

**P.C. Simonton & Associates, Inc.**  
**Consulting Engineers**

309 North Main Street  
Post Office Box 649  
Hinesville, Georgia 31310

1020 Founders Row  
Suite 118  
Greensboro, Georgia 30642

Addendum No. Two

Date: November 14, 2014

Project: Hinesville/Ft Stewart WWTP Modification  
For the City of Hinesville  
PCS No. 2009-63

Engineer: P.C. Simonton & Associates, Inc.  
Hinesville, Georgia

The original plans, specifications, and bid documents are amended to include the following:

Bid Documents:

- Advertisement for Bid & Instructions to Bidders: The bid date will be postponed to December 9, 2014, at 2:00 PM in the Hinesville City Hall third floor administration conference room. No questions will be accepted after 9:00 AM, November 20, 2014.
- The original Proposal form (pages P-1 through P-4) shall be replaced with the enclosed pages P-1 through P-5.
- Contract - The time of construction to have the plant operational and producing effluent to meet permit limits, defined as Substantial Completion, will be 500 days. Demolition and final stabilization, defined as Final Completion, must be completed in the following 120 days to make the total construction time being 620 days.
- Section 01001 General Requirements, Part 1 General, Section 1.11 Liquidated Damages, paragraph A – Add the following sentence at the end of the paragraph “In addition to the \$300.00 per day amount referenced earlier in this paragraph the contractor will be responsible for paying all fines or other expense that may result in the plant not meeting effluent limits because of incomplete construction or delays caused by the contractor.”
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Specifications:

- Section 08331 – Overhead Coiling Doors – Include the attached specification in the Bid Manual.

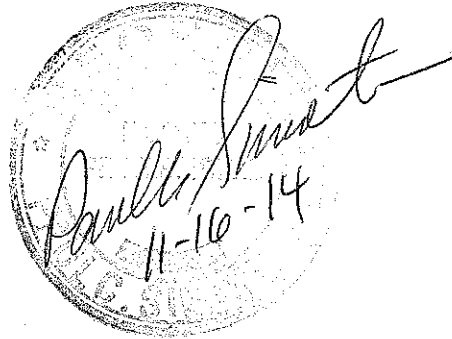
Hinesville, Georgia Phone: (912) 368-5212 Fax (912) 368-6071  
Greensboro, Georgia Phone: (706) 454-0870 Fax (706) 454-0871

- Section 13100 – Pre-engineered Metal Buildings – Include the attached specification in the Bid Manual.
- Section 15176 – Delete the current paragraph D and substitute the following.
  - The pneumatic system shall be controlled with Air Rite model 610HP air volume controller with level electrodes.
- Section 15280 – Chemical Feed System, Part 2, Section 2.02 Chemical Feed Controls,
  - Paragraph A – change the type of PLC to Siemens KT 400 basic HMI with Siemens S7-1200 CPU, and its location from the recirculation pump station to the individual skid inside the chemical feed room.
  - Paragraph B - Delete in its entirety
  - Paragraph C – Revise the paragraph to: The operator shall program the PLC to run the pumps for a preset time at a preset rate all adjustable by the operator.
  - Paragraph D, E & F – Delete all three in their entirety.
  - Section 2.03 Chemical Storage Tank
    - Paragraph A – Change the number of tanks from one to two.
- Section 15281 – Hydrogen Sulfide odor control System, Part 2, 2.02 Multi-Stage Odor Control System, B. Ductwork – Replace the entire section with the following.
  1. The scrubber blower connection duct shall be cylindrical having an inner diameter of 8-inches and shall be internally smooth and free from protrusions which might collect solid material. The grit slurry pipe shall be fabricated of machine filament wound, fiberglass reinforced thermosetting resin pipe conforming to ANSI/ASTM Specification D-2996 and classified according to ASTM D-2310.
  2. The piping shall use an isophthalic, corrosion resistant laminating resin; reinforced with glass fibers and a surfacing material of commercial grade chemical resistant glass having a coupling agent. The pipe shall have a 50 psig pressure rating. The piping shall have a minimum structural thickness of 0.375-inch. The piping shall include an abrasion resistant 20-mil internal liner. All piping shall be provided with an UV inhibiting gelcoat.
  3. All duct sections will include specific trim lengths for field installation based upon mandatory site field visits and sketches by manufacturer or representative.
  4. Ductwork connecting the scrubber and air volume source shall be fabricated from FRP, and be UV resistant.
  5. All duct sections will include specific trim lengths for field installation based upon mandatory site field visits and sketches by manufacturer or representative.
  6. Ductwork will connect to headworks at two points as shown on drawings
  7. 2 butterfly valves will be installed for air flow equalization.

Plans:

- Sheet C-7 -- The direction of the pipe leaving the blower bldg. should be relocated to the south side of the building as shown on Sheet M-17.
- Sheet C-18A -- Add the attached pipe support & hangar details to Sheet C-18A
- Sheet M-1 -- Replace the original Sheet M-1 with the enclosed Sheet M-1
- Sheet M-4 -- Modify Section 1 on Sheet M-4 to reflect the size of the support as shown on the attached detail.
- Sheet M-5 -- Replace the previous Sheet M-5 with the enclosed revised sheet M-5.
- Sheet M-6 -- Replace the previous Sheet M-6 with the enclosed Sheet M-6
- Sheet M-7 -- Section X-X, change "Slab Elev. = 62.25' " to "Slab Elev. = See Sheet M-1"
- Sheet M-17 -- Replace the SS air piping specification on Sheet M-17 with the enclosed specification.
- Sheet M-23 -- Delete Note 1
- Sheet R-4 -- The louvers shown on Sheet R-4 shall be "Architectural Louvers E2KS Storm Blade Louvers with insect screen".

-END-



PROPOSAL

City of Hinesville  
115 East M.L. King Jr. Dr.  
Hinesville, GA 31313

Submitted: \_\_\_\_\_, \_\_\_\_\_

The undersigned, as Bidder, hereby declares that the only person or persons interested in the Proposal as principal or principals is or are named herein and that no other person that herein mentioned has any interest in this Proposal or in the contract to be entered into; that this Proposal is made without connection with any other person, company or parties making a bid or Proposal; and that it is in full respect fair and in good faith without collusion or fraud.

The Bidder further declares that he has examined the site of the work and informed himself fully in regard to all conditions pertaining to the place where the work is to be done; that he has examined the Plans and Specifications for the work and Contractual Documents relative thereto, and has read all Special Provisions and General Conditions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed.

The Bidder proposes and agrees, if the Proposal is accepted, to contract with the City of Hinesville in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools, apparatus, means of transportation and labor necessary to complete the construction of the work, in full and in complete accordance with the shown, noted, described, and reasonably intended requirements of the Specifications and Contract Documents, to the full and entire satisfaction of the City of Hinesville with a definite understanding that no money will be allowed for extra work except as set forth in the attached General Conditions and Contract Documents, for prices on the following pages.

BID ITEMS

- A. Lump sum bid for the necessary additional equipment and installation of the supplied equipment to successfully complete an operational wastewater treatment facility. All cost included except the itemized items below which will be included below.

LUMP SUM BID \$ \_\_\_\_\_

In addition to the lump sum bid the following items will be bid at unit prices to provide a unit price for adjustment of quantities if required during the project duration.

|    | Estimated<br>Quantity | Units | Description                                     | Unit<br>Price | Total<br>Price |
|----|-----------------------|-------|---|---------------|----------------|
| 1. | 620                   | SY.   | 7" -5000PSI Concrete Paving                     | \$ _____      | \$ _____       |
| 2. | 250                   | SY.   | 8" Granite Crusher Run Base                     | \$ _____      | \$ _____       |
| 3. | 220                   | SY.   | 2"-12.5mm Superpave Asphalt Pavement            | \$ _____      | \$ _____       |
| 4. | 3500                  | SY.   | 1 ½"-12.5 mm Superpave Asphalt Overlay          | \$ _____      | \$ _____       |
| 5. | 250                   | SY.   | 4" Sidewalk                                     | \$ _____      | \$ _____       |
| 6. | 100                   | SY.   | Concrete Drainage Channel Removal & Replacement | \$ _____      | \$ _____       |
| 7. | 100                   | VF    | Depth of Caisson Over 10' depth                 | \$ _____      | \$ _____       |

|                                  |     |    |   |          |          |
|----------------------------------|-----|----|---|----------|----------|
| 8.                               | 100 | VF | Pile Length over 45'  | \$ _____ | \$ _____ |
| 9.                               | 100 | SY | Additional undercutting \$ _____<br>and #57 stone over 18"<br>Per 6" of depth | \$ _____ | \$ _____ |
| Total Unit Price Items           |     |    |   |          | \$ _____ |
| Total Project Bid incl. Lump Sum |     |    |   | \$ _____ |          |

- The Bidder further proposes and agrees hereby to commence work under his Contract, with adequate force and equipment, on a date to be specified in written order of the ENGINEER and shall fully complete all work hereunder within the following:

The time of construction to have the plant operational and producing effluent to meet permit limits, defined as Substantial Completion, will be 500 days. Demolition and final stabilization, defined as Final Completion, must be completed in the following 120 days to make the total construction time being 620 consecutive days from and including said date.

The Bidder declares that he understands that the quantities shown for unit price items, are approximate only, are valid only upon written authorization of the ENGINEER, and are subject to either increase or decrease and that should the quantities of any items of work be increased, the Bidder proposes to do the additional at the unit prices stated herein; and should the quantities be decreased, the Bidder also understands that payment will be made on the basis of actual quantities at the unit price bid and will make no claim for anticipated profits for any decrease in quantities, and that actual quantities will be determined upon completion of the work, at which time adjustment will be made to the Contract amount by direct increase or decrease.

The undersigned further agrees that, in case of failure on his part to execute the Construction Contract and the bond within ten (10) consecutive calendar days after written notice being given of the award of the Contract, the check or bond accompanying this bid, and the monies payable thereon, shall be paid into the funds of the \_\_\_\_\_ as liquidated damages for such failure, otherwise the check or bid bond accompanying this proposal shall be returned to the undersigned.

Attached hereto is a certified check on the \_\_\_\_\_ Bank of \_\_\_\_\_ or a Bid Bond by the \_\_\_\_\_ in the amount of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) made payable to the \_\_\_\_\_, in accordance with the conditions of the advertisement and provisions herein.

Signature on Next Page

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Submitted:

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By:

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Title:

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Bidders Address: \_\_\_\_\_

City, State, Zip Code: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Bonding Agent: \_\_\_\_\_

Physical Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Underwriters Name: \_\_\_\_\_

Physical Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

**FAILURE TO COMPLETE THIS SECTION IS GROUNDS FOR REJECTION**

**BIDDER ACKNOWLEDGE RECEIPT OF THE FOLLOWING ADDENDUM:**

No. \_\_\_\_\_ Date \_\_\_\_\_ No. \_\_\_\_\_ Date \_\_\_\_\_

No. \_\_\_\_\_ Date \_\_\_\_\_ No. \_\_\_\_\_ Date \_\_\_\_\_

**EXPERIENCE AND REFERENCES**

The Bidder shall state what work he had done (minimum of three) of similar nature to that bid for, and give references that will afford the Owner opportunity to judge as to experience, skill, business standing and financial ability. Failure to complete this section is grounds for rejection.



SECTION 08331  
OVERHEAD COILING DOORS

PART I – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawing and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following types of manually operated overhead coiling doors:
  - 1. Insulated service doors.
- B. Related Sections include the following:
  - 1. Division 5 Section “Metal Fabrications” for miscellaneous steel supports.
  - 2. Division 8 Section “Door Hardware” for lock cylinders and keying.
  - 3. Division 9 Section “Painting” for field-applied paint finish.
  - 4. Division 16 Sections for electrical service and connections for powered operators and accessories.

1.3 DEFINITIONS

- A. Operation Cycle: One cycle of a door is complete when it is moved from the closed position to the fully open position and returned to the closed position.

1.4 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide overhead coiling doors capable of withstanding the effects of gravity loads and the following loads and stresses without permanent deformation of door components:
  - 1. Wind Load: Uniform pressure (velocity pressure) of 20 lbf/sq.ft., acting inward and outward.
  - 2. Impact Test for Flying Debris: Comply with ASTM E 1996, tested according to ASTM E 1886.
    - a. Level of Protection: Basic Protection.
    - b. Wind Zone: 110 mph, pressure test to  $\frac{1}{2}$  and 1-1/2 x design pressure (positive and negative).

- B. Operation-Cycle Requirements: Provide overhead coiling door components and operators capable of operating for not less the 20,000 cycles and for 10 cycles per day.

## 1.5 SUBMITTALS

- A. Product Data: For each type and size of overhead coiling door and accessory. Include the following:
  - 1. Summary of forces and loads on walls and jambs.
- B. Shop Drawings: For special components and installations not dimensioned or detailed in manufacturer's product data.
- C. Samples for Initial Selection: At contractor's option provide manufacturer's color charts showing full range of colors available for units with factory-applied finishes for Architects selection or prime finish and field paint in accordance with Division 9 painting requirements.
- D. Qualification Data: For Installer.

## 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for both installation and maintenance of units required for this Project.
- B. Source Limitations: Obtain overhead coiling doors through one source from a single manufacturer.
  - 1. Obtain operators and controls from overhead coiling door manufacturer.

## PART 2 – PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Alpine Overhead Doors, Inc.
  - 2. Atlas Door; Div. of Clopay Building Products Company, Inc.

3. Cookson Company
4. Cornell Iron Works Inc.
5. Overhead Door Corp.
6. Raynor.
7. Wayne-Dalton Corp.

## 2.2 DOOR CURTAIN MATERIALS AND CONSTRUCTION

- A. Door Curtains: Fabricate overhead coiling door curtain of interlocking slats, designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated, and as follows:
  1. Steel Door Curtain Slats: Zinc-coated (galvanized), cold-rolled structural steel (SS) sheet; complying with ASTM A 653/A 653M, G90 (Z275) coating designation.
    - a. Minimum Base-Metal (Uncoated) Thickness: 0.0209 inch.
  2. Insulation: Fill slat with manufacturer's standard rigid cellular polystyrene or polyurethane-foam-type thermal insulation complying with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, according to ASTM E 84. Enclose insulation completely with in metal slat faces.
  3. Inside Curtain Slat Face: To match material of outside metal curtain slat.
- B. Endlocks and Windlocks for Service Doors: Malleable-iron casings galvanized after fabrication, secured to curtain slats with galvanized rivets or high-strength nylon. Provide locks on not less than alternate curtain slats for curtain alignment and resistance against lateral movement.
- C. Bottom Bar for Service Doors: Consisting of 2 angles, each not less than 1-1/2 by 1-1/2 by 1/8 inch (38 by 38 by 3 mm) thick; galvanized, stainless-steel, or aluminum extrusions to suit type of curtain slats.
  1. Astragal: Provide a replaceable, adjustable, continuous, compressible gasket of flexible vinyl, rubber, or neoprene; for placement between angles or fitted to shape, as a cushion bumper for interior door.
- D. Curtain Jamb Guides for Service Doors: Fabricate curtain jamb guides of steel angles or channels and angles, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Build up units with not less than 3/16-inch thick galvanized steel sections complying with ASTM A 36/A 36M and ASTM A 123/A 123M. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent overtravel of curtain, and continuous bar for holding windlocks.

## 2.3 HOODS AND ACCESSORIES

- A. Hood: Form to act as weather seal and entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Provide closed ends for surface-mounted hoods and provide fascia for any portion of between-jamb mounting projecting beyond wall face. Provide intermediate support brackets as required to prevent sagging.
  - 1. Fabricate hoods for steel doors of minimum 0.028-inch thick, hot-dip galvanized steel sheet with G90 zinc coating, complying with ASTM A 653/A 653M.
  - 2. Shape: Round or Square.
  
- B. Weather seals: Provide replaceable, continuous, compressible weather-stripping gaskets fitted to bottom and top exterior doors, unless otherwise indicated. At door head, use 1/8-inch thick, replaceable, continuous sheet secured to inside of hood.
  - 1. In addition, provide replaceable, adjustable, continuous, flexible, 1/8-inch thick seals of flexible vinyl, rubber, or neoprene at door jambs for a weather tight installation.
  
- C. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on both left and right jamb sides, operable from coil side.
  
- D. Fabricate locking device assembly with lock, spring-loaded dead bolt, operating handle, cam plate, and adjustable locking bar to engage through slots in tracks.
  - 1. Locking Bars: Single-jamb side operable from inside only.
  - 2. Lock cylinder is specified in Division 8 Section "Door Hardware."
  
- E. Chain Lock Keeper: Suitable for padlock.

## 2.4 COUNTERBALANCING MECHANISM

- A. General: Counterbalance doors by means of adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to door curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.
  
- B. Counterbalance Barrel: Fabricate spring barrel of hot-formed, structural-quality, welded or seamless carbon-steel pipe, of sufficient diameter and wall thickness to support rolled-up curtain without distortion of slats and to limit barrel deflection to not more than 0.03 in./ft. of span under full load.

- C. Provide spring balance of one or more oil-tempered, heat-treated steel helical torsion springs. Size springs to counterbalance weight of curtain, with uniform adjustment accessible from outside barrel. Provide cast-steel barrel plugs to secure ends of springs to barrel and shaft.
- D. Fabricate torsion rod for counterbalance shaft of cold-rolled steel, sized to hold fixed spring ends and carry torsional load.
- E. Brackets: Provide mounting brackets of manufacturer's standard design, either cast iron or cold-rolled steel plate.

## 2.5 MANUAL DOOR OPERATORS

- A. Provide manual chain-hoist or manual push up operators based on performance requirements listed below and manufacturer's standard offerings.
- B. Push-up Operation: Design counterbalance mechanism so required lift or pull for door operation does not exceed 25 lbf.
- C. Chain-Hoist Operator: Provide manual chain-hoist operator consisting of endless steel hand chain, chain pocket wheel and guard, and gear-reduction unit with a maximum 35-lbf force for door operation. Provide alloy steel hand chain with chain holder secured to operator guide.

## 2.6 FINISHES, GENERAL

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designing finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## 2.7 STEEL AND GALVANIZED STEEL FINISHES

- A. Factory Primer for Field Finish: Manufacturer's standard primer, compatible with field-applied finish according to coating manufacturer's written instructions for cleaning, retreatment, application, and minimum dry film thickness.

1. Apply to ferrous surfaces except zinc-coated metal.
- B. Powder-Coat Finish: Manufacturer's standard powder-coat finish consisting of primer and topcoat according to coating manufacturer's written instructions for cleaning, pretreatment, application, thermosetting, and minimum dry film thickness.
  1. Color and Gloss: As selected by Architect from manufacturer's full range.
- C. At contractor's option provide either a primer finish with field applied finish or Manufacturer's standard finish.

## PART 3 – EXECUTION

### 3.1 INSTALLATION

- A. General: Install coiling doors and operating equipment complete with necessary hardware, jamb, and head molding strips, anchors, inserts, hangers, and equipment supports.

### 3.2 ADJUSTING

- A. Lubricate bearings and sliding parts; adjust doors to operate easily, free of warp, twist, or distortion, and with weather tight fit around entire perimeter.

### 3.3 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling doors. Refer to Division 1 Section "Closeout Procedures".

END OF SECTION 08331

## Part 1 General

### 1.01 Scope

- A. These specifications define the materials, products, design criteria, and fabrication of the metal building system required to withstand the forces imposed by snow, wind, seismic activity, structural movement including thermal expansion and contraction as well as in-service use conditions imposed upon the building structure.
- B. These specifications are an outline of material as well as performance requirements to insure that the architect, engineer, builder and owner understands the basis for design, manufacture, and application of the metal building system.
- C. Embedded anchor bolts shall be provided where indicated on the Drawings or in the Specifications or where recommended by equipment manufacturers.
- D. Eave height dimension of pre-engineered metal building cover over the In-Plant Pump Station Wet Well shall be 14'-0" above the top of the wet well slab. Coordinate heights of other pre-engineered building covers with P.C. Simonton & Associates.

### 1.02 Building Description

Rigid Frame Clear Span: Rigid frame clear span is a solid web continuous frame design with either tapered or uniform depth (straight) columns.

### 1.03 Quality Assurance

- A. The metal building manufacturer shall be a certified member of the (AISC) American Institute of Steel Construction, Metal Building Manufacturers Association (MBMA), and Systems Builders Association (SBA).
- B. Approved Building System Manufacturers:
  - 1. A & S Building Systems
  - 2. American Buildings Company
  - 3. Butler Building Systems
  - 4. Gulf States Manufacturers
  - 5. Nucor Building Systems
  - 6. VP Buildings
- C. All Building system manufacturer's drawings and design analysis shall bear the respective seal of a registered professional engineer. This submittal shall include all necessary Special Inspections documents pertaining to the pre-engineered metal building. It is the responsibility of the pre-engineered building engineer to provide special inspection documents for their scope of work.
- D. Qualifications of welders: Welders shall be qualified in accordance with AWS D1.1.
- E. Qualifications of erectors: The erector shall be routinely engaged in similar size projects

as well as complexity for a minimum of five years. The erector shall be familiar and experienced with the building system manufacturer.

## Part 2 Structural Steel Design

### 2.01 General

- A. The building manufacturer shall use standards, specifications, recommendations, findings and/or interpretations of professionally recognized groups such as AISC, AISI, AAMA, AWS, ASTM, MBMA, Federal Specifications, and published research by MBMA as the basis for establishing design, drafting, fabrication, and quality criteria, practices, and tolerances. For convenience, one or more source may be referenced in a particular portion of these specifications.
- B. Structural mill sections or welded up plate sections shall be designed in accordance with AISC's "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings."
- C. Cold-formed steel structural members shall be designed in accordance with AISI's "Specification for the Design of Cold-formed Steel Structural Members."

### 2.02 Design Loads

- A. Design loads shall be as specified and set forth in the 2012 International Building Code with Georgia State Amendments. Design loads shall include roof live load, applicable snow loads, wind loads, seismic loads, and collateral loads. It also includes any auxiliary equipment loads, and/or specific loads.
- B. Dead Load: The actual weight of the building system that is determined by the manufacturer.
- C. Roof Live Load: The load produced by maintenance activities, rain, erection activities, and other movable or moving loads, but not including wind, snow, seismic, crane, or dead loads.
- D. Roof Snow Load: The gravity load induced by the weight of snow or ice on the roof, assumed to act on the horizontal projection of the roof.
- E. Wind Load: The load on a structure induced by the forces of wind blowing from any horizontal direction.
- F. Collateral Load: The weight of any non-moving equipment or material, such as ceilings, electrical or mechanical equipment, sprinkler systems, or plumbing.
- G. Auxiliary Load: The dynamic load induced by cranes, conveyors, or other material handling systems.
- H. Seismic Load: The horizontal load acting in any direction on a structural system due to



action of an earthquake.

## Part 3 Basic Material Specifications

### 3.01 Primary Framing Steel

- A. Steel for hot-rolled shapes shall conform to the requirements of ASTM Specifications A36, with a minimum yield of 36, 42, or 50 ksi.
- B. Plate steel for built-up sections shall conform to the physical requirements of ASTM A570, ASTM 572 or ASTM A36 as applicable, with minimum yield of 42,000, 50,000, or 55,000 psi as indicated by the design requirements.
- C. Steel for endwall "C" sections shall conform to the physical requirements of ASTM A607 Grade 55 and have a minimum yield of 55,000 psi.

### 3.02 Secondary Framing Steel

Steel used to fabricate (form) purlins, girts, eave struts, and "C" sections shall conform to the physical requirements of ASTM A607 Grade 55 and have a minimum yield of 55,000 psi.

### 3.03 Roof Panel Material

Panel material as specified shall be 24 gauge steel-coated both sides with a layer of aluminum-zinc alloy (approximately 55% aluminum, 45% zinc) applied by a continuous hot-dip method. Triple spot minimum 0.55 ounce per square foot as determined by the Triple Spot Test per ASTM Specification A792.

## Part 4 Structural System Framing

### 4.01 General

- A. All framing members shall be manufactured and fabricated for field bolted assembly. All connection plates including all purlin and girt clips are to be factory welded.
- B. All shop connections shall be in accordance with AISC and AWS.
- C. All framing members shall bear an easily identifiable piece mark.

### 4.02 Primary Structural Framing

- A. Rigid Frames: All primary frames shall be factory welded, built-up "I" sections. The columns and rafters may be either tapered or uniform depth. Flanges shall be connected to webs by means of a continuous fillet weld on either one side or both sides, depending upon design requirements. Rigid frames shall be used in lieu of

standard endwall frames.

- B. Plates, Stiffeners, etc: All base plates, splice plates, end plates, clips, and stiffeners shall be factory welded into place on the structural members.
- C. Bolt Holes: All base plates, splice plates, and clips shall be factory fabricated to include all bolt connections. Any field cutting of frames is prohibited.
- D. Secondary connections: All connections for secondary structural including purling, girts, and eave struts shall be by means of factory welded, four bolt pattern clips. Clips shall be factory welded to primary structural.

#### 4.03 Secondary Framing

- A. Purlins and Girts: Roof purlins and wall girts shall be cold-formed, 8", 10", or 12" deep "Z" sections with stiffened flanges. Depth of "Z" sections shall be determined by engineering criteria. All purlins and girts shall be factory pre-punched to accommodate field bolting to the primary frames. Connection bolts will install through the web of the "Z", not through the flanges.
- B. Eave Struts: All eave struts shall be unequal flange cold-formed "C" sections.

#### 4.04 Bracing

- A. Portal Frame Bracing: may be designed.
- B. Fixed Base Bracing: may be designed.

NOTE: Design criteria determines whether portal frame bracing or fixed base bracing will be designed

- C. Flange Braces: The compression flange of all primary framing shall be braced laterally with angles connecting to the webs of purlins or girts so that the flange compressive stress is within allowable limits for any combination of loading.

### Part 5 Roof Covering

#### 5.01 General

PBR roof panels as specified shall be 24 gauge steel, coated both sides with an aluminum-zinc alloy.

#### 5.02 Panel Descriptions

PBR Panel: Panels shall have four (4) major ribs 1 1/4" high, spaced 12" on center. Between the major corrugations are two (2) minor corrugations. All sidelaps shall be composed of one major rib from each adjacent panel utilizing the underlying purlin bearing rib for support. Each panel shall provide 36" net coverage in width.

## Part 6 Miscellaneous Material Specifications

### 6.01 Bolts

Structural Bolts: All bolts used in primary frame splices, endwall framing connections, connections of secondary framing to primary framing, and secondary framing to secondary framing shall be zinc plated ASTM A307 or ASTM A325 as required by design.

### 6.02 Fasteners

Roof panel fasteners vary depending upon required finishes and required insulation thickness. Listed below are available fastener specifications and recommended sized for differing insulations.

- A. Self-drilling structural screws shall be carbon steel No. 12-14 x 1 1/4" Hex Head, cadmium or zinc plated. The fastener shall be assembled with EPDM washer to insure a waterproof seal. Hex head of fastener shall be coated with OxySeal II™ for long life corrosion protection and then color coated if required. These fasteners are applicable for use with fiberglass blanket insulation from 0" to 4" thick.
- B. Self-drilling structural screws shall be carbon steel No. 12-14 x 1 1/4" Indented Hex Head cast from Zamak-5, and alloy of zinc, aluminum and manganese that completely encapsulates the head of the self-drilling insert. Fastener shall be assembled with EPDM washer to insure a waterproof seal. The ULTIMATE™ fastener is available color coated and non-color coated. These fasteners are applicable for use with fiberglass blanket insulation for 0" to 4" thick.
- C. Self-drilling structural screws shall be 410 corrosion resistant stainless steel No. 12-14 x 1 1/4" Hex Head with the EPDM washer. Color coated and non-color coated heads are available. The fasteners are applicable for use with insulation from 0" to 4" thick.
- D. Self-drilling sidelap, panel to panel screws shall be No. 14 x 7/8" with EPDM washer. This fastener is used regardless of panel type. The finish on this fastener will be provided to match the self-drilling structural screws specified.

### 6.03 Gutter, Downspouts, and Related Flashing

- A. Eave Line Gutters: The gutters shall be 24 gauge AZ50 aluminum-zinc coated steel substrate with a pre-painted finish.
- B. Downspouts: Downspouts shall be 26 gauge aluminum-zinc alloy coated steel pre-painted, rectangular in shape.
- C. Flashings: The flashings shall be a minimum of 26 gauge AZ50 aluminum-zinc alloy coated steel pre-painted finish per customer's request.

## 6.04 Closures and Sealants

- A. Closure Strips: The corrugations of the roof panels shall be filled with solid or closed cell, non-shrinking, performed, neoprene or polyethylene closures at the eave, ridge and rake when required for Weathertightness.
- B. Metal Closures: The corrugations and pan area shall be filled with formed metal closures. The outside closures shall be formed from 24 gauge steel. The inside closures shall be formed from 18 gauge steel. The closure exterior shall be aluminum-zinc alloy or pre-painted AZ50 aluminum-zinc alloy coated steel.
- C. Sealants: Roof panels shall be sealed as with 3/32" x 3/8" wide tape sealer. This material shall be butyl base elastic compound with a minimum solid content of 99%, Schnee-Morehead No. 5225 or equal. The sealer shall be non-staining, non-corrosive, non-shrinking, non-oxidizing, non-toxic and non-volatile. The service temperature shall be from -60° F to 300° F.
- D. Sealants (optional): Endlap, ridge, gable and eave sealers are butyl-based pressure sensitive 7/8" x 3/16" tape mastic, non-staining, non-corrosive, non-volatile and non-toxic. The tape is 100 polyisobutylene-isoprene meeting the performance requirements of Federal Specification TT-C-1796A, Type II, Class B. Service temperature is from -60° F to +275° F.
- E. Caulk: All gutter and downspout joints, rake flashing laps, ridge flashing laps, doors, window, and louvers shall be sealed with white or burnished slate pigmented polyurethane caulk. It shall meet or exceed the requirement of Federal Specification TT-S-00230C, Type II, Class A.

## Part 7 Coating

### 7.01 Structural Coating

- A. All structural steel shall be hot-dipped galvanized.
- B. All secondary structural framing shall be pre-galvanized coil stock.

## Part 8 Erection and Installation

### 8.01 General

The erection of the metal building and the installation of accessories shall be performed in accordance with standard practices and approved erection drawings. Erection practices shall conform to Section 6, Common Industry Practices found in the "Low Rise Building Systems Manual," MBMA 1986. There shall be no field modifications to any structural member except as authorized and specified by building manufacturer.

## Part 9 Building Anchorage and Foundations

### 9.01 General

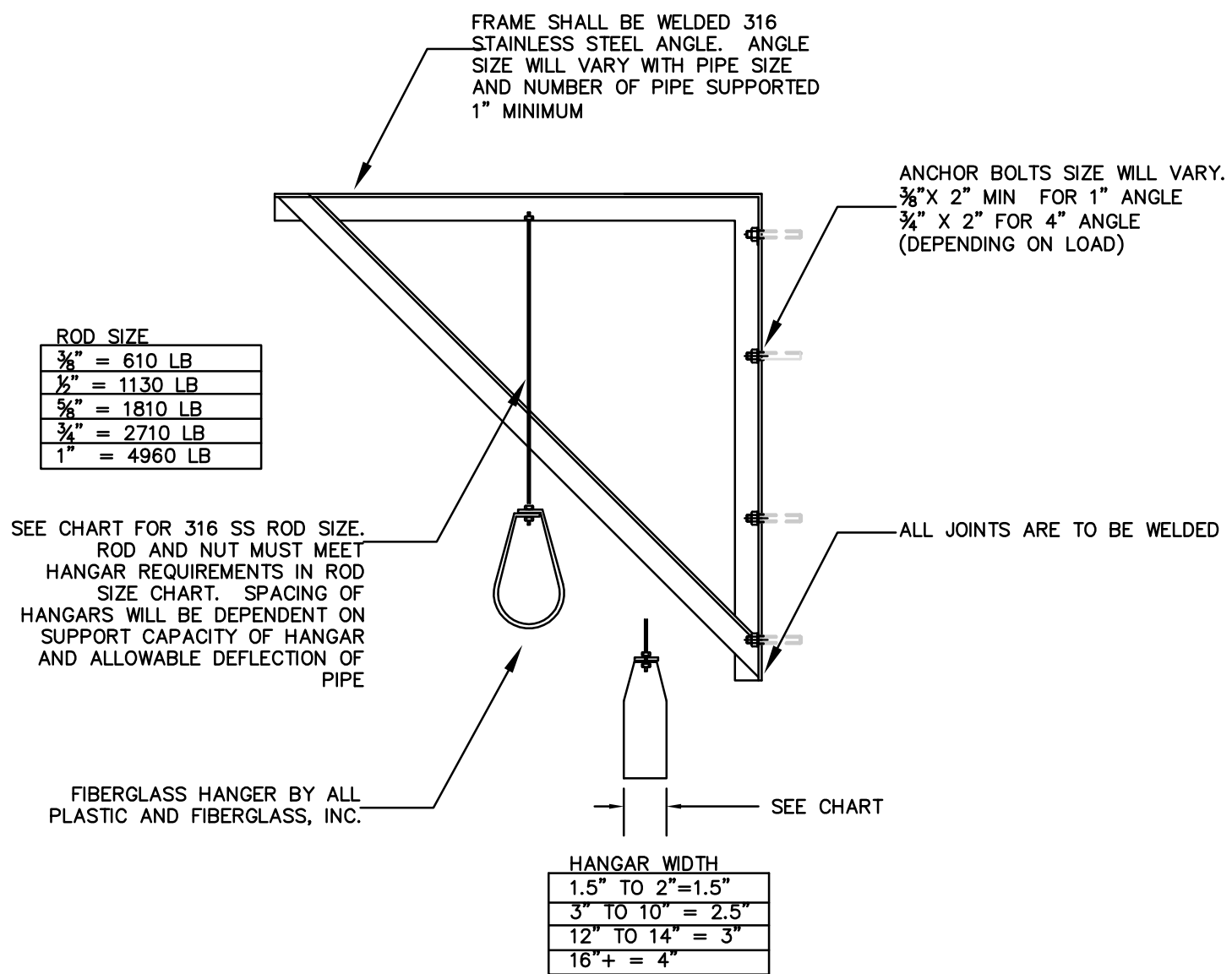
The building anchor bolts shall be designed to resist the maximum column reactions resulting from the specified combinations of loading. The building manufacturer shall specify the bolt diameter and placement. The foundation shall be adequately designed by a qualified foundation engineer (Oconee Engineering) to support the building reactions and other loads that may be imposed by the building use. It is the responsibility of the metal building manufacturer to provide correct loading information to the E.O.R. for the site specific conditions. The design shall be based on the specific soil conditions of the site.

## Part 10 Warranties

### 10.01 General

Full warranty for all material and labor needed for the complete installation of specified pre-engineered metal buildings shall be provided for a minimum period of 10 years from the date of final project completion at no additional cost to owner.

END OF SECTION

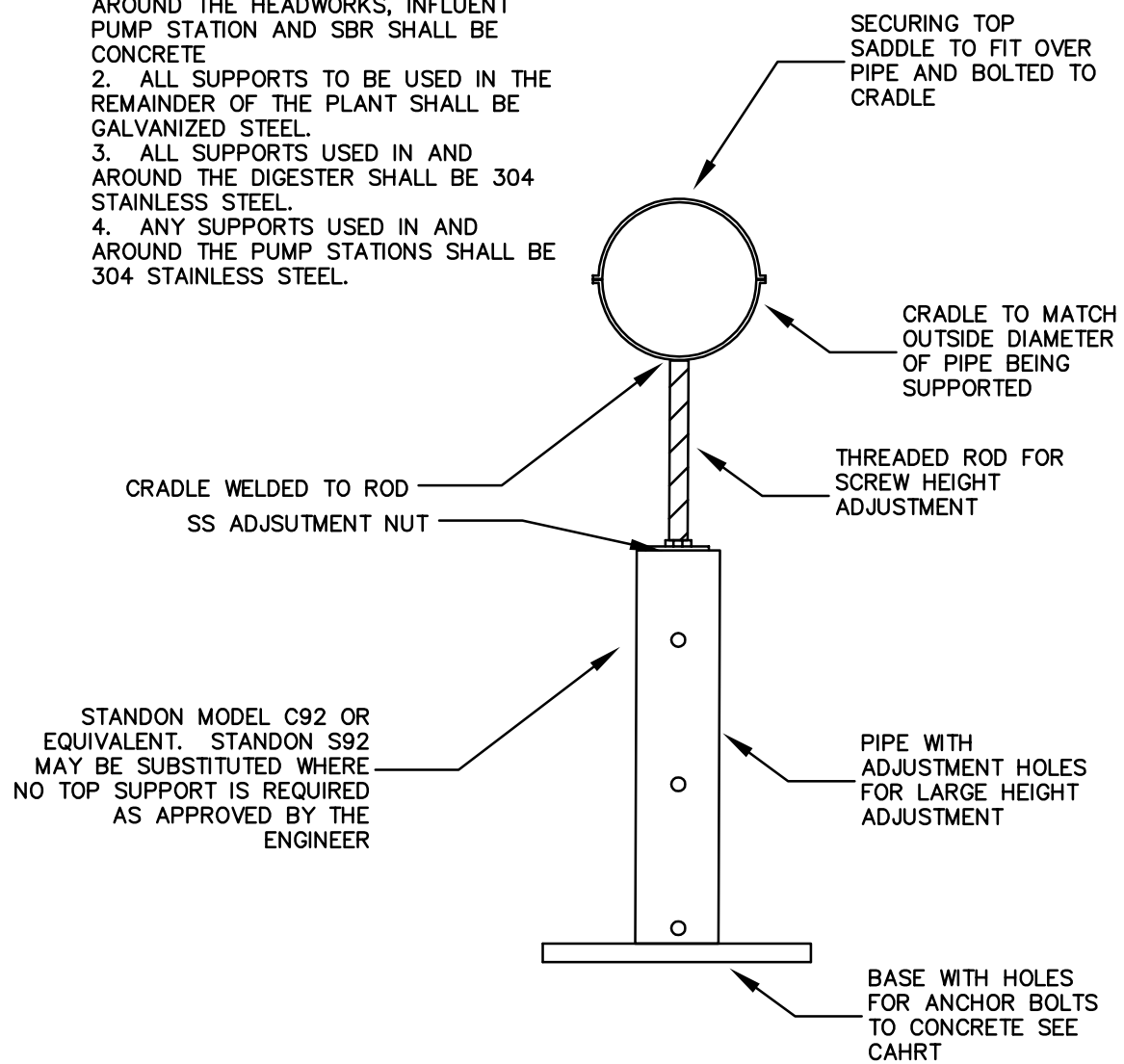


## HANGER DETAIL

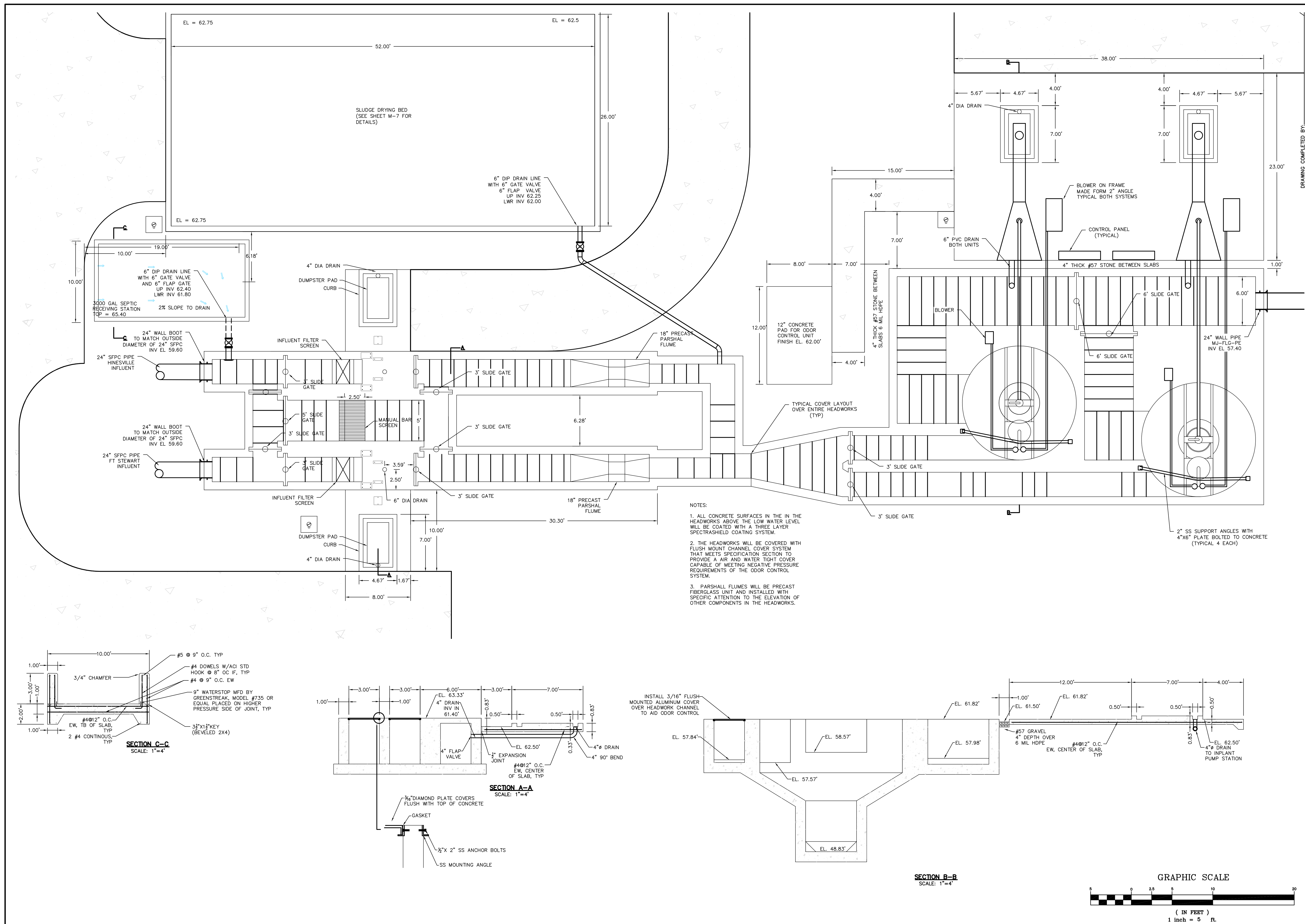
NTS

### MATERIAL NOTES

- SUPPORTS USED IN THE PROCESS AREA PRIOR TO THE EFFLUENT FILTER SHALL BE 304 STAINLESS STEEL; THEREFORE ALL PIPE SUPPORTS IN AND AROUND THE HEADWORKS, INFLUENT PUMP STATION AND SBR SHALL BE CONCRETE
- ALL SUPPORTS TO BE USED IN THE REMAINDER OF THE PLANT SHALL BE GALVANIZED STEEL.
- ALL SUPPORTS USED IN AND AROUND THE DIGESTER SHALL BE 304 STAINLESS STEEL.
- ANY SUPPORTS USED IN AND AROUND THE PUMP STATIONS SHALL BE 304 STAINLESS STEEL.



| SUPPORT SIZE | PIPE OD | STRAP SIZE | THREADED STUD | BASE PLATE       | EXTENSION PIPE |
|--------------|---------|------------|---------------|------------------|----------------|
| 2"           | 2.5"    | 3/8" X 2"  | 1" X 6"       | 4" X 6" X 1/4"   | 2" SCH 40      |
| 2.5"         | 3"      | 3/8" X 2"  | 1" X 6"       | 4" X 6" X 1/4"   | 2" SCH 40      |
| 4"           | 4.8"    | 3/8" X 2"  | 1" X 6"       | 8" X 8" X 1/4"   | 2" SCH 40      |
| 6"           | 6.9"    | 1/2" X 2"  | 1" X 6"       | 8" X 8" X 1/4"   | 2" SCH 40      |
| 10"          | 11.1"   | 1/2" X 2"  | 1" X 6"       | 8" X 8" X 1/4"   | 2" SCH 40      |
| 12"          | 13.2"   | 1/2" X 2"  | 1" X 6"       | 8" X 8" X 1/4"   | 2" SCH 40      |
| 14"          | 15.3"   | 5/8" X 3"  | 1.5" X 6"     | 8" X 8" X 1/4"   | 3" SCH 40      |
| 16"          | 17.4"   | 5/8" X 3"  | 1.5" X 6"     | 8" X 8" X 1/4"   | 3" SCH 40      |
| 18"          | 19.5"   | 5/8" X 3"  | 2" X 6"       | 8" X 8" X 1/4"   | 4" SCH 40      |
| 24"          | 25.8"   | 3/4" X 4"  | 2" X 6"       | 8" X 8" X 1/4"   | 4" SCH 40      |
| ABOVE 24"    |         | 1" X 5"    | 3" X 6"       | 15" X 15" X 1/2" | 6" DIP         |



**NOTES:**

1. ALL CONCRETE SURFACES IN THE IN THE HEADWORKS ABOVE THE LOW WATER LEVEL WILL BE COATED WITH A THREE LAYER SPECTRASHIELD COATING SYSTEM.
2. THE HEADWORKS WILL BE COVERED WITH FLUSH MOUNT CHANNEL COVER SYSTEM THAT MEETS SPECIFICATION SECTION TO PROVIDE A AIR AND WATER TIGHT COVER CAPABLE OF MEETING NEGATIVE PRESSURE REQUIREMENTS OF THE ODOR CONTROL SYSTEM.
3. PARSHALL FLUMES WILL BE PRECAST FIBERGLASS UNIT AND INSTALLED WITH SPECIFIC ATTENTION TO THE ELEVATION OF OTHER COMPONENTS IN THE HEADWORKS.

DRAWING COMPLETED BY:  
 REVISED: 11-14-2014 EDITED FOR ODOR CONTROL  
 REVISED: 11-15-2014 EDITED FOR COVERS & VAC TRUCK DRAIN  
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 TEL: (760) 454-4870



DATE:  
 309 NORTH MAIN STREET  
 P.O. BOX 649  
 HINESVILLE, GA 31313  
 TEL: (912) 368-5212

**P.C. Simonton & Associates, Inc.**  
 Consulting Engineers

**Hinesville/Ft Stewart  
 WWTP Upgrade**  
 for  
**The City of Hinesville**  
 Ft Stewart  
 Liberty County, Georgia

Headworks Detail  
 Plan View  
 DATE: November 29, 2012  
 FILE NO: 2009-63PRJ  
 SHEET: M-1

1-ELECTRIC CONTROL  
CHEMICAL RESISTANT  
SOLENOID BALL VALVE

2-ELECTRIC CONTR  
CHEMICAL RESISTAN  
SOLENOID BALL VAI

24" DIP  
CL. EL. 88.00'

8" 316 SS ANGLE  
CROSS MEMBER

▽ HWL

▽ AWL

4" VERT &  
ANGLE MEMBER

8" SS AIR PIPE  
CL. EL. 82.00"

6" SS AIR PIPE  
CL. EL. 81.91"

6" WALL PIPE  
MJ-MJ  
CL. EL. 85.62'

▽ LWL

▽ HWL EL. 78.00

SEE DETAIL SHEET  
FOR HANGER SPEC.

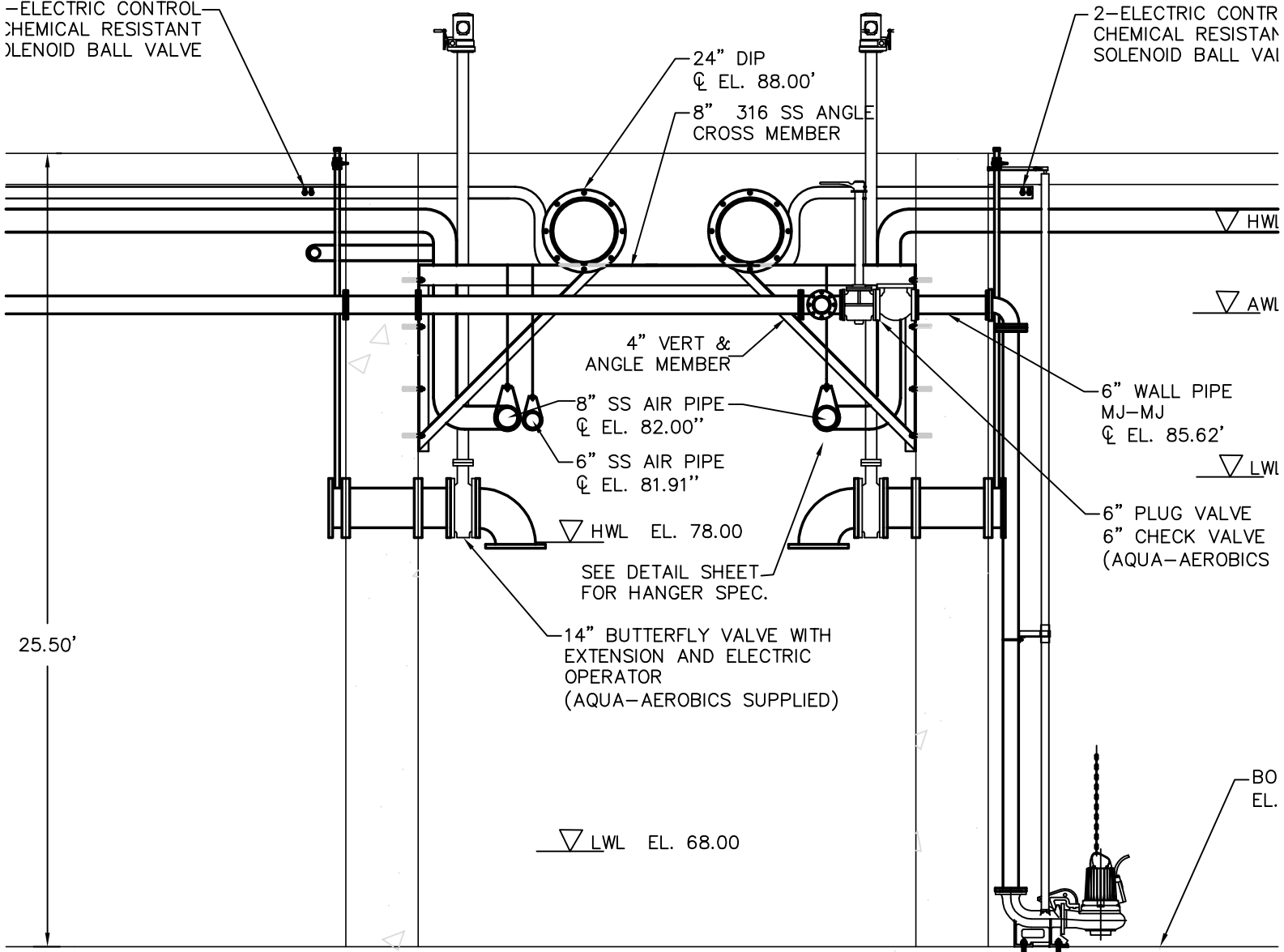
6" PLUG VALVE  
6" CHECK VALVE  
(AQUA-AEROBICS)

25.50'

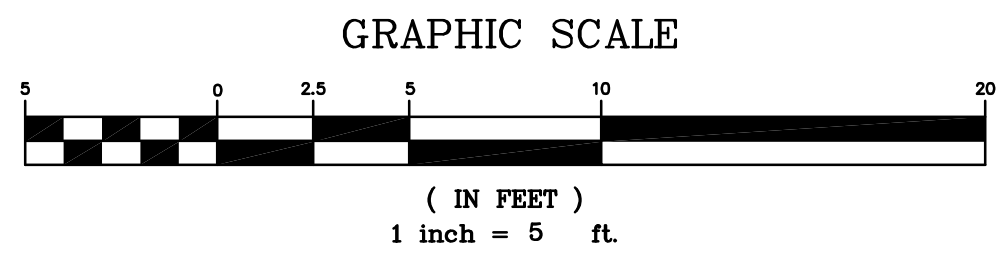
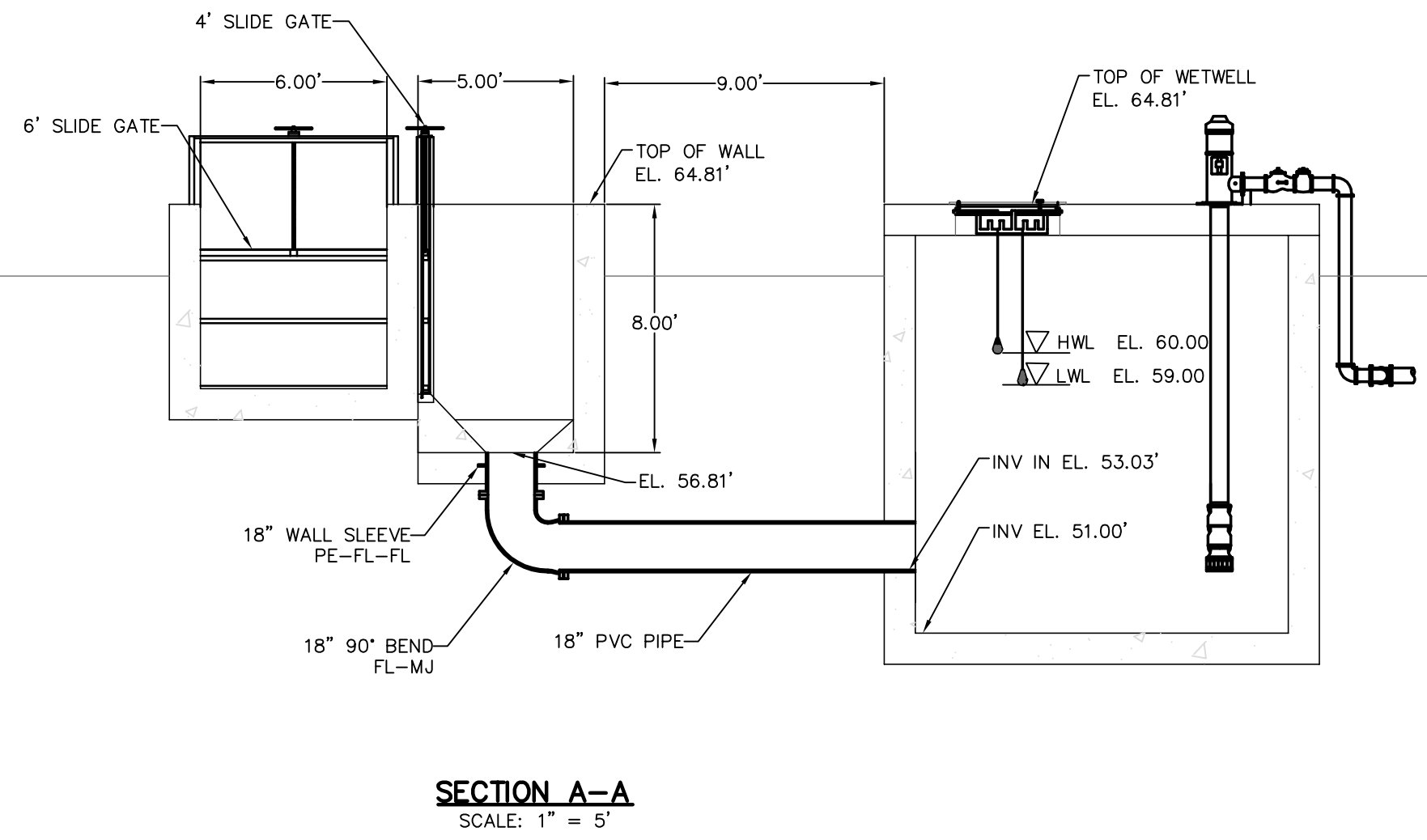
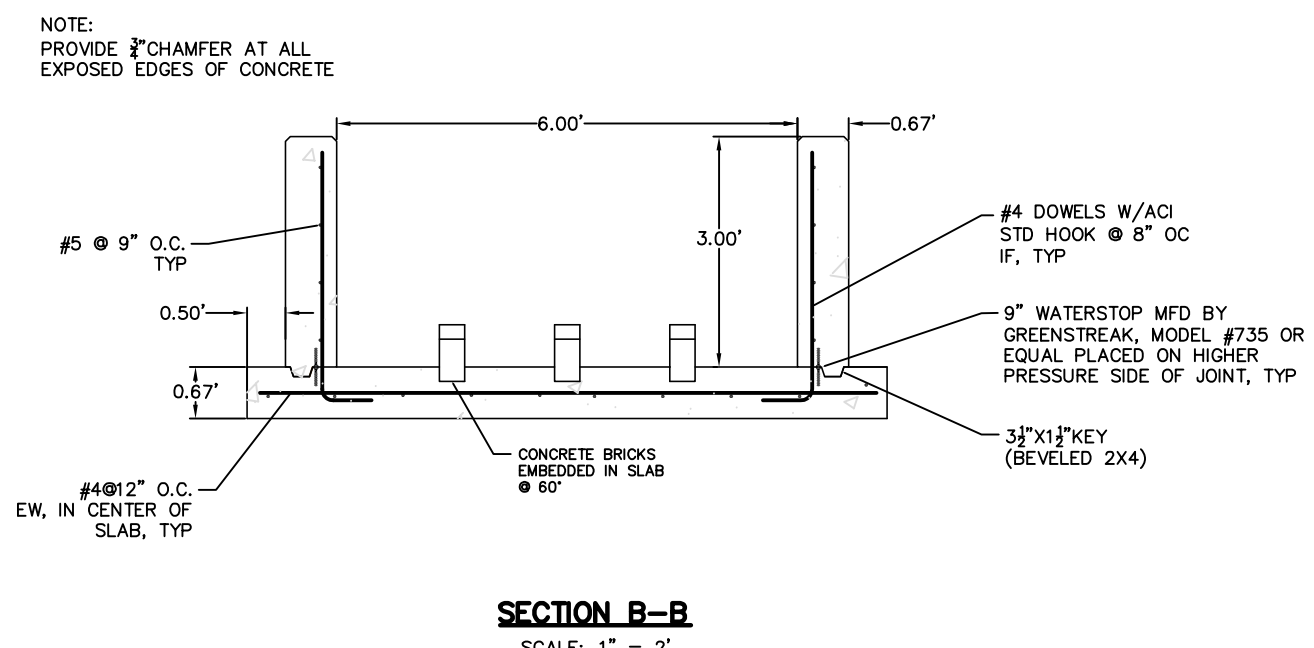
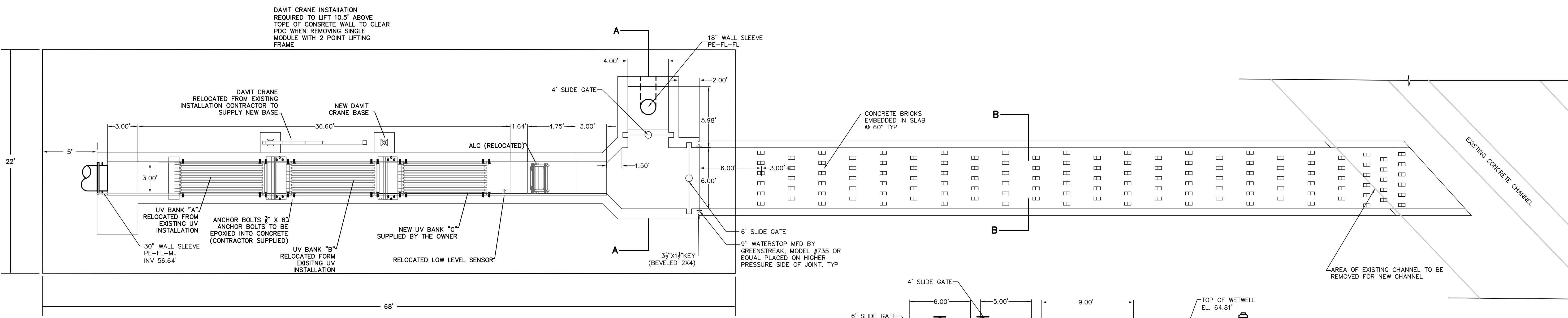
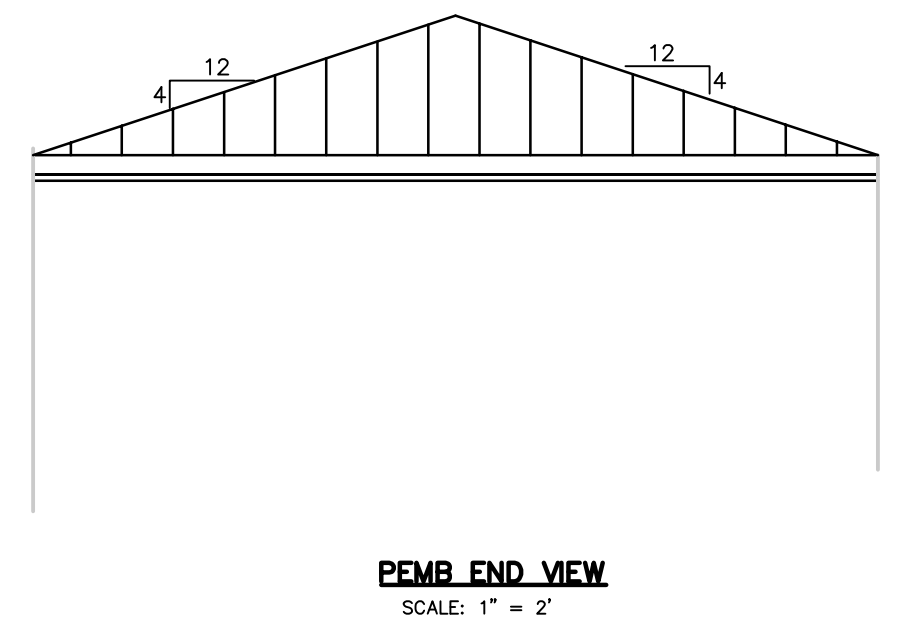
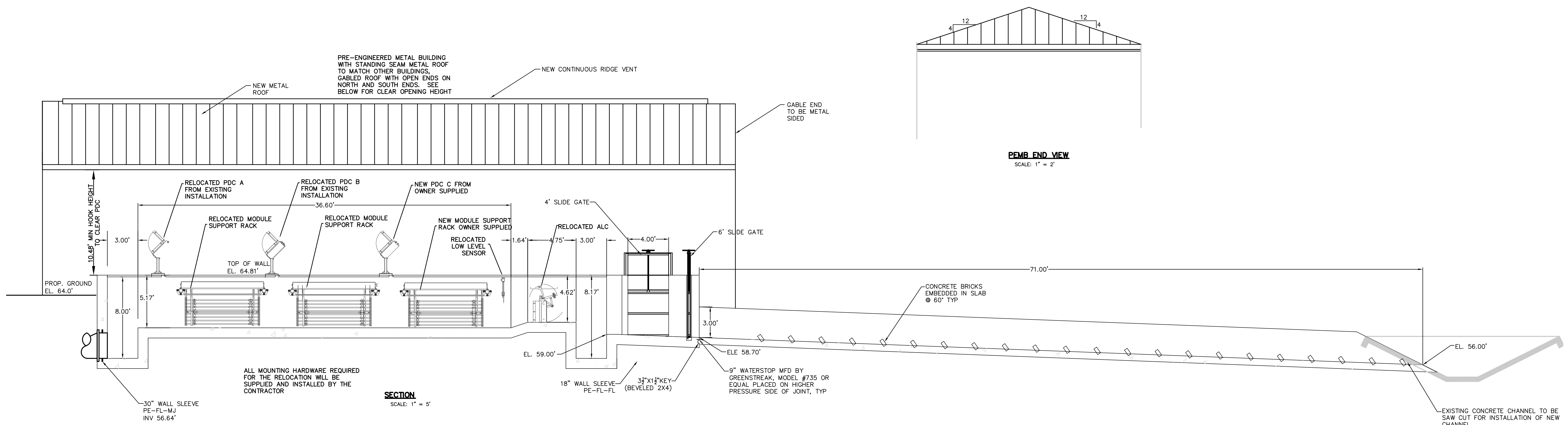
14" BUTTERFLY VALVE WITH  
EXTENSION AND ELECTRIC  
OPERATOR  
(AQUA-AEROBICS SUPPLIED)

▽ LWL EL. 68.00

BO  
EL.







DRAWING COMPLETED BY: \_\_\_\_\_  
REVISED: 11-15-2014

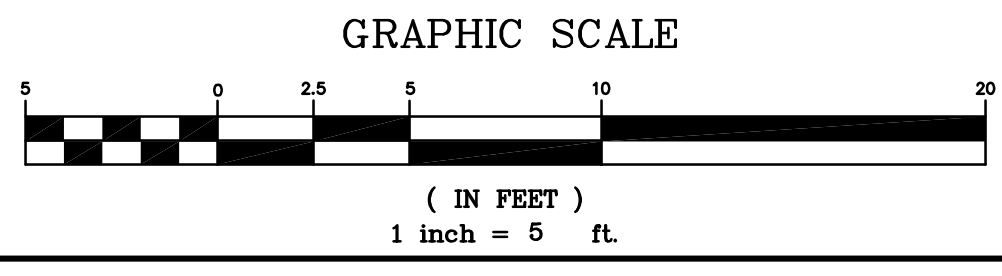
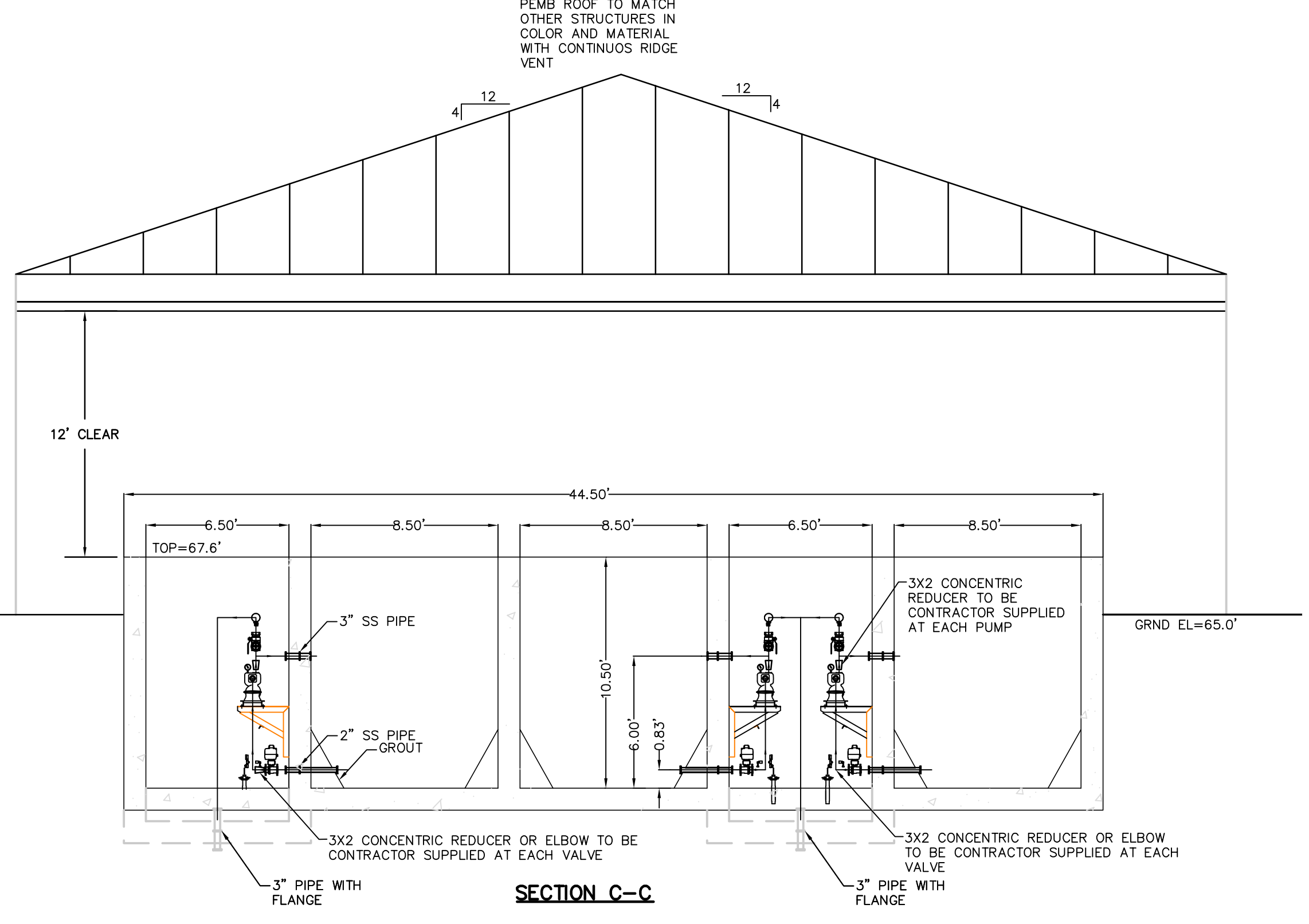
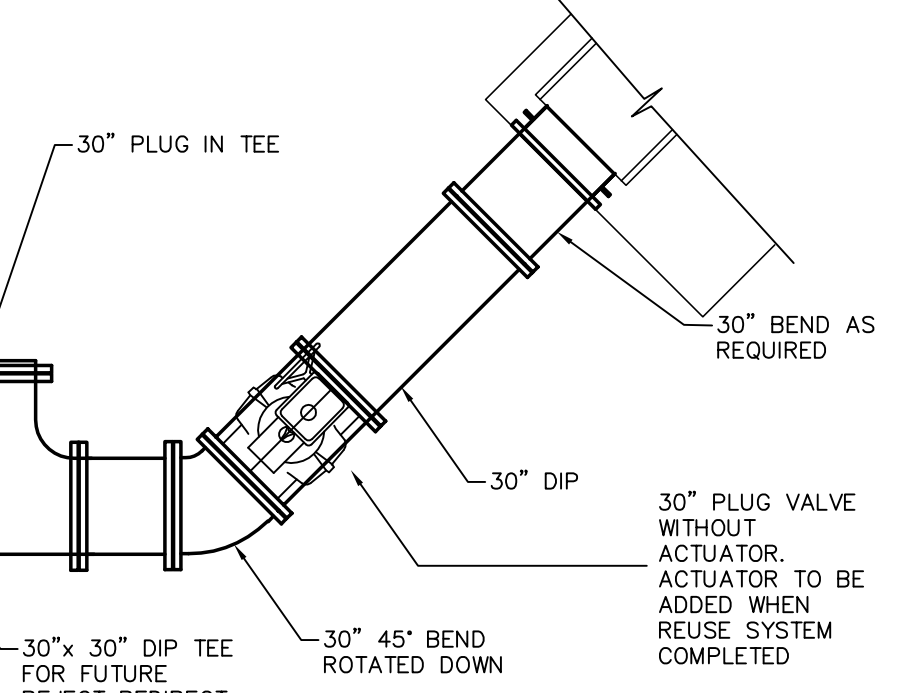
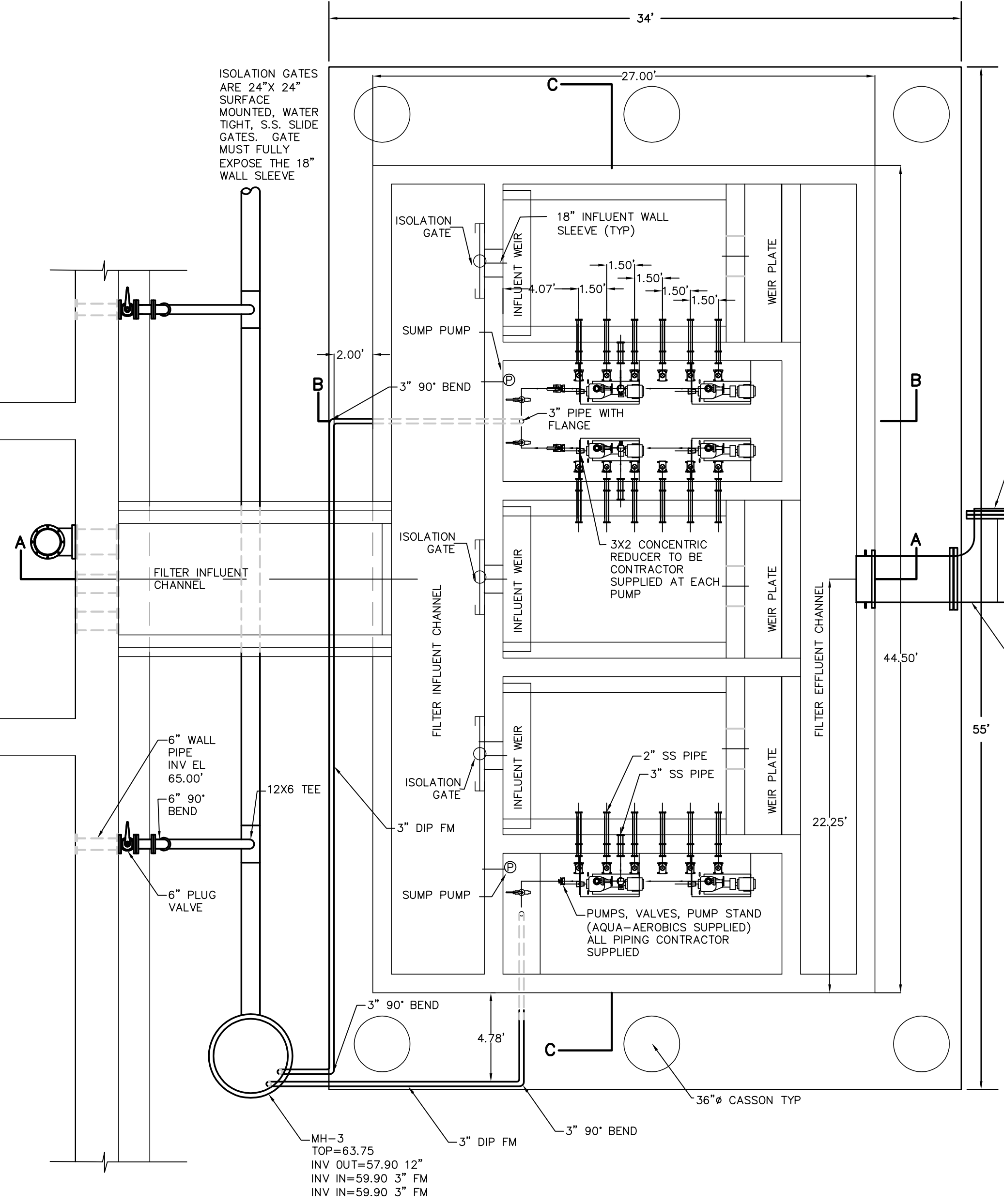
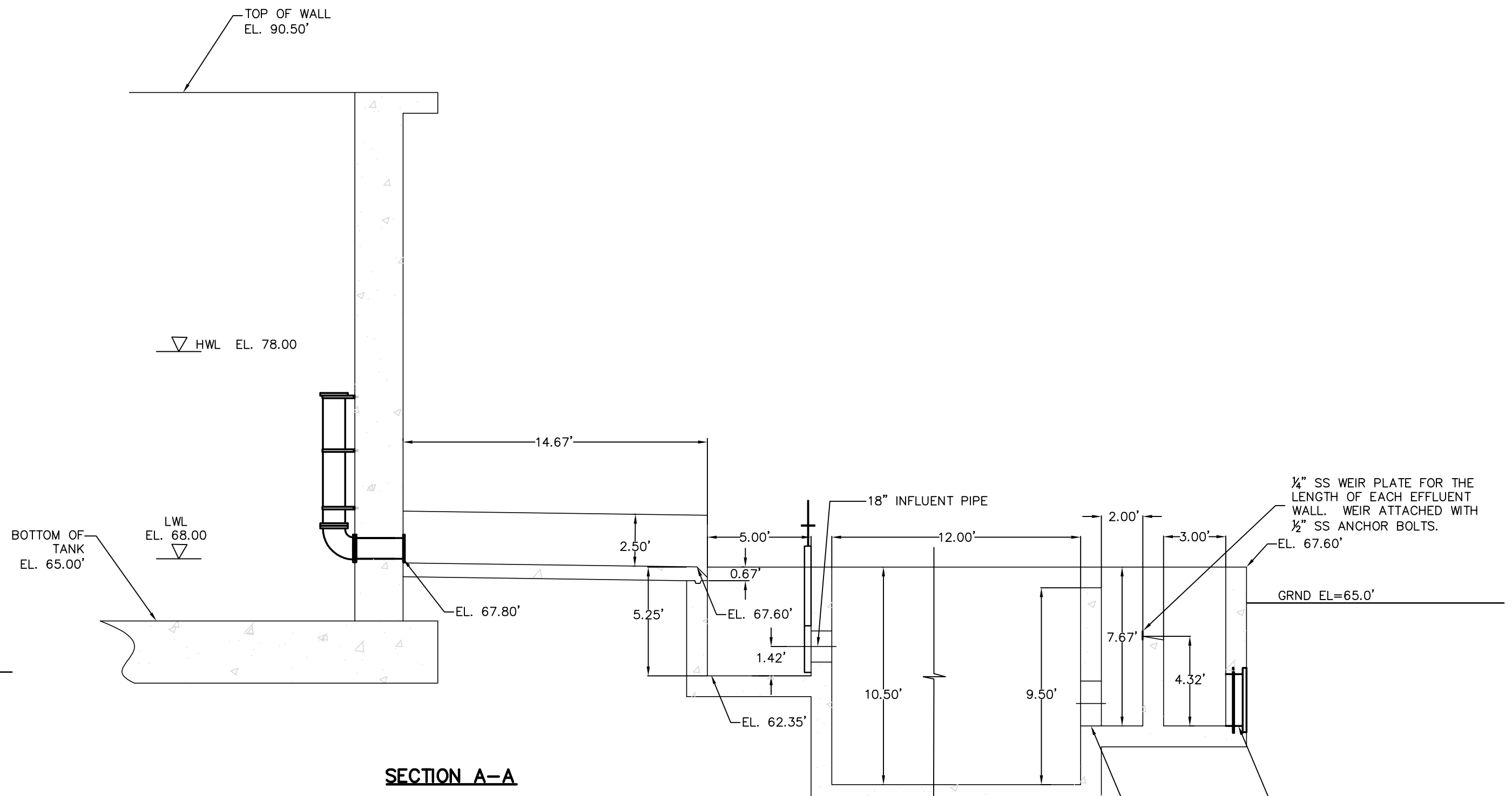
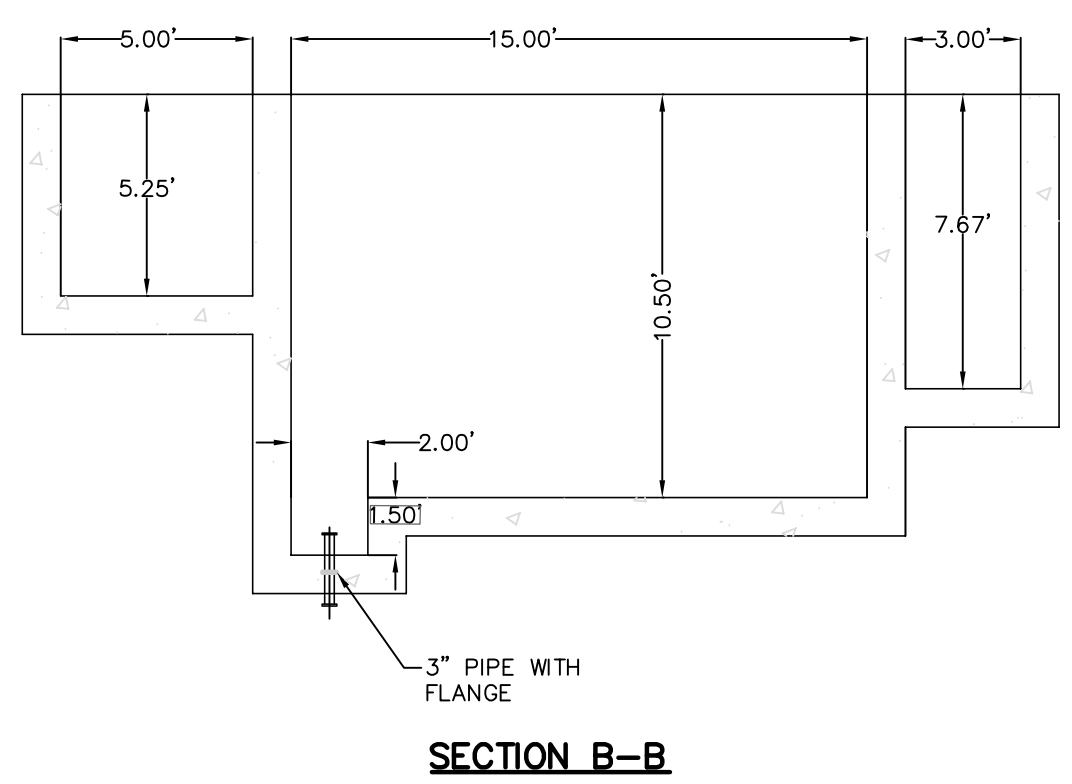


DATE: \_\_\_\_\_  
309 NORTH MAIN STREET  
P.O. BOX 649  
HINESVILLE, GA 31313  
TEL: (912) 368-5212

**P.C. Simonton & Associates, Inc.**  
Consulting Engineers

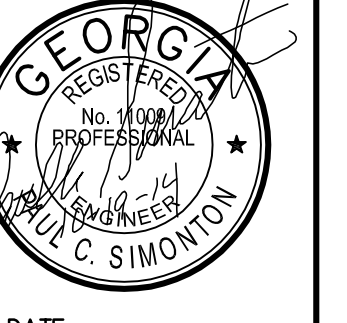
**Hinesville/Ft Stewart  
WWTP Upgrade**  
for  
**The City of Hinesville**  
Ft Stewart  
Liberty County, Georgia

UV Plan & Details  
DATE: MARCH 30, 2011  
FILE NO: 2009-63PRJ  
SHEET: M-6



DRAWING COMPLETED BY: \_\_\_\_\_

REVISED: 11-7-2014  
REVISED: 11-15-2014



DATE: \_\_\_\_\_  
309 NORTH MAIN STREET  
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GREENSBORO, NC 27402  
TEL: (706) 454-4870

**P.C. Simonton & Associates, Inc.**  
Consulting Engineers

**Hinesville/Ft Stewart**  
for  
**WWTP Upgrade**  
The City of Hinesville  
Ft Stewart  
Liberty County, Georgia

Disk Filter  
Plan & Details  
DATE: November 29, 2012  
FILE NO: 2009-63PRJ  
SHEET: M-5

AIR PIPING SPECIFICATION:

1. AIR PIPING – SCHEDULE 10S STAINLESS STEEL
2. FLANGES – 304 STAINLESS STEEL, 150# CLASS WITH NEOPRENE GASKET
3. ALL AIR PIPING BELOW 8’ MEASURED FROM FIN FLOOR WILL BE INSULATED WITH 1” INSULATION
4. REAM ALL PIPE ENDS AND REMOVE BURRS.
5. REMOVE SCALE AND DIRT, ON INSIDE AND OUTSIDE BEFORE ASSEMBLY.
6. PREPARE PIPING CONNECTIONS WITH FLANGES, WHERE SHOWN.
7. BUTT WELD PIPING NON–FLANGE PIPING AND FITTINGS.
8. PROVIDE NON–CONDUCTING DIELECTRIC CONNECTIONS WHEN JOINING DISSIMILAR METALS.
9. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR EQUIPMENT.
10. PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS.
11. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED
12. INSTALL 1” THICK INSULATION ON ALL AIR PIPING BELOW 8’ AFF.
13. PLACE EXPANSION JOINTS IN EXTENDED POSITION WHEN PIPING IS INSTALLED
14. EXPANSION JOINT ALONG PIPE LENGTH AS SHOWN IN CHART BELOW.
15. ALL DIMENSIONS TO BE VERIFIED BY CONTRACTOR PRIOR TO MANUFACTURING OF AIR PIPING
16. EXPANSION JOINT SPECIFICATION ARE AS FOLLOWS:
  - RESISTOFLEX # R6905–048WS3 – CONVOLUTE EXPANSION JOINT EVERY 25’ FOR 3”
  - RESISTOFLEX # R6906–096WS5 – CONVOLUTE EXPANSION JOINT EVERY 40’ FOR 6”
  - RESISITOFLEX # R6906–128WS5 – CONVOLUTE EXPANSION JOINT EVERY 40’ FOR 8”