



# CITY OF TAMPA

Bob Buckhorn, Mayor

CONTRACT ADMINISTRATION DEPARTMENT

David L. Vaughn, AIA, Director

## ADDENDUM NO. 2

DATE: October 11, 2013

Contract 13-C-00019; Howard F. Curren AWTP Screen and Grit Building No. 1 Bar Screen Replacement

Bidders on the above referenced project are hereby notified that the following addendum is made to the Contract Documents. BIDS TO BE SUBMITTED SHALL CONFORM TO THIS NOTICE.

- Item 1: Page I-1a, Instructions to Bidders – Section I-1.05 – Revise Time for Completion to 480 calendar days.
- Item 2: Replace Proposal page P-3 with the attached page P-3R.
- Item 3: Add the following language to the Specific Provisions Section.

### SP-134 – Project Construction Time

The installation of the screens requires the temporary shutdown of the Screen and Grit facility No. 1. This cannot occur during high flow periods. All of the plant flow will be diverted to the other Screen and Grit facility No. 2 to allow for installation of the equipment. The City will not allow construction to start prior to December 1st, 2014. Project will be awarded prior to this time and the completion time accounts for this delay in construction. During this period between award and construction, the contractor shall provide submittals for review and upon submittal approval, all equipment can be fabricated.

- Item 4: Add the attached Contract Items:

Contract Item 100 - Contingency  
Contract Item 200 - Lump Sum  
Contract Item 4800 - Concrete Restoration

- Item 5: Replace Technical Specifications with the attached Technical Specifications.
- Item 6: Replace Plan Sheets Nos. 7, 8, 11 and E-12 with the attached Plan Sheets 7, 8, 11 and E-12.
- Item 7: Attached for reference is the pre-bid meeting sign-in sheet.

All other provisions of the Contract Documents and Specifications not in conflict with this Addendum shall remain in full force and effect. Questions are to be e-mailed to Contract Administration@tampagov.net.

*Jim Greiner*

Jim Greiner, P.E., Contract Management Supervisor

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Item No.	Description	Unit	Approx. Quantity	Unint Price In Words	Unit Price	Unit Price	Total Computed Price
100	Contingency	L.S.	1	Sixty Thousand Dollars and No Cents	\$	60,000.00	\$ 60,000.00
200	Furnish all labor, materials and equipment to remove and dispose of (3) automated bar screens, (3) sluice gates, and conveyor system as specified on the construction plans. Installation of (3) new center flow type screens, (3) sluice gates, (3) compactor/washers and conveyor sluice. Other associated work includes extending a 4" effluent water pipe, removal of access platforms, removal/disposal of plant air piping, removal and disposal of debris from the channel, stop log restoration; installation of new stainless steel platform, bubbler systems, water piping, valves, flow meter, painting, electrical and controls.	L.S.	1		\$		\$
4800.1	Concrete Floor Restoration (as specified in plans)	S.F.	1,600		\$		\$
4800.2	Concrete Channel Restoration Coating (80 mils Sikagard 75 and 25 Mils Sikagard 62 or approved equal)	S.F.	1300		\$		\$
4800.3	Concrete Channel Restoration , up to 1" thick	S.F.	1,000		\$		\$
4800.4	Concrete Restoration, greater than 1" to 3" thick	S.F.	200		\$		\$
4800.5	Concrete Channel Restoration, greater than 3" to 5" with doweling rebar as specified in plans	S.F.	100		\$		\$
4800.6	Transition Strip Overlay Coating	S.F.	150		\$		\$
						TOTAL	

CONTRACT ITEM 100 - CONTINGENCY

Contingency funds shall be disbursed at the discretion of the Engineer. No contingency funds shall be disbursed if there are no contingent items.

CONTRACT ITEM 200 – LUMP SUM

Furnish all labor, materials and equipment to remove and dispose (3) automated bar screens, (3) sluice gates, and conveyor system as specified on the construction plans. Installation of (3) new center flow type screens, (3) sluice gates, (3) compactor/washers and conveyor sluice. Other associated work includes extending a 4" effluent water pipe, removal of access platforms, removal/disposal of plant air piping, removal and disposal of debris from the channel, stop log restoration; installation of new stainless steel platform, bubbler systems, water piping, valves, flow meter, painting, electrical and controls.

Payment for Lump Sum Work will be made at the appropriate Contract Lump Sum Price.

CONTRACT ITEM 4800 SERIES – CONCRETE RESTORATION

The Contractor shall furnish all labor, materials and equipment to rehabilitate the existing structures complete as shown on the Plans, specified, and directed by the Engineer.

The concrete restoration shall conform to the requirements shown on the drawings (Sheet 3) and Workmanship and Materials section 9400 of the specifications. All work shall be done in strict accordance with manufacturer's instructions.

The work comprises installing an approved concrete repair material and protective coating system as specified including surface preparation, cleaning, application of hydraulic cement or other means to fill voids and stop infiltration, curing, pressure washing and visually inspecting finished liner; removal of T-lock liner, protection of adjacent facilities, restoring all disturbed areas to preconstruction condition or better, and all appurtenant work.

Payment for the proposed concrete floor restoration as specified on the plans, will be made at the Contract Unit Price per square foot.

Payment for the proposed epoxy coating system for the channel floors, walls, ceilings, and stop log grooves will be made at the Contract Unit Price of per square foot.

Concrete Restoration will be categorized based on the depth of the repair. Only one pay item shall be used per repair. Concrete Restoration pay items shall not be compounded.

Payment for the Concrete Restoration up to 1" thick will be made at the Contract Unit Price of per square foot.

Payment for the Concrete Restoration 1" to 3" thick will be made at the Contract Unit Price of per square foot.

Payment for the Concrete Restoration greater than 3" thick including doweling rebar in structurally sound substrate as specified on the plans will be made at the Contract Unit Price of per square foot.

Payment for the transition strip overlay coating between good PVC t-lock liner and the proposed final coat epoxy system will be made at the Contract Unit Price of per square foot.

## **TECHNICAL SPECIFICATIONS**

### **Part 1 GENERAL**

**1.1 SCOPE** – Supply all labor, materials, equipment and incidentals required to install and place into operation the fine screening system as shown on the Drawings and as specified herein.

**1.2 REFERENCE STANDARDS** – The properties of all materials, design, fabrication and performance of the equipment to be furnished under this section shall be in accordance with the latest issue of applicable standard specifications. The governing authorities of these standards are listed below.

- A. AISC, American Institute of Steel Construction
- B. AISI American Iron and Steel Institute
- C. ANSI, American National Standards Institute
- D. ASCE, American Society of Civil Engineers
- E. ASME, American Society of Mechanical Engineers
- F. ASTM, American Society of Testing and Materials
- G. AWS, American Welding Society
- H. IBC, International Building Code
- I. IEC, International Electric Code
- J. IEEE, Institute of Electrical and Electronics Engineers
- K. NEC, National Electrical Code
- L. NEMA, National Electrical Manufacturers Association
- M. Underwriters Laboratory (UL and cUL)

**1.3 SUBMITTALS** - Submittals shall be provided to the engineer that includes all the following information:

- A. Certified shop drawings showing all important details of construction, dimensions and anchor bolt locations.
- B. Descriptive product literature.
- C. Schematic electrical wiring diagram and electrical controls information.
- D. Complete motor and drive data.
- E. The total weight of the equipment.
- F. A complete bill of materials of all equipment.
- G. A certificate from an industry recognized, independent testing facility verifying compliance with Screening Capture Ratio requirement.
- H. All as built drawings for record and design calculations must be stamped by a certified PE in the State of Florida.

### **1.4 QUALIFICATIONS**

- A. All the equipment specified under this Section shall be supplied by a single manufacturer involved in the manufacture of fine screening equipment. Qualified manufacturers shall

have a minimum of ten (10) years' experience with wastewater screening systems, including center flow band screens and washing compactors, for consideration.

- B. If equipment is not manufactured by supplier, including welding and machining, the name and contact information of manufacturing facility must be supplied. If more than one manufacturer is used all companies and facilities must be provided.
- C. If patents protecting equipment are not owned by supplier then affidavit must be supplied stating owner of design and expiration of licensing agreement.
- D. Any manufacturer proposing equipment described herein, prior to the submittal, must conduct independent testing of actual wastewater flow onsite. The testing shall simulate the proposed screen's operation within the channel and shall be capable of measuring screens solids capture, blinding and grid velocity based on the specified opening size and grid type. A minimum of 10 separate tests must be performed with a minimum of 2,000 gallons of plant wastewater tested at multiple points in the water column to ensure accuracy. Testing shall be conducted by a manufacturer employed factory technician, not a third party representative. An electronic copy of the results shall be provided to the Engineer.

## **1.5 DESIGN REQUIREMENTS**

### **A. System Description**

- 1. The fine screen will have a continuous stainless steel belt that automatically rotates within the internal guide system of the static frame.
- 2. The fine screen herein specified will be of the center flow type. The flow enters the inside of the continuous belt and exits through both sides and the bottom of the belt.
- 3. The screen shall have undergone performance testing by an industry recognized, independent testing facility. The results of this testing shall verify a Screening Capture Ratio of at least 84% for solids equal to or larger than the screen grid opening listed in System Performance below.
- 4. The screen will be installed into the channel as shown on the contract drawings to accommodate the flow pattern through the screen belt. Screen must be centered under electric hoist.
- 5. The solids will collect as a mat on the inside of the continuous belt. The belt will intermittently rotate and elevate the solids to the discharge point. Larger objects will be picked up by a series of hooks and trays placed at regular intervals.
- 6. The solids will be removed at the top of the screen by a minimum of two spray bar headers positioned on the outside of the belt. The screenings will drop into an internal hopper.
- 7. The continuous belt will be directly driven by drive sprockets that shall support and rotate the grid assembly.

8. The screens must be designed to withstand startup and run under a static differential head of 6 feet as listed in 1.5 B of this specification. The manufacturer will be required to provide calculations, stamped by a certified PE in FL, with the submittal that establish that each screen frame, frame anchorage and grid design is adequately designed to prevent undue stress and deflection and that the drive system will support the rotation of the grid at this condition. All stresses will be under material's yield stress at all conditions with appropriate safety factors designed by certified engineering calculations.
  9. The screen will be totally enclosed and have access covers that will be lightweight and easily removable for maintenance. The lowest point of all maintenance, inspection, access and lubrication points shall be no higher than **105** inches above grade level. If any points are higher than this level manufacturer shall include permanent steps, grating and railing attached to screen frame to limit operator reach to this height.
  10. The Washing Compactor will be positioned next to the screening channels and will be fed by a sluice system.
  11. The Washing Compactor will be adequately sized to handle all the screenings and wash water that will be generated by the screen at peak flow. The system will be required to wash the screenings to reduce the organic content and compact the remaining solids into a dry plug.
  12. The Washing Compactor will generally comprise of a screw auger rotating within the washing and drainage trough, a wash water system, a compaction zone and an outlet chute arrangement.
  13. All stainless steel (including frame, grid, drive components and hardware) mentioned below as stainless steel shall be T316 or T316L stainless steel. All hardware shall be T316 or T316L stainless steel.
- B. System Performance – The fine screening system will be designed to meet the following design parameters:
1. Number of screens 3
  2. Peak flow to plant 140 MGD
  3. Peak flow per screen 55 MGD
  4. Screen grid opening 6 mm
  5. Head loss at peak flow 12 inches @ 50% blinding
  6. Channel width 90 inches
  7. Channel depth 126 inches
  8. Maximum operational head loss 6 feet
  9. Screen discharge height above top channel 75 inches
  10. Number of Washing Compactors 3
  11. Diameter of screw 12 inches
  12. Diameter of shaft 3.5 inches
  13. Compactor discharge height above grade 120 inches
  14. System wash water requirements **268 GPM @ 60 PSI**

## **Part 2 PRODUCTS**

### **2.1 MANUFACTURER**

- A. The equipment shall be the Hydro-Flo Screen and Washing Compactor as provided by Hydro-Dyne Engineering, Inc., Oldsmar, FL. All manufacturers proposing equipment described herein, will provide a detailed submittal package, which will consist, at a minimum, of all information and details prescribed in section 1.3 of this specification. .
- B. If submitted equipment requires arrangement differing from that specified, prepare and submit for review complete structural, mechanical, and electrical drawings and equipment lists showing all necessary changes and embodying all special features of equipment proposed. Any changes are at no additional compensation and the Manufacturer will be responsible for all engineering costs of redesign by the Engineer, if necessary.

### **2.2 THE CENTER FLOW FINE SCREEN**

- A. Perforated Plate - The Continuous Screening Belt
  - 1. The screenings belt will consist of panels manufactured from 3/8" thick UHMWPE with perforations of the specified opening.
  - 2. The perforated panels will be supported by 12 gauge stainless steel vertical mounted lifting hooks horizontally spaced a maximum of 3 inches apart preventing deflection. The lifting hooks shall support the screening grid and bear tension loads across the entire length and width of the screen belt.
  - 3. The hooks on elements shall form horizontal lifting trays or shelves for removing large solids and rags every 8 inches around the entire screen grid.
  - 4. The lifting trays will span the grid every 24 inches around the screen belt. Intermittent lifting trays will incorporate a heavy duty shelf. The lifting shelf shall be capable of lifting a minimum of a 7 inch diameter solid.
  - 5. The perforated panels will be connected by heavy duty stainless steel axles every 8 inches to form a continuous belt that will rotate within the frame's guide system. The axle design will allow the plates to pivot and create a seal between the perforated panels to prevent the passage of solids. Axles shall be a minimum 7/8" diameter.
  - 6. The axles will include machined Delrin spacers that will maintain the 3 inch space between the vertical support elements. Delrin spacers will also form a seal between each perforated panel with clearance not to exceed 0.5mm.
  - 7. The axles will be extended to fix a UHMWPE guide link to the side of each perforated plate. These guides will interlock to create a continuous guide link system that will slide within the frame.

8. The heavy duty guide links will be minimum 2 inches thick to protect against undue wear from grit and will be specially machined to form a closure seal between the rotating belt and the static frame.
9. The seal shall be continuous from grade level through the water flow forming an uninterrupted closure between the traveling screen grid and the stationary frame. The seal shall be heavy gauge stainless steel, fixed to the screen frame and be adjustable so it will remain in contact with the rotating screen belt at all times. There shall be no gap in the grid to frame seal larger than 0.5mm.
10. Guide systems that use rollers, stainless or hardened steel chains will not be acceptable.
11. Grid panel sealing systems that use neoprene seals or stainless steel hinges will not be acceptable.
12. Grid to frame sealing systems that use adjustable UHMWPE strips attached to the frame will not be acceptable.

#### B. The Frame

1. The continuous belt will rotate within a heavy duty stainless steel static support frame that shall be a rectangular box construction.
2. The guide link system will travel around a stainless steel guide wear track that is integral to the support frame. Top and bottom wear tracks shall be bolt in and field replaceable.
3. There shall be a removable inspection panel located directly beneath the drive allowing easy access to the grid drive sprockets, drive shaft and screenings collection hopper.
4. The design will ensure that the support frame meshes with the closure seal on each guide link to prevent passage of screening material and grit particles.
5. The frame shall accommodate stainless steel protective covers designed to prevent leakage and contain spray wash. All access covers for maintenance will be lightweight and easily removable. Screens with covers requiring neoprene, rubber or plastic seals are not acceptable.
6. The screen manufacturer will supply the stainless steel angled filler plates to connect from the upstream corners of the support frame to the channel walls.
7. The filler plates and screen back-plate will terminate 6" above the high water level. The remaining space from the top of the plates to 6" from the operating floor will incorporate a stainless steel bar rack with 3" spacing to prevent large solids from passing downstream in the event of an overflow.
8. The back-plate of the screen shall be furnished with a bypass gate that will allow manual removal for complete flow by-pass.

### C. The Offloading of Screenings

1. A minimum of two stainless steel spray wash headers will be located in the head space of the screen to offload the screenings from the continuous belt.
2. The spray bars will incorporate brass nozzles at 2 inch spacing that can easily be replaced or removed for cleaning.
3. The spray bars will be positioned behind the rotating belt and will backwash the solids into an internal hopper manufactured from stainless steel. The wash water will be used to continuously flush the screenings from the internal hopper into the extended sluice.
4. The spray bars will have a quick release mechanism allowing them to be quickly removed and changed out for maintenance. Spray bars that bolt in place or that require tools for removal will not be acceptable.
5. The addition of a rotating or static brush system to aid offloading will not be acceptable.

### D. The Drive Mechanism

1. Each screen will have a single 1 hp minimum, continuous duty electric geared motor suitable for use on a 460/3/60 supply, and in a Class I, Division 1, Group D environment. The motor will be TEFC NEMA rated. The motor will be located outside of the screen covers and above the top of the channel.
2. Motors shall be as specified in section W-47.
3. The gear reducer shall be directly coupled to a heavy duty shaft machined from solid stainless steel round bar.
4. The drive shaft shall be supported on both ends by grease filled roller bearings. Separate grease-filled self-contained cartridge seals shall be mounted on drive shaft between bearings and frame to eliminate spray wash from entering bearings or gear reducer.
5. The continuous belt will be supported and rotated around heavy duty stainless steel sprockets located on the drive shaft in the head space of the screen.
6. These sprockets will have lugs that transmit torque directly from the gear reducer to notches on the underside of the UHMWPE guide links. Driving forces shall be transmitted to areas located behind the screen's grid to prevent solids from contacting drive surfaces.
7. Chain driven systems or screens with wheels submerged in the waste water are not acceptable.

### E. Parabolic Proportional Weir

1. The screen manufacturer shall supply a parabolic proportional weir that will be installed by the contractor downstream of the screen.

2. The weir will be designed to maintain a downstream water depth that will increase screen performance during periods of high flow.
3. The weir will be manufactured of T316 stainless steel and shall be anchored to the sides of the channel with no horizontal support across the channel to prevent the accumulation of solids.
4. There will be an opening between the bottom of the weir and the channel floor to allow for grit bypass.
5. Weir shall allow for 2” incremental height adjustment and shall have the capability to be safely removed during live flow conditions.

## 2.3 THE WASHING COMPACTOR

### A. The Screenings Transfer Sluice

1. The screenings sluice will collect screenings and wash water from the discharge hopper of the screen and transfer them by gravity directly into the Washing Compactors washing trough. Mechanically driven conveyors are not acceptable.
2. The sluice will be manufactured from stainless steel. It shall comprise of U-shaped lengths of trough that will be (flange connected/welded) to the desired overall length.
3. A change in direction will be achieved using long swept bends that will prevent blockages from occurring.
4. The Manufacturer will design and supply the support leg structure manufactured from stainless steel. The legs will be suitable for fixing to a concrete floor.
5. Covers will be a lightweight, no more than 6 feet long and easily removed by a single operator.
6. **The Contractor will supply a motorized valve to provide supplementary transport water to the sluice at each bend.** The contractor will connect to a local plant water supply. The water supply will provide supplementary transport water.

### B. The Washing Compactor

1. The main body will be the washing trough that will receive screenings and wash water directly from the end of the screenings transfer sluice.
2. The connection between the sluice discharge and Washing Compactor will be a flexible coupling and the compactor base will incorporate locking wheels to allow compactors to be easily removed.
3. The washing trough will house the screw auger and provide a dedicated section to reduce organic content. It will comprise of angled side walls manufactured from 10

gauge stainless steel that will direct the screenings on to the screw auger, and a drainage section in which the screw auger will ride.

4. The drainage section will be manufactured from stainless steel that has been machined with 5mm slots. The slots will be perpendicular to the direction of the screw so that the shearing action will prevent material collecting in the slots. The screw will not require stiff nylon brushes to keep the section clean.
5. The underside of the washing trough will be a catch pan that will collect the contaminated water that passes through the drainage section. The catch pan will feed a 6 inch diameter outlet connection. The Main Contractor will connect the pipe to take the water back to the main flow.
6. **The catch pan will include a wash water supply to purge the area of accumulated solids. A single spray nozzle will direct water across the length of the pan toward the outlet. The drain pan purge will run when the compactor runs.**
7. The screw auger will sit in the washing trough. Washing compactors with shaft less screws are not acceptable as shaft is required to support flight and provide necessary torque and compaction.
8. The auger will be a full pitch screw supported at the compaction end by minimum 7.5" wide UHMWPE Flight Support Bearing that creates a supporting collar around the screw flight. Each bearing ring will be designed to rotate through 180 degrees to provide a second wear surface below the screw. Each wear surface shall be fitted with a set screw that can be removed for inspection. The operator will be able to inspect and rotate the bearing by removing the outside cover without disassembling the equipment.
9. The end of the screw shall be reinforced with a triangular shaped stainless steel gusset welded behind the final screw flight to provide protection in this high wear/high torque area and to assist in compression of the screenings.
10. The screw will rotate creating sufficient agitation to break down the organic material and separate it from the non-organic screenings.
11. The wash water system will flush the separated organic material through the drainage basket in solution or as small particles.
12. A portion of the washing water will enter the washing trough with the screenings. This will be supplemented by spray nozzles that will direct water on to the screenings prior to compaction. The nozzles will be recessed into the side wall of the washing trough to protect from ragging and blockage.
13. The screw will transfer the washed screenings into the compaction zone. This will be a section of stainless steel pipe followed by the UHMWPE flight support bearing. The total length of this section will at a minimum equal two full pitches of the screw flight.
14. The compacted screenings will be pushed through the compaction zone and pass through an orifice plate into the outlet chute. The outlet chute will be tapered at 1

degree along the full length and will elevate the dewatered screenings to discharge by gravity into the dumpster.

C. The Drive Mechanism

1. Each Washing Compactor will have a single 5 hp, continuous duty electric geared motor suitable for use on a 460/3/60 supply, and in a Class I, Division 1, Group D environment. The motor will be TEFC NEMA rated.
2. Motors shall be as specified in section W-47.
3. There shall be the ability to change the height of the screw within the washing trough by using adjustment bolts on the gearbox plate. This will prevent excess wear of the screw flights and trough.

**2.4 THE CONTROL PANEL**

A. General Information - The manufacturer will supply three (4) UL listed 508A stainless steel main control panels (3 screen and 1 shared Compactor) and five (6) local stations (3 screen and 2 compactor, 1 sluice flush) that shall automatically control the equipment offered in this section.

B. The Screen Main Control Panels – NEMA 4X – Each Screen control panel shall consist of the following components:

- 1 - Enclosure, NEMA 4X, T304 Stainless Steel
- 1 - Main Circuit Breaker Disconnect / door handle
- 1 - Variable Frequency Drive, Yaskawa V1000 series [Screens, 1HP]
- 1 – Precision Digital INC Dual Analog Input Process Meter
- 1 - Control power transformer, 480-120VAC
- 1 - Hour Meter
- 1 - Lot, Timers for automatic operation, as required
- 2 - Pushbuttons, NEMA 4X [E-Stop, Reset]
- 7 - Pilot lights, NEMA 4X, Transformer type [(1) Power, (1) Run, (1) Water Valve Open, (1) Screen Fault, (1) Spray Wash Fail, (1) High Level Alarm, (1) Compactor Auto Mode Fail]

- 1 - Heater w/ thermostat
- 1 - Lot, Control relays, socket type
- 1 - Lot, Terminal blocks
- 1 - Lot, Remote contacts [(1) Power, (1) Run, (1) Screen Fault, (1) Spray Wash Fail, (1) Upstream High Water Warning, (1) Downstream Low Water Warning, Upstream High Level Alarm]

C. The Shared Compactor Main Control Panel – NEMA 4X – Each Compactor control panel shall consist of the following components:

- 1 - Enclosure, NEMA 4X, 304 Stainless Steel
- 1 - Main Disconnect / door handle
- 2 - Motor starter, Non-Reversing, w/ overload [Compactor, 5HP]

- 2 - Current monitors [Compactors]
- 1 - Control power transformer, 480-120VAC
- 2 - Hour Meter
- 2 - Pushbuttons, NEMA 4X [E-Stop, Reset]
- 11 - Pilot lights, NEMA 4X, Transformer type
  - [(1) Power, (2) Comp. Run, (2) Comp. Fault, (2) Wash Valve Open, (2) Wash Valve Fault, (1) Sluice Wash Valve Open, (1) Sluice Wash Valve Fault]
- 1 - Heater w/ thermostat
- 1 - Lot, Control relays, socket type
- 1 - Lot, Terminal blocks
- 1 - Lot, Remote contacts [(1) Control Power, (2) Run, (2) Fault, (2) Low Load, (2) High Load, (2) Screen Interlock]

D. The Screen and Compactor Local Control Stations – NEMA 7 - Each local control station (total of four (5)) shall consist of the following components:

- 1 - Enclosure, 3-Hole, NEMA 7
- 1 - Stop-Start Jog Switch, NEMA 7
- 1 - Pushbutton, NEMA 7 [E-Stop]
- 1 - Selector switch, NEMA 7 [H/O/A]

E. The Sluice Flush Local Control Station – NEMA 7 - Each local control station (total of one (1)) shall consist of the following components:

- 1 - Enclosure, 1-Hole, NEMA 7
- 1 - Selector switch, NEMA 7 [H/O/A]

## **2.5 SURFACE PREPARATION AND PAINTING**

- A. All stainless steel materials, including hardware, shall be acid passivated for quality control, removal of heat affected discoloration, surface treatment for corrosive environments and to provide a uniform finish to stainless surfaces.
- B. All ferrous surfaces (except stainless steel) shall be coated with a pre-primer, primer, and an exterior top coating, or fusion bonded polyester coating suitable for humid/wet environments for superior corrosion protection.
- C. Motor and gearbox shall be manufacturer's standard coating for humid/wet environments for superior corrosion protection.

**2.6 SPARE PARTS** – The manufacturer will supply the following spare parts, per screen and compactor supplied, with the equipment:

- A. Ten (10) hook links and elements spacers
- B. Two (2) grid axles
- C. Two (2) guide links
- D. Two (2) screen panels
- E. One (1) center support link
- F. One (1) drainage basket for compactor

- G. One (1) set UHMWPE flight support bearings
- H. Two (2) spray bars with nozzles

**2.7 ACCESSORIES** – The manufacturer will supply the following accessories, with the equipment:

- A. Necessary anchor bolts for mounting
- B. **Four (4)** 2” wash water strainers

### **Part 3 EXECUTION**

**3.1 WARRANTY** – The Manufacturer of the equipment supplied under this specification shall provide a warranty for a period of twelve months commencing on acceptance and/or beneficial occupancy by the Owner but no later than 90 days from the date of shipment by the Manufacturer. The Manufacturer shall guarantee that the equipment furnished is suitable for the purpose intended and free from defects in design, materials and workmanship. In the event that the equipment fails to perform as specified the Manufacturer shall, at his option, promptly repair, modify or replace the defective equipment.

- A. Throughout the warranty period the manufacturer must provide onsite support for the equipment. In the event of an emergency, manufacturer must be capable of having a factory employed service technician on site within 24 hours of notification of an equipment failure.
- B. The manufacturer will provide a factory employed service technician to periodically visit the installation after owner’s acceptance to inspect the equipment for proper operation, maintenance and provide follow up training to plant personnel. This service will be provided at a minimum of four (4) trips per year over the course of the warranty period.

### **3.2 FACTORY TESTING**

- A. The screening system and all components shall be factory assembled and tested for a minimum of 24 hours prior to shipment. The equipment shall be shipped fully assembled and shall be capable of being set in place and field erected by the Contractor with minimal field assembly.
- B. During the factory test period the screening system shall be adjusted as required assuring proper operation on completion of the field installation. The Manufacturer shall supply a certification of the completion of the factory testing of the assembled screening system and appurtenances and shall certify as to the equipment being in satisfactory operating condition at time of shipment. The Engineer and/or Owner may, at their own option and expense, witness the factory test.

### **3.3 DELIVERY AND STORAGE**

- A. The screening system shall be appropriately crated and delivered to protect against damage during shipment.

- B. An authorized representative of the Contractor shall inspect the screens on delivery to the jobsite and shall report any damage or missing components to the Manufacturer and the Engineer within 72 hours of receipt of the shipment.

**3.4 INSTALLATION** - The installation of the equipment shall be as indicated on the drawings and in strict accordance with the Manufacturer's instructions and recommendations.

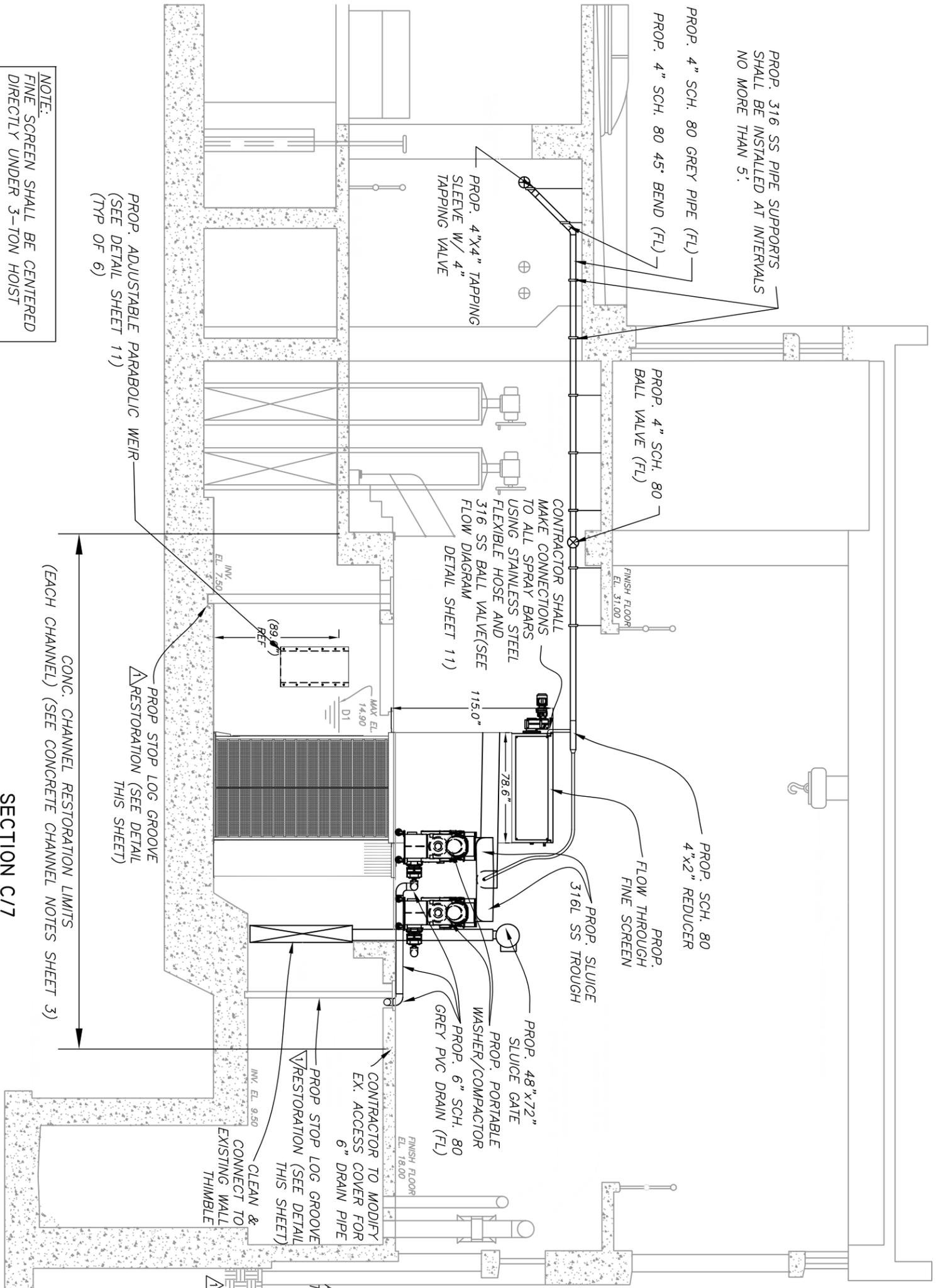
- A. A Manufacturer employed service technician will be on site for supervising the installation of the equipment by the contractor. The responsibilities of the factory technician will be as follows.
  - 1. Approving lifting points and spreader bar usage.
  - 2. Checking bolt torques and fit-ups.
  - 3. Signing off on all quality control documentation certifying that the following have been checked and completed properly.
    - a. Mounting of screen
    - b. Plumbing and electrical hookups
    - c. Screen to sluice and sluice to compactor connections
    - d. Placement of filler plates
- B. The Contractor shall include in his bid, the cost of the above referenced service representative for a minimum of two (2) trips at six (6) eight hour days onsite to complete the installation supervision and assistance.

**3.5 FIELD TESTS, ADJUSTMENTS AND COMMISSIONING**

- A. After completion of the installation, the equipment shall be inspected and certified by a factory employed service technician of the Manufacturer as being in compliance with the Manufacturer's recommendations and requirements. At such time as the Manufacturer has deemed the installation to be acceptable, the Manufacturer's authorized service representative shall make any required adjustments and shall start the equipment to assure proper operation.
- B. The Manufacturer's authorized representative shall provide instruction to the plant personnel as to the operation and maintenance of the equipment including commissioning, shut down, on-line operations, lubrication and preventative maintenance.
- C. The Contractor shall include in his bid, the cost of the above referenced service representative for a minimum of one (1) trip at three (3) eight hour days onsite to complete the equipment startup certifications described in this section.
- D. The Contractor shall include in his bid, the cost of the above referenced service technician for a minimum of one (1) trip at one (1) eight hour day onsite to complete the training of plant personnel.

**End of Section**



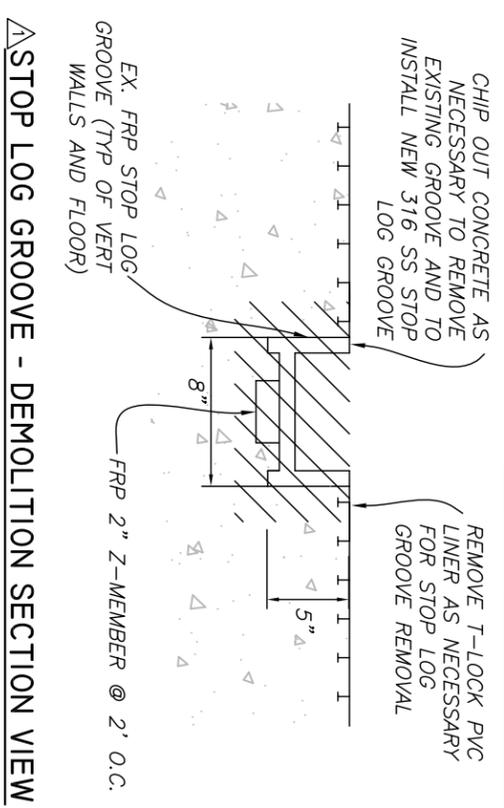


PROP. 316 SS PIPE SUPPORTS SHALL BE INSTALLED AT INTERVALS NO MORE THAN 5'.  
 PROP. 4" SCH. 80 GREY PIPE (FL)  
 PROP. 4" SCH. 80 45° BEND (FL)

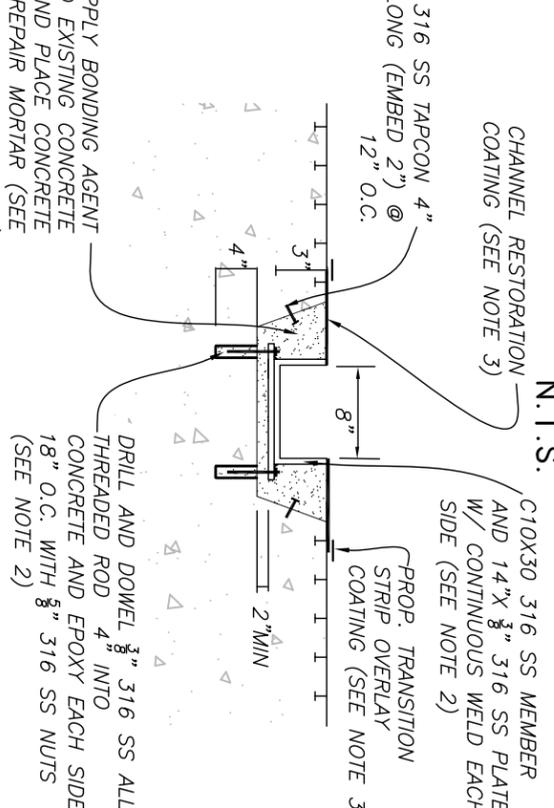
PROP. ADJUSTABLE PARABOLIC WEIR (SEE DETAIL SHEET 11) (TYP OF 6)

CONC. CHANNEL RESTORATION LIMITS (EACH CHANNEL) (SEE CONCRETE CHANNEL NOTES SHEET 3)

SECTION C/7  
 SCALE: 1/8" = 1'-0"



STOP LOG GROOVE - DEMOLITION SECTION VIEW  
 N.T.S.



STOP LOG GROOVE - INSTALLATION SECTION VIEW  
 N.T.S.

- NOTES:
1. THERE ARE A TOTAL OF 6 STOP LOG GROOVES TO BE RESTORED. THE RESTORATION INCLUDES THE WALLS AND FLOOR
  2. COST FOR THE STOP LOG GROOVE RESTORATION INCLUDING REPAIR MORTAR, SHALL BE INCLUDED IN THE PROJECT'S LUMP SUM BID ITEM
  3. PAYMENT FOR CHANNEL RESTORATION AND STRIP OVERLAY COATINGS WILL BE BASED ON APPROPRIATE UNIT COST
  4. THE FLOOR IS NOT T-LOCK LINED AND DO NOT REQUIRE COATINGS

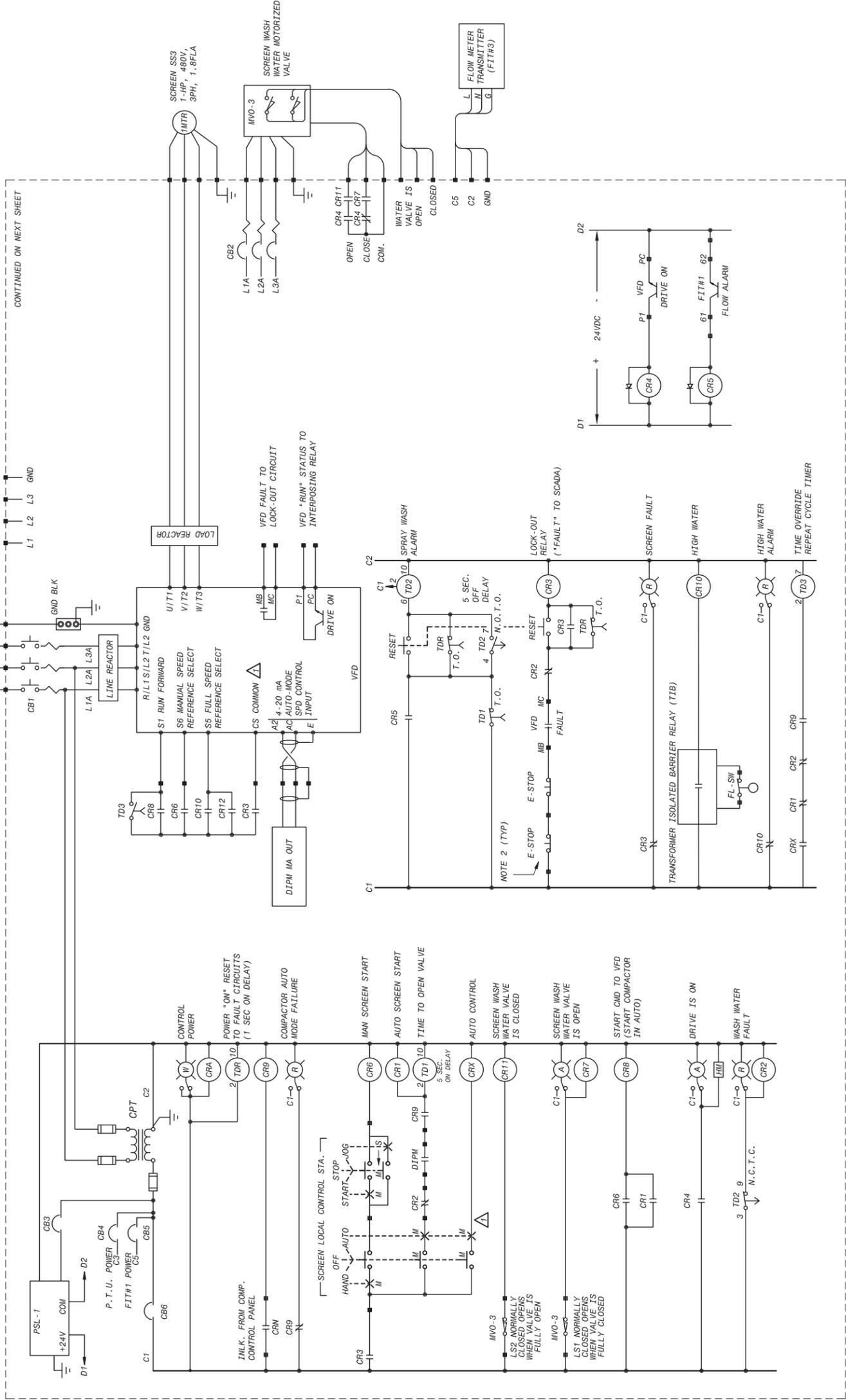
REVISIONS	
No.	DATE
3	
2	10-4-13
1	

DES: RJ  
 DRN: MS  
 CKD:  
 DATE:

CITY of TAMPA  
 WASTEWATER DEPARTMENT

HFCAWTP SCREEN AND GRIT  
 BLDG. NO. 1 BAR SCREEN REPLACEMENT  
 PROPOSED SECTION C/7  
 W.O. 5907  
 SHEET 8  
 OF 11





PARTIAL SCREEN SS3 MAIN CONTROL PANEL  
(SIMILAR FOR SCREEN SS4 & SS5 CONTROL PANELS)

NOTES:

- SEE DRAWING E1 FOR ELECTRICAL LEGEND & ABBREVIATIONS AND GENERAL REQUIREMENTS.
- ALL E-STOP PUSHBUTTONS SHALL BE FURNISHED WITH S/S PADLOCK ATTACHMENT

REVISIONS

No.	DATE
3	
2	
1	10/2/13

ADDENDUM 2

RICHARD D TAYLOR  
NO. 33376

DES: LP  
DRN: EMB  
CKD: RDT  
DATE: 8/23/2013

CITY of TAMPA  
WASTEWATER DEPARTMENT

HOWARD F. CURRENT A.W.T.P. SCREEN AND GRIT BLDG. No.1 BAR SCREEN REPLACEMENT SCREEN CONTROL PANEL LAYOUT & SCHEMATICS

W.O. 5907  
SHEET  
E12  
of

13-C-00019; AWTP Screen and Grit Bldg. No.1 Bar Screen Replacement - PreBid Meeting 9:00

E-Mail to Register as a Bidder and E-Mail All Questions to: ContractAdministration@tampagov.net

Sign-In Sheet  Please Print

City of Tampa, Contract Administration Department

	Name	Organization	E-Mail OR Phone
1	Jody Gray	Tampa Contract Administration Dept.	jody.gray@tampagov.net 813-
2	Aimee Keathley	RTD CONSTRUCTION	bids@rtdconstruction.com / 783-9119
3	Helia Yazdian	Wharton-Smith, Inc.	estimatingtampa@whartonsmith.com
4	MIKE NAGY	WHARTON-Smith	mnagy@whartonsmith.com
5	PAUL JACOBS	TSC-JACOBS/HydroPac	paul@tscjacobs.com
6	Austin Moore	Hydro-Dyne Eng.	Austin.Moore@hydro-dyne.com
7	George Schaefer	CAD COT	813 918 7418
8	Mike Maloy	CAD COT	813-949-2024
9	Greg Doan	TLC Diversified	941-722-0621
10	Rick Morriss	COT/CAD	813-630-3912
11	Jin Townsend	Townsend Constructors	727-298-8077 JTOWN919@AOL.COM
12	Richard Taylor	Black & Veatch	813-207-7945 taylarrd@br.com
13	JACK FERRAS	COT - WASTEWATER	813-274-8095
14	Michael Salgado	COT - Wastewater	813-274-7866
15	John Babuka	Reliable Electric	John@reliableelectricusa.com 813-363-1941
16	Michael Stokes	Sawcross, Inc.	lorig@sawcross.com
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