, that shall be explored by the bidder and reflected in their bid.

**Item 5:** What building or construction permits will the Contractor need to obtain for this project? Will a Building Permit and/or Plan Review be required from the city or county? If so, whom do we contact to determine what is the cost? Are there any other licenses or fees that the Contractor must pay for? Will the cost of the Building Permit be waived since it is a City of Concord municipal project?

- After consultation with the Cabarrus County Construction Standards department, it has been stated that there will be no permitting or inspection on this project by the County due to it being a public utility.

**Item 6:** What building or construction permits will the Contractor need to obtain for this project? Will a Building Permit and/or Plan Review be required from the city or county? If so, whom do we contact to determine what is the cost? Are there any other licenses or fees that the Contractor must pay for? Will the cost of the Building Permit be waived since it is a City of Concord municipal project?

- After consultation with the Cabarrus County Construction Standards department, it has been stated that there will be no permitting or inspection on this project by the County due to the project being constructed by a public utility.

**Item 7:** Spec 33 16 13-4 Item 2.5.D.1 requires internal buttresses at the overhead door opening. Our forming system does not include buttresses and will not comply with this requirement. Concrete at the opening is reinforced in accordance with AWWA D107 Sect. 6.3.7 and concrete filled pipe bollards are provided on each side of the truck door. This is our standard design on all the Composite tanks we build. Please confirm this is acceptable.

- This is an acceptable alternative.
**Item 8:** Drawing shows the two personnel access doors in close proximity to the overhead door. Per AWWA D107 Section 6.3.7.1.2, the concrete wall requires a minimum 10 ft clearance between the door openings. We plan to rotate the doors away from the overhead door to comply with AWWA D107. Please confirm that this is acceptable.
- This is acceptable.

**Item 9:** The specifications require the contractor to designate a competent resident superintendent who shall not be replaced without written notice to the owner and engineer. Our standard practice is to use our civil foundation subcontractor’s supervisor during foundation construction and our various crew superintendents during Tank Concrete Shaft Erection, Steel Tank Erection and Field Painting Operations to satisfy this requirement. Each is on site at all times for their scope of work. They are fully qualified competent superintendents and report directly to our CB&I Project Manager. Please confirm that this is acceptable.
- There should be a singular point of contact on the site regarding any issues that arise during construction. Contractor may switch out this contact during different construction phases, but there should be notification of who should be contacted if there are issues.

**Item 10:** Please confirm that the tank contractor is Design Responsible for the tank and tank foundation and that the soils report is for information only. The tank and tank foundation should be designed and stamped by a licensed PE who is an employee of the tank contractor.
- Bidder is design responsible for the tank and tank foundation. All designs shall be completed and sealed by licensed engineer in the State of NC.

**Item 11:** Specs require submittal of Experience List of five Composite tanks of 2.0 million gallons or greater completed and in service in the last ten years and also a submittal with bid a preliminary section view of tank, the concrete shaft form heights and the tank foundation. It is noted that if the design or proposal submittals do not comply with the specifications, the bid shall be rejected as non-responsive.
- Previous experience should comply with the general intent of the specifications for this project.

**Item 12:** The Suez Utility Service Co., Inc. proposal (Attachment D) states the surface aeration for the 2MG Elevated will consist of (3) 15hp surface aerators installed inside the tank and will include electrical motors, floating support systems, wiring, mooring, etc. while engineers drawings depict a branch arm assumed to supported under the roof with (4) Spray headers coming off each branch arm. Please indicate which is correct or if both are required.
Floating system is correct. A sketch of a downward spray style system was included on the plans to bring attention to the fact there would be an aeration system, and not an indication of type of aeration system.

Item 13: The Suez Utility Service Co., Inc. proposal (Attachment D) states the Tank Manufacturer will be responsible for including tank penetrations for SUEZ TRS into tank design. We will need details of penetrations to meet this requirement. Please provide typical details of the Utilities Services Group TRS System proposed for this tank.

- Standard details of proposed equipment are attached to this Addendum.

Item 14: Specifications state that a price has been negotiated with Utilities Services Group for construction and installation of THM Removal System. Contractor is also required to provide assistance to Utility Services Group to ensure that all Contractor supplied equipment is accordance with drawings and specifications. Contractor will be required to provide all other items not specifically covered by the proposal from Utility Services Group. To meet this requirement, we will require more details of this system.

- As indicated in the quote from Suez (Utility Service Co., Inc.) the main responsibility of the contractor will be to ensure power is provided to the base of the tank. Penetrations size and location will be coordinated with Suez.

Item 15: We will be under a fixed project schedule contract with liquidated damages defined. Please advise how much time The Suez Utility Service Co., Inc. proposal requires for installation of their system and operation/testing of their system. Also please provide a name and contact information for The Suez Utility Service Co., Inc. proposal and system.

- Schedule and timing of installation of THM removal system shall be coordinated with Suez (Utility Service Co., Inc.). Coordination shall be through Cortez Rankin, Water Quality Product Manager, Suez – (678) 705-6704

Item 16: Drawing 00D-01 General Note #1 references D100 recommend revising to D107 for the composite tank.

- Agreed. This note will be revised to state D107 instead of D100.

Item 17: Special Conditions Section 01 30 00-6 calls for notifying the engineer once construction activities get above 100’ please clarify.

- Federal Aviation Administration (FAA) has issued a Determination of No Hazard to Air Navigation based upon the full constructed height of the tank (approximately 130ft).
Contractor is to notify the Engineer of the timing of any structure being taller than 100ft. Engineer will notify FAA at that time to ensure they are aware of activities in the area.

Item 18: *ForTech Quote provides two set of pricing, please clarify.*
- The first set of pricing is the required equipment for this project, and is reflected in bid line item number 3. The second set of pricing is to establish values for correcting any potential communication issues with remote sites during construction of the tank. These values will only be used if actual issues arise.

Item 19: *Please confirm the concrete pedestal of the composite tank does not get coated.*
- There will be no coating on the concrete pedestal of the composite tank.

Item 20: *Please confirm an industry standard conical roof is acceptable.*
- A conical roof is acceptable.

Item 21: *Rest platform spacing – specifications call for 50’ spacing and the drawing call for 30’. Recommend industry standard 50’ spacing please clarify.*
- The specifications are correct, 50’ spacing shall be provided between rest platforms. Plan sheet 00D-01 will be revised.

Item 22: *Specification calls for a 14’ x 60’ Field Office on site. Due to limited space on site recommend reducing the size of the field office or removing it all together. This space on site would be used for material store and truck movement.*
- 14’ x 60’ field office may be deleted. Contractor shall provide a heated and cooled office space that is separate from contractor staff and lockable for use of on-site construction observation representative. Office space shall include, at a minimum, one (1) desk (30" x 60" top) with lockable drawers, two (2) cushioned swivel arm chairs, and two (2) four-drawer legal size filing cabinets. At least two (2) 110V duplex electrical convenience outlets shall be provided. Additionally, contractor shall provide restroom facilities with a hand washing station. All project meetings shall take place at the City of Concord Brown Operations Center.

END OF ADDENDUM
<table>
<thead>
<tr>
<th>Quantity (sets)</th>
<th>Contractor Name &amp; Address</th>
<th>Contact</th>
<th>Phone / Fax</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Landmark 1665 Harmon Road Fort Worth, TX 76177</td>
<td>Janine Straw</td>
<td>817.439.8888</td>
<td><a href="mailto:jstraw@teamlandmark.com">jstraw@teamlandmark.com</a> <a href="mailto:estimating@teamlandmark.com">estimating@teamlandmark.com</a></td>
</tr>
<tr>
<td>2</td>
<td>CB&amp;I 11580 Great Oaks Way, Suite 500 Alpharetta, GA 30022</td>
<td>Don Nason</td>
<td>770.521.6542</td>
<td><a href="mailto:don.nason@modermott.com">don.nason@modermott.com</a></td>
</tr>
<tr>
<td>3</td>
<td>Caldwell Tanks, Inc. 4000 Tower Road Louisville, KY 40219</td>
<td>Carolyn Burke</td>
<td>Phone 502.964.3361 Fax 502.966.8732</td>
<td><a href="mailto:cburke@caldwelltanks.com">cburke@caldwelltanks.com</a></td>
</tr>
</tbody>
</table>
SECTION 2

TECHNICAL INFORMATION
PAX THM Removal System

A. TRS Overview
B. Major System Components

Attachments
Attachment 1: PAX Mixer 500 Data Sheet
Attachment 2: PAX PowerVent Data Sheet
Attachment 3: PAX PowerVent PPV-400 Cutsheet
Attachment 4: PAX PowerVent PPV-600 Cutsheet
Attachment 5: PAX Surface Aerator SA -150 Cutsheet
Attachment 6: PAX TRS-50 Series Cutsheet
A. TRS OVERVIEW

Aeration has been shown to be an effective means of removing trihalomethanes (THMs) from finished drinking water. Trihalomethane compounds exhibit dimensionless Henry's Law constants of between 0.13 (chloroform) and 0.02 (bromoform) making them amenable to removal via aeration. Brooke and Collins (2011)\(^1\) document the literature on in-tank aeration to remove THMs and provide general guidelines for the required air/water ratios required to achieve various degrees of removal. PAX Water Technologies developed the TRS (Trihalomethane Removal System), a custom-designed, energy-optimized system of mixers, aerators, and ventilators that turns ordinary water storage tanks into water treatment systems. Unlike other treatment technologies for lowering THM levels (involving large-scale changes to water treatment plants), TRS can be implemented quickly and cost-effectively – targeting locations in the water distribution system where THMs are the highest.

PAX uses a piece of proprietary software called NEPTUNE™ to design TRS systems. System specific information is input into NEPTUNE™ including hydraulic parameters of the system, tank geometry, THM levels and treatment objectives. NEPTUNE™ then applies an algorithm that creates hundreds of designs for each system, and then chooses the one that is the most energy efficient.

PAX Water Technologies’ components are simple, but rugged. The components have been optimized to work together to provide maximum rates of removal for comparable or less energy requirements. In addition, PAX Water Technologies provide a validation protocol with all systems in order to demonstrate that the system performs as guaranteed. The validation protocol involves turning the system on and off, taking samples before and after, recording measurements and evaluating the results.

B. MAJOR SYSTEM COMPONENTS

**PAX PowerVent™**
The PAX PowerVent is an active ventilation system with a rugged design specifically developed for water storage tanks. Mounted to the tank roof, these units remove THMs from the headspace of the tank and reintroduce fresh air. Designed to move a lot of air, this rapid air exchange is important for achieving maximum THM removal rates.

**PAX Surface Aerator**
Developed in partnership with Aqua Aerobics, the leading manufacturer of aerators for wastewater treatment, the PAX Surface Aerator is the most energy-efficient THM aeration technology for treating large water volumes. Designed specifically for potable water, the PAX Surface Aerator features folding floats for an easy installation and is stainless steel, clog proof and NSF-61 certified.

**PAX Water Mixer**
PAX Water Mixers continuously circulate water high in THMs to the top of the tank where they are volatilized and removed. With unparalleled mixing power, these mixers eliminate short circuiting and dead zones while remaining energy efficient and compact. PAX Water Mixer comes in a range of sizes and all models are stainless steel and NSF-61 certified.

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\(^1\) Brooke, E., and M. R. Collins (2011) Posttreatment aeration to remove THMs. JAWWA 103:10, p. 84-96.
PWM500 MIXER
Powerful Active Mixer for Water Storage Tanks

The PAX Water Mixer (PWM500) is a powerful active mixer that improves water quality in water storage tanks. The mixer’s patented Lily impeller creates a powerful vortex flow pattern to thoroughly circulate the entire tank volume while using very little energy. PAX Water Mixers are easy to install and maintain—no heavy cranes, lifting equipment or tank alterations are required and the mixer can be easily lowered through the tank hatch or installed by a diver.

- Eliminates thermal stratification
- Improves disinfectant residual levels
- Lowers DBPs and nitrifying bacteria
- Protects tank from ice damage and corrosion
- Reduces variability in water taste and odor

The PAX Water Mixer creates a powerful vortex flow pattern to thoroughly mix the entire tank volume.
# PWM500 MIXER

## MIXER SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>Power Supply Requirement</td>
<td>120/240 VAC, 50/60 Hz, 15 amp circuit</td>
</tr>
<tr>
<td>Customer Supplied Power Switch</td>
<td>Type 3R safety disconnect switch</td>
</tr>
<tr>
<td>Motor Type</td>
<td>230 VAC, water-filled, water-lubricated</td>
</tr>
<tr>
<td>RPM</td>
<td>1600</td>
</tr>
<tr>
<td>Nominal Power Draw</td>
<td>1.035 kVA (1035 watts)</td>
</tr>
<tr>
<td>Impeller Specifications</td>
<td>316 stainless steel 8” (21 cm) tall x 5” (11 cm) diameter</td>
</tr>
<tr>
<td>Footprint Diameter</td>
<td>3’ 10” (117 cm)</td>
</tr>
<tr>
<td>Height</td>
<td>4’ 1” (124 cm)</td>
</tr>
<tr>
<td>Weight: Mixer Assembly</td>
<td>59 lbs. (27 kg)</td>
</tr>
<tr>
<td>Control Center Dimensions</td>
<td>42 lbs. (19 kg) (20” x 16” x 8” / 50 cm x 40 cm x 20 cm)</td>
</tr>
<tr>
<td>Material: Control Center</td>
<td>Powder-coated carbon steel, Type 3R enclosure</td>
</tr>
<tr>
<td>Material: Stand</td>
<td>316 stainless steel</td>
</tr>
<tr>
<td>Material: Motor Seals</td>
<td>Chlorine/chloramine-resistant NBR rubber</td>
</tr>
<tr>
<td>Material: Feet</td>
<td>Chlorine/chloramine-resistant EPDM rubber</td>
</tr>
<tr>
<td>Wiring</td>
<td>NSF 61 &amp; UL-listed submersible pump cable 14 AWG (2.1 mm²) XLPE (.78 in x .28 in / 20 mm x 7 mm)</td>
</tr>
</tbody>
</table>

![TOP VIEW](image1.png) ![SIDE VIEW](image2.png) ![CONTROL CENTER](image3.png)
PAX PowerVent
Product Specifications

The PAX PowerVent is an active ventilation system for water storage tanks. Mounted to the tank roof, these units remove THMs from the headspace of the tank and reintroduce fresh air.

<table>
<thead>
<tr>
<th>POWERVENT SPECIFICATIONS</th>
<th>PPV200</th>
<th>PPV400</th>
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</thead>
<tbody>
<tr>
<td>Power Supply Requirements (1-Phase 60 Hz)</td>
<td>115 VAC 6 Amps</td>
<td>115 VAC 13.2 Amps</td>
</tr>
<tr>
<td></td>
<td>230 VAC 3 Amps</td>
<td>230 VAC 6.6 Amps</td>
</tr>
<tr>
<td>Customer Supplied Power Switch</td>
<td>Type 3R safety disconnect switch</td>
<td></td>
</tr>
<tr>
<td>Motor Size</td>
<td>0.25 HP</td>
<td>1.00 HP</td>
</tr>
<tr>
<td>Nominal Power Draw</td>
<td>0.19 kW</td>
<td>0.75 kW</td>
</tr>
<tr>
<td>Footprint Diameter (A)</td>
<td>35” (89 cm)</td>
<td>47” (119 cm)</td>
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<tr>
<td>Footprint Diameter (B)</td>
<td>26” (66 cm)</td>
<td>34” (86 cm)</td>
</tr>
<tr>
<td>Height (C)</td>
<td>25” (64 cm)</td>
<td>27” (69 cm)</td>
</tr>
<tr>
<td>Weight</td>
<td>173 lbs. (79 kg)</td>
<td>225 lbs. (102 kg)</td>
</tr>
<tr>
<td>Material</td>
<td>Heavy gauge powder-coated steel</td>
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</tbody>
</table>
The PAX PowerVent is an active ventilation system for water storage tanks. Mounted to the tank roof, these units remove THMs from the headspace of the tank and reintroduce fresh air.

<table>
<thead>
<tr>
<th>POWERVENT SPECIFICATIONS</th>
<th>PPV600</th>
<th>PPV1000</th>
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<tbody>
<tr>
<td>Power Supply Requirements</td>
<td>230 VAC 14 Amps</td>
<td>230 VAC 28 Amps</td>
</tr>
<tr>
<td>(3-Phase 60 Hz)</td>
<td>460 VAC 7 Amps</td>
<td>460 VAC 13 Amps</td>
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<tr>
<td>Customer Supplied Power Switch</td>
<td>Type 3R safety disconnect switch</td>
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</tr>
<tr>
<td>Motor Size</td>
<td>5.00 HP</td>
<td>10.00 HP</td>
</tr>
<tr>
<td>Nominal Power Draw</td>
<td>3.75 kW</td>
<td>7.45 kW</td>
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<tr>
<td>Footprint Diameter (A)</td>
<td>58” (147 cm)</td>
<td>72” (183 cm)</td>
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<tr>
<td>Footprint Diameter (B)</td>
<td>53” (134 cm)</td>
<td>68” (173 cm)</td>
</tr>
<tr>
<td>Height (C)</td>
<td>31” (79 cm)</td>
<td>42” (107 cm)</td>
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<tr>
<td>Weight</td>
<td>333 lbs. (151 kg)</td>
<td>438 lbs. (199 kg)</td>
</tr>
<tr>
<td>Material</td>
<td>Heavy gauge powder-coated steel</td>
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</table>
**NOTES:**

1. MOTOR = 1 HP
2. POWER VENTRequires 240VAC Single Phase
3. HOOD COVER - EASILY REMOVED FOR ACCESS TO MOTOR COMPARTMENT AND DRIVE ASSEMBLY. CONSTRUCTED OF POWDER COATED STEEL.
4. LATCHES - Quick release hood cover latches.

**STEEL WHEEL** - Double width forward curved centrifugal steel wheel is used to generate high efficiency and minimal sound.

**VIBRATION ISOLATION** - Double studred true vibration isolators support the drive assembly and wheel for long life and quiet operation.

**FAN SHAFT** - Precisely sized, ground and polished so the first critical speed is at least 25 percent over the maximum operation speed.

**Bearings** - 100 percent factory tested and designed specifically for air handling applications with a minimum lsd life in excess of 250,000 hours.

**MOTOR** - Carefully matched to the fan and is mounted out of airstream. Drive frame - a screw adjustment allows the motor to pivot for ease of maintaining proper belt tension.

**DRIVE ASSEMBLY** - Belts, pulleys and keys are oversized 150 percent of driven horsepower. Machined cast pulleys are adjustable for final system balancing. Belts are static free and oil resistant.

**FILTERS** - Permanent, washable aluminum one-inch filters are standard. Two-inch filters are available. Filters are rated MERV 4, exceed standards for 4 mesh screen.

**DISCONNECT SWITCH** - NEMA 3R switch is factory mounted and wiring is provided from the motor to the disconnect enclosure as standard. All wiring and electrical components comply with the National Electrical Codes (NEC) and are UL listed or recognized.

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**PAX PPV-400 Sound Footprint As a Function of Distance**

\[
y = -0.3404x + 63.652
\]

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**AIR HANDLING COMPONENTS**

**PAX WATER TECHNOLOGIES**

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**MAKEUP VENT**

Note: Makeup vent shall be compliant with all applicable AWWA and state standards. Vent material = aluminum.
3-A PPV-600 POWER VENT ISO

3-B PPV-600 POWER VENT PLAN & PROFILE

3-C PPV-600 FAN AND MOTOR ASSEMBLY

3-D PPV-600 POWER VENT MOUNTED ON FLANGE

3-E PPV-600 POWER VENT MOUNTING FLANGE

3-F PPV-600 POWER VENT MOUNTING FLANGE PLAN & PROFILE

3-G PPV-600 CURB ISO

NOTES:
1. MOTOR = 5 HP
2. HOOD COVER - EASILY REMOVED FOR ACCESS TO MOTOR COMPARTMENT AND DRIVE ASSEMBLY; CONSTRUCTED OF GALVANIZED STEEL (RSF) OR ALUMINUM (RSFP).
3. LOUVERS - (RSFP) HEAVY GAUGE EXTRUDED ALUMINUM LOUVERS WITH MITERED CORNERS FOR A CLEAN LOOK WITH MINIMUM RESISTANCE TO AIRFLOW.
4. LATCHES - QUICK RELEASE HOOD COVER LATCHES.

STEEL WHEEL - DOUBLE WIDTH FORWARD CURVED CENTRIFUGAL STEEL WHEEL IS UTILIZED TO GENERATE HIGH EFFICIENCY AND MINIMAL SOUND.

VIBRATION ISOLATION - DOUBLE STUDDED TRUE VIBRATION ISOLATORS SUPPORT THE DRIVE ASSEMBLY AND WHEEL FOR LONG LIFE AND QUIET OPERATION.

FAN SHAFT - PRECISELY SIZED, GROUND AND POLISHED SO THE FIRST CRITICAL SPEED IS AT LEAST 25 PERCENT OVER THE MAXIMUM OPERATION SPEED.

BEARINGS - 100 PERCENT FACTORY TESTED AND DESIGNED SPECIFICALLY FOR AIR HANDLING APPLICATIONS WITH A MINIMUM L50 LIFE IN EXCESS OF 200,000 HOURS.

MOTOR - CAREFULLY MATCHED TO THE FAN AND IS MOUNTED OUT OF AIRSTREAM.

DRIVE ASSEMBLY - BELTS, PULLEYS AND KEYS ARE OVERSIZED 150 PERCENT OF DRIVEN HORSEPOWER. MACHINED CAST PULLEYS ARE ADJUSTABLE FOR FINAL SYSTEM BALANCING. BELTS ARE STATIC FREE AND OIL RESISTANT.

FILTERS - PERMANENT, WASHABLE ALUMINUM ONE-INCH FILTERS ARE STANDARD. TWO-INCH FILTERS ARE AVAILABLE. FILTERS ARE RATED MERV 4.

NOTE: CURB CONSTRUCTED FROM 1/4 IN MILD STEEL. COATING SUPPLIED BY CONTRACTOR TO MATCH EXISTING TANK COATING SYSTEM.

DIMENSIONS ARE IN INCHES [MILLIMETERS] UNLESS OTHERWISE NOTED.

MACHINED SURFACES TO BE TOLERANCES UNLESS OTHERWISE NOTED.


DO NOT SCALE DRAWING.
1. Float skins are 16 ga. 316 stainless steel. Float is filled with two component polyurethane foam.

2. Motor specification:
   - 15 HP, 230/460 volt, 3 phase, 60 hertz, 1800 rpm, premium efficient, TEFC, 1.15 service factor, class H insulation, continuous duty, NEMA design B, 65° C ambient, with normally closed thermostat and 115 volt space heater and one-piece 316 ss motor shaft. Complete motor exterior, including motor housing, conduit box, fan and drip cover is 300 series stainless steel. Motor is lubricated with Chevron FM CSC EP2 food grade grease.

3. Operating water level is approximately 1” greater.

4. These bolts are safety wired in place.

5. Item 15 and 16 are part of the volute/intake weldment and cannot be provided separately.

6. Float assembly consists of support bracket and (4) stainless steel floats.

7. Shipped in two (2) main sections. Aerator power section/volute/cone assembly and float assembly.

8. Minimum hatch clearance: 36” diameter. Install by lowering float assembly through hatch and allow to unfold. Lower power section/volute/cone through float center. Position on support plate and fasten in place with colts provided.

9. Weights:
   - Power section: 512 lbs.
   - Volute/cone/cross: 106 lbs.
   - Float assembly (complete): 392 lbs.
   - Reserve buoyancy: 600 lbs.

10. Keynotes:
    - NTS
    - Installed view
    - 24 2 U-bolt, 6” pipe size with hex nuts 316 ss
    - 50 FT cable, AWG #12-6 conductor pwr & cntrl cable SEOOW
    - 50 FT cable, AWG #10-4 conductor pwr & contrl cable SEOOW
    - Compression fitting 316 ss
    - Swivel lifting harness 316 ss
    - Set screw, propeller 316 ss
    - Propeller pin 316 ss
    - Intake screen 316 ss
    - Stabilizer cross 316 ss
    - Intake cone 316 ss
    - Diffusion head 316 ss
    - Motor adapter 316 ss
    - Motor 316 ss
    - Fluid deflector 316 ss
    - Anti-deflection insert 316 ss
    - Safety wire, 303 soft temper 316 ss
    - Bolt, drip hd 316 ss
    - Bolt, motor adapter 316 ss
    - Bolt, motor 316 ss
    - Diffusion head 316 ss
    - Motor support 316 ss
    - Motor 316 ss

**Sheet Q503**

**PRELIMINARY DRAWING**

**COMPANY NAME/ADDRESS**

860 Harbour Way S,
Richmond, CA 94804
<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply Requirement</td>
<td>120/240 VAC, 50/60 Hz, 15 AMP Circuit</td>
</tr>
<tr>
<td>Customer Supplied Power Switch</td>
<td>3R, FUSED, SAFETY DISCONNECT SWITCH</td>
</tr>
<tr>
<td>Motor Type</td>
<td>115-230 VAC, WATER FILLED, WATER LUBRICATED</td>
</tr>
<tr>
<td>RPM</td>
<td>1200</td>
</tr>
<tr>
<td>Nominal Power Draw</td>
<td>0.345 KVA (345 WATTS)</td>
</tr>
<tr>
<td>Impeller Specifications</td>
<td>316 STAINLESS STEEL</td>
</tr>
<tr>
<td>Footprint</td>
<td>4' 10&quot; [1.5 M] x 6' 0&quot; [1.8 M]</td>
</tr>
<tr>
<td>Height</td>
<td>2' 6&quot; [76.2 CM]</td>
</tr>
<tr>
<td>Weight: Mixer Assembly</td>
<td>72.5 LBS [32.9 KG]</td>
</tr>
<tr>
<td>Weight: Control Center</td>
<td>29.5 LBS [13.4 KG]</td>
</tr>
<tr>
<td>Material: Control Center</td>
<td>POWDER-COATED CARBON STEEL, 3R ENCLOSURE</td>
</tr>
<tr>
<td>Material: Stand</td>
<td>316 STAINLESS STEEL</td>
</tr>
<tr>
<td>Material: Motor Seals</td>
<td>CHLORINE/CHLORAMINE-RESISTANT NBR RUBBER</td>
</tr>
<tr>
<td>Material: Feet</td>
<td>CHLORINE/CHLORAMINE-RESISTANT EPDM RUBBER</td>
</tr>
<tr>
<td>Wiring</td>
<td>NSF 61 &amp; UL-LISTED SUBMERSIBLE PUMP CABLE 14 AWG (2.1 MM2) XLPE</td>
</tr>
</tbody>
</table>
**TRM MONITOR DESCRIPTION**

- The Pax TRM monitor is designed to continuously monitor Pax TRM equipment and analyze its status.
- A maximum of 16 A-20mA signals can be monitored.
- A normal range for the value of each parameter being monitored is factory configured for each system.
- An alarm is triggered when a parameter value falls outside the normal range.
- The list of the active alarms as well as their timing is accessible via the HMI.
- The data is logged both locally and on an optional remote server.
- When a fault occurs, the local HMI display and exterior mounted fault light will notify the operator of the alarm condition, and an alarm will be broadcast via either SCADA or SMS message.
- Once the alarm condition has been cleared, another SMS or SCADA signal is broadcast to notify the user the fault has been corrected.
- The TRM monitor uses an HMI for a direct on-site access to the TRM monitor. The HMI is used by the operator to retrieve alarms, and configure the TRM system.
- The TRM monitor settings are pre-configured before shipping and normally don't require any intervention by the user.
- In case of a need for maintenance, the HMI provides easy access for the service specialist to re-configure the system.
- The status of the equipment is continuously logged and analyzed by the TRM Monitor. Statistical calculations are performed and broadcasted to an optional remote secure server where the information can be accessed and analyzed - typically every 4 hours (when system is equipped with optional remote monitoring hardware).
- Local archiving of the equipment status is also logged every 30 sec in a 50 card mounted on the back of the HMI display.
- 1 phone numbers can be programmed (via the HMI) to receive the message.

**TRM MONITOR SCHEMATIC**

- SCADA OUTPUT
- RUN OFF FAULT

**HMI SCREENS**

- TRM Dashboard
- TRM Monitor

**DIMENSIONS:**

- Width: 19.69 in
- Height: 15.75 in
- Depth: 7.50 in