



PURCHASING DEPARTMENT  
DIVISION OF BUDGET & FINANCE

**PUR-1270  
ADDENDUM NO. 4  
INVITATION TO BID**

**CONOCOCHEAGUE TREATMENT PLANT ENR UPGRADE**

**DATE: Thursday, May 19, 2016**

**BIDS DUE: Wednesday, June 1, 2016**  
*(Revised due date – Addendum No. 3) 2:00 P.M.*

To Bidders:

This Addendum is hereby made a part of the Contract Documents on which all bids will be based and is issued to correct and clarify the original documents.

Please acknowledge receipt of this Addendum at the appropriate space on the Proposal Form. This Addendum consists of eighteen (18) pages and various attached drawings/sheets.

**NOTE: All bidders must enter the County Administration Building through the front door, 100 West Washington Street entrance, and must use the elevator to access the Purchasing Department to submit their bid. Alternate routes are now controlled by a door access system.**

**ITEM NO. 1:** *Inquiry:* Drawings S-4 & S-5 show a section 1/S-8. This section shows a new wall with an elevated slab sitting on the new wall and being doweled into the existing Ox Ditch wall. How are we to support the elevated slab? Is this to be done with some kind of stay in place form because you will not be able to get the slab form work out once it is poured? If so, please give a form manufacturer to be used and how we are to support the form against the existing wall.

*Response:* The construction means and method for supporting the elevated slab is up to the contractor. A stay-in-place form would be an acceptable option. If that option is chosen, it is up to the contractor to choose the manufacturer and determine how the form is supported.

*(NOTE: The wording of all “Inquiries” submitted are displayed exactly as received.)*

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**ITEM NO. 2:** *Inquiry:* Drawing S-6 detail A shows an elevated slab. On the left side of Section 4 on S-6 you show extending the wall up to elevation 425.60 but that can only occur at the location of the existing perpendicular partition wall correct? What happens the rest of the length across the slab on the left hand side of Detail A? I am assuming it is to be a beam so the flow can enter & exit the area below. If that is the case what size beam is it? If it is to be a wall, how do we get the elevated slab form work out, or is this to be left in place as well?

*Response:* The detail you are referring to is a continuous beam that is to be supported in the center on the existing partition wall. The beam is to have the same dimensions and reinforcement as shown on the left side of Detail 4 on S-6 for the entire length.

**ITEM NO. 3:** *Inquiry:* Several of the ES & SM drawings have area with illegible text, please reissue.

*Response:* See Drawings ES-02 and SM-02 attached to this Addendum.

**ITEM NO. 4:** *Inquiry:* On drawing C-4 the New Yard Piping Schedule lists line I30 as 3-3/4", which I assume are three 3/4" lines. The schedule also refers to Note 2 on the same drawing which states "Polymer Feed Lines in 4" Schedule 80 PVC Containment Pipe". On drawing C-3 Line I30 is represented by a single line running between the Bio-Mag Building & Post Anoxic Tank No. 3. Connection Detail 21 on drawing C-7 is indicated at the Post Anoxic Tank. This detail shows Line I30 as three 2" lines penetrating the concrete wall of the tank. What is the correct size & material of the Line I30?

*Response:* Line I30 shall be three 1-1/2" poly tubes installed in a single 6" PVC containment pipe. Each of the three poly tubes shall terminate to each of the three clarifiers downstream of the clarifier distribution weirs.

**ITEM NO. 5:** *Inquiry:* As stated in question 1 above, Line I30 enters the Bio-Mag Building. The process drawings do not show any Polymer Feed Lines in the building. Where and how does Line I30 enter the Bio-Mag Building?

*Response:* Interior to the building the three 1-1/2" polymer pipes shall be PVC and transition to tubing existing the building in the containment piping. The PVC piping is to be mounted to the wall along the north wall of the BioMag Room and existing the room in the NE corner.

**ITEM NO. 6:** *Inquiry:* Note 2 on drawing PM-14 states "Refer to Evoqua PIDS, located in section 46 53 49, for schematic of pipe/valve arrangement for the Biomag Separation System". Why must the general contractor complete the ductile iron pipe layout for a system designed by the engineer? Small piping layout is

one thing, but the arrangement of the ductile iron I would assume is critical for the correct functioning of the Bio-Mag System.

*Response:* For the sake of clarity not every valve and pipe is shown on the drawings. The PIDs also depict which valves and equipment are being provided as part of the Evoqua scope.

**ITEM NO. 7:** *Inquiry:* Drawing S-20 section B shows the slab & wall coming over to meet the Post Anoxic Zone No. 3 Box. Am I correct in assuming the walls will sit on the cantilevered slab? Should there be stone under that 5' extension of the slab that meets the tank wall or is this elevated structural slab? Also section B does not show a wall from elevation 415.61 to 422.73 to close off the center splitter box channel from the Post Anoxic Tank, Is this Correct? There is no wall perpendicular to the stairs for them to be anchored to?

*Response:* No; the slab will essentially "hang from the walls that are doweled into the existing tank. No stone required under this slab. Channel is open here so no wall from 415 to 422 is correct.

On Drawing No. S-20, in Section B; **ADD** a stainless steel C8x11.5 channel at the base of the steps for support of the stair stringers. Anchor the channel to the concrete walls on each end using a stainless steel L3-1/2x3-1/2x5/16" x 0'-6" long w/(2)3/4" stainless steel expansion bolts into concrete and (2) 3/4" stainless steel connection bolts.

**ITEM NO. 8:** *Inquiry:* What pipe material should be used for the WAS piping in the Biomag Building?

*Response:* Refer to Addendum NO. 3, ITEM NO. 27.

**ITEM NO. 9:** *Inquiry:* What pipe material should be used for the magnetite recovery and mix system in the Biomag Building?

*Response:* Refer to Addendum NO. 3, ITEM NO. 27.

**ITEM NO. 10:** *Inquiry:* What pipe material should be used for the compressed air piping in the Biomag Building?

*Response:* Stainless Steel (Schedule 40) in accordance with paragraph 2.2 of Section 40 23 19 of the Specifications. The piping shall be welded.

**ITEM NO. 11:** *Inquiry:* What pipe material should be used for the potable water piping in the Biomag Building?

*Response:* Provide copper piping, ASTM B88, Type K, annealed with ASME B16.18, cast copper, or ASME B16.22 wrought copper fittings. Joints shall be compression connection or AWS A5.8, BCuP silver braze.

**ITEM NO. 12:** *Inquiry:* What pipe material should be used for the polymer piping in the Biomag Building?

*Response:* See the response to ITEM NO. 5 in this Addendum.

**ITEM NO. 13:** *Inquiry:* Evoqua drawing 110 shows three 1 1/2" polymer lines going to the SC splitter box. The yard pipe drawing shows three 3/4" lines leaving the biomag building. Which is correct?

*Response:* See the response to ITEM NO. 5 in this Addendum.

**ITEM NO. 14:** *Inquiry:* What type of valve should be used for the magnetite recovery and mix system in the Biomag Building?

*Response:* Drawing 101 of the Evoqua PIDs contains a legend for the PIDs. Valves not shown on the PIDs for use on the recovery system are to be plug valves in accordance with Section 40 23 20 of the Specifications.

**ITEM NO. 15:** *Inquiry:* The SWAS Line to the Biomag Building is shown on sheet 45 as 2" with no material specified. The yard pipe plan has the line identified as line 132, a 4" DIP line. Where does this the line change from 2" to 4" and what material is the 2" pipe?

*Response:* The SWAS 2" discharge pipe shall be PVC (Schedule 80). Once underground outside of the PA Tank the 2" PVC shall transition to 4" DIP. See detail on attached drawing PM-19A.

**ITEM NO. 16:** *Inquiry:* The MWAS Line to the Biomag Building is shown in similar fashion to the SWAS line. It is identified as line 118, a 4" DIP line. Does this line also reduce? If so, what type of pipe does it reduce to and where is the reduction?

*Response:* PM-15 shows the 4" MWAS (Waste from Clarifiers No 1 and No 2) entering the building as 4", same size as in the yard.

**ITEM NO. 17:** *Inquiry:* Yard Pipe Line 132 is scheduled as a 4" Ductile Iron Pipe which runs between the (3) Post Anoxic Tanks & the Bio-Mag Building. On the Post Anoxic Tank process drawings section I/PM-19A shows (3) 2" SWAS lines to Bio-Mag Building. Please clarify.

*Response:* See the response to ITEM NO. 15 in this Addendum.



**ITEM NO. 18:** Inquiry: The Unit for bid item C-5 is LB. Is this correct, or should it be S.F.?

Response: LB is correct.

**ITEM NO. 19:** Inquiry: What is the rebar suppose to be for the Final Clarifier Launderer Slab & Wall (Detail B/S-22)? Nothing called out on drawings.

Response: Intent is to use the same reinforcement as shown on the lower wall (i.e., #6@6" for hoop bars, #5@6" for vertical bars)

**ITEM NO. 20:** Inquiry: What is the rebar suppose to be for the Final Clarifier Center Well (Detail D/S-22)?

Response: Intent is to continue #6@12"

**ITEM NO. 21:** Inquiry: The only methanol pipe (40 23 19 2.5 Stainless Steel Double Wall Piping System) is made in Germany and does not comply with ARRA or Buy American Act which are requirements of our contract. Can you please send another approved system?

Response: The Contractor shall be responsible for fulfilling the Buy American Steel requirements and obtaining any waivers. If no such waiver is granted the Contractor can provide welded double walled 304L stainless steel (schedule 40) system as manufactured by IPEX (or Equal). See revision to Section 40 23 19 of the Specifications.

**ITEM NO. 22:** Inquiry: Yard Piping Line 144-8" DI Post Anoxic Tank Drain ties-in into existing Line 6 (30" DIP). Please provide connection detail for this tie-in.

Response: See Drawing C-7 attachment to this Addendum.

**ITEM NO. 23:** Inquiry: Does Yard Piping Line 144 have a cleanout on the end opposite to where it ties-in into Line 6?

Response: No.

**ITEM NO. 24:** Inquiry: Drawing PM-64, Detail 14 – Polymer Feed Vault Detail has a note stating "Solution Difusser Assy See Det 1". Where is the Solution Difusser Detail located?

Response: The referenced vault shall be **DELETED** and no diffuser is required.

**ITEM NO. 25:** *Inquiry:* The Effluent Drop Box & the Scum Pit on Final Clarifier #3 measure differently depending on if your looking at the plan view on S-21 (I/S-21), the enlarged plan view on S-21 (2/S-21 & 3/S-21) or the sections shown for these boxes on S-22 (A/S-22 & B/-22). Which one of these 3 options is correct?

*Response:* The apparent size changes depending on whether you are viewing from above or below the launder. The drawings are dimensionally correct.

**ITEM NO. 26:** *Inquiry:* Is there a design for the reaeration blower pad as shown on PM-19 & 19A other than top of slab is 6" above grade?

*Response:* See the revised SHEET S-3 attachment to this Addendum.

**ITEM NO. 27:** *Inquiry:* Please confirm that the new Final Clarifier center well is in approximately 20' of rock and there is no controlled blasting allowed on this site?

*Response:* No blasting is allowed.

**ITEM NO. 28:** *Inquiry:* What size is the rebar in the slab on grade for the Final Clarifier #3 RAS Pump Station shown on S-23 & how thick is this slab suppose to be?

*Response:* 1'-4" thick w/ #5@6" e.w.

**ITEM NO. 29:** *Inquiry:* What is the substance in the Valve Vault side of the RAS Pump Station shown up to elevation 407.5? Concrete fill or Grout?

*Response:* Section B-B on Drawing No. PM-35 shows it to be concrete fill.

**ITEM NO. 30:** *Inquiry:* What are the rebar & thickness of the slabs on grade supposed to be in Cascade shown on S-24?

*Response:* 1'-0" w/#5@6" e.w.

**ITEM NO. 31:** *Inquiry:* What is the rebar supposed to be in the vertical walls of the Cascade shown on S-24?

*Response:* #5@6" e.w.

**ITEM NO. 32:** *Inquiry:* It does not appear a mud valve spec was included in the original specifications. If time permits, please include a mud valve spec, confirming if the valves should be cast stainless steel or cast iron. Suggest mud valve specs for both cast stainless steel and cast iron can be reviewed at:

Mud Valve, Cast Stainless Steel: <http://www.trumbull-mfg.com/products/cast-stainless-steel-mud-valves>

Mud Valve, Cast Iron: <http://www.trumbull-mfg.com/products/cast-iron-mud-valves>

Whether you decide to use cast iron or cast stainless mud valves, we would appreciate your naming Trumbull Industries, Youngstown, Ohio in your specs. Trumbull was established in 1922. Thank for your consideration.

*Response:* Refer to ITEM NO. 45 in Addendum NO. 3.

**ITEM NO. 33:** *Inquiry:* Hartwell Engineering, Inc. is requesting to be added as an approved System Integrator per Specification Section 25 50 01 1.1.A.

We have extensive experience in the wastewater industry on numerous projects in the Mid Atlantic area, and have been in business over 20 years. We can provide additional qualifications to you upon request, but as an example we have a qualifications package that we provided to Maryland Environmental Service earlier this year for which we were awarded a four year status as an approved system integrator for all upcoming wastewater projects. (I tried to attach this file, but it exceeded your email attachment limit.) Hartwell Engineering also have previous and current experience working with major MCC and VFD manufacturers to fabricate and modify motor control centers and variable frequency drives in our UL 508 facility.

*Response:* Hartwell Engineering, Inc. will be added to the list of approved System Integrators in this Addendum.

**ITEM NO. 34:** *Inquiry:* Page 05 12 00-3 of the specifications require steel fabricators to be accredited by the International Accreditation Service (IAS) Fabricator Inspection Program for Structural Steel (AC172). Since there are only about (50) such fabricators in the US, can this be waived or are all fabrications to be considered miscellaneous metals?

*Response:* Fabricator may be certified by an alternate recognized authority such as AISC which certifies that the fabricator undergoes periodic quality control audits.

**ITEM NO. 35:** *Inquiry:* On the subject project, your firm has specified Carlisle Coatings MiraDRI 860/861.

We respectfully request approval of Aquaseal 5000 fluid applied waterproofing. This product meets the criteria of ASTM C-836 and E-96 and is VOC compliant. The VOC requirements that aquaseal 5000 meet are the

strictest in the US. The advantages of this product are the finished waterproofing will have no seams or overlaps, and will be homogenous.

Polycoat Products has plants in both California and Texas. Our Texas facility is 168,000 square feet in Bedford. We are one of the largest coatings manufacturers in the US.

Response: Follow the substation procedures stated in the specification.

**ITEM NO. 36:** Inquiry: Will any of the concrete tanks be required to be coated?

Response: Refer to the REVISIONS TO THE SPECIFICATIONS in this Addendum.

**ITEM NO. 37:** Inquiry: In Specification Section 06 60 02, paragraph 1.1, A, 3 lists Post Anoxic Influent Splitter Box as having fiberglass, rectangular, weir plates. Drawing PM-19 shows weir gates in this area & does not show weir plates. Are fiberglass weir plates required?

Response: No fiberglass weir is required in the referenced splitter box.

**ITEM NO. 38:** Inquiry: Drawing S-25 shows a new sump pit being put in hauled sludge digester #2. I am assuming there is currently a concrete slab there that will need to be removed. How thick is this existing slab to be removed? How thick is the new slab supposed to be & what rebar should be used in it as well as the shorter sump pit walls?

Response: The existing slab is approx. 3'-6" thick. New slab is 1'-6" thick. Reinforcement shall be #6@6" in the shorter wall and sump base slab.

**ITEM NO. 39:** Inquiry: Does the new divider wall in the hauled sludge digesters shown on drawing S-25 get epoxy doweled into the perimeter tank walls at both ends? If so, what size & what spacing?

Response: Use a single centered row of #6@6" dowels

**ITEM NO. 40:** Inquiry: The following questions are all related to drawing S-26:

- Detail 1 shows new slab on left hand side at elevation 413.87. The grating on the right of this same detail shows the same elevation however section B of this area clearly shows these 2 at different elevations. Which is correct?

Section B is correct the slab on the left is higher

- What is the elevation of the existing lowest floor slab shown in sections B & C?

PM drawings show this elevation as 409.87

- What are the top & bottom elevations of the multiple 12" wall infills shown on foundation plan 2/S-26? Nothing shown there or in the only section cut that you gave in B/S-26.

The top of the infills are intended to extend up to the top of adjacent wall sections. Base elevations of existing channels and walls can be referenced from the environmental drawings.

- What is the top elevation of the (2) center walls shown in section B? Depending on your answer to the 1<sup>st</sup> question that elevation may be given however 1 of them is not correct.

413.87

- What is the bottom & top elevation of the 8" wall shown on the Floor Plan & Foundation Plan that is perpendicular to the new concrete wall extension on the left hand side of the detail?

Bottom 409.87  
Top 416.41

Response: See responses following each inquiry.

**ITEM NO. 41:** Inquiry: What is the height of the monorail columns supposed to be shown on S-27?

Response: The contractor will need to verify the elevation in the field. The elevation should be set per C/S-27

**ITEM NO. 42:** Inquiry: Drawing PM-6, Section A-A shows new concrete with a note to see structural drawings. This work is not shown on S-28 which is the only headworks building drawing.

Response: Reinforce the new slab infill with #5@6" E.W., T&B. Dowel into the existing slabs and walls with a single row of #6@6" dowels around the perimeter. Provide a continuous hydrophilic waterstop around the perimeter.

**ITEM NO. 43:** Inquiry: The Ox Ditches shown on PM-10 & 11 have a note to grout & slope the new 10" concrete slabs that square of the corners. Does this mean

you want grout poured on top of the new elevated slabs? This is not shown on the structurals.

Response: The walls and elevated slabs shall be constructed in accordance with Section 1 on Sheet S-8. Grout shall be used on the top of the slab to ensure the slab drains properly into the tank and does not form “bird baths”.

**ITEM NO. 44:** Inquiry: PM-14 shows sidewalk on the north side of the bldg. C-1 shows this as paving like the other 2 sides of the building. Structurals & Architecturals do not show anything. Which is correct?

Response: The sidewalk on the north side of the BioMag Building shall be 4” thick concrete sidewalk reinforced with welded wire mesh 6x6 #10.

**ITEM NO. 45:** Inquiry: PM-14 note 5 & 5 call out contractor to design, supply & install support for specific items. In order for this to happen we need more information about these items such as size, weight, etc. This information is not in Appendix A.

Response: Approved shop drawings will be provided to the successful Contractor as they become available. Bidders are encouraged to contact Evoqua and Ovivo to discuss both the installation and the sizing of their equipment in preparation of their bids.

**ITEM NO. 46:** Inquiry: PM-17 shows multiple monorail support columns & beams. There are no structural drawings for this structure so there is no information on the sizes of these items. What are these items supposed to be?

Response: The monorail is intended to be a freestanding monorail system provided by a single manufacturer. The support columns and beams shall be provided by the monorail manufacturer.

**ITEM NO. 47:** Inquiry: Specification 41 22 23 Hoist Systems, Design Parameter Table does not list any hoists for the Post Anoxic Pump Station Valve Vault, but drawing PM-18 shows (2) hoists in the valve vault. Provide hoist information for these (2) hoists.

Response: Refer to ITEM NOs. 9, 16, 17, 51, and 52 in Addendum NO. 3.

**ITEM NO. 48:** Inquiry: Drawing PM-16A shows a precast concrete screen sump in section G/PM-14. This is not being provided by Evoqua. If this is to be supplied by the contractor we will need weight of the screen, size of the vault, etc.

Response: See the response to ITEM NO. 45 in this Addendum.

**ITEM NO. 49:** *Inquiry:* PM-21 shows sidewalk. C-1 has this hatched like paving. Which is correct?

*Response:* Referenced sidewalk shall be 4” thick concrete reinforced with welded wire mesh 6x6 #10.

**ITEM NO. 50:** *Inquiry:* Are the slabs on the flowable fill shown on PM-19 & PM-20A (Effluent Channel & Distribution Chambers) to be done as part of the precast contractors scope of work? If not, please give slab thickness & what reinforcing is to be used.

*Response:* The fill and slab shall be designed and provided by the precast post-tension manufacturer.

**ITEM NO. 51:** *Inquiry:* Please give a detail for the concrete landings at the stairs shown on PM-19A. How thick does this need to be & does it need a turn down?

*Response:* The referenced concrete landings shall be provided in accordance with the typical aluminum stair detail shown on sheet S-9.

**ITEM NO. 52:** *Inquiry:* Are the (2) stairs cases shown on PM-19A to be precast concrete? If not, please give details for them.

*Response:* The referenced stairs shall be aluminum and provided and installed in accordance with the Aluminum notes on sheet S-1.

**ITEM NO. 53:** *Inquiry:* Is the stair case shown on PM-17 precast concrete? If not, please give details for them.

*Response:* The referenced stairs shall be aluminum and provided and installed in accordance with the Aluminum notes on sheet S-1.

**ITEM NO. 54:** *Inquiry:* In Appendix A on Evoqua’s scope are (3) Surface Waste Pumps (P-310, P-320, P-330). I assume these are the “Surface Wasting Units” called out on section C on drawing PM-20. Please provide mounting details as the “depiction” on section C is not descriptive enough to discern what is required.

*Response:* The surface waste pump is included as part of the surface waste unit. The shop drawing provided by Evoqua for the Winebrenner project has been attached to this addendum for reference and bidding purposes only (drawing 45147-104). Approved shop drawings will be provided to the winning Contractor as they become available.

**ITEM NO. 55:** *Inquiry:* Flow Meters FE/FIT-310, 320 & 330 on Evoqua's scope in Appendix A are listed as 3" yet the PID's show them in a 2" line. Which is correct?

*Response:* The flow meters will be provided as 2" to match the line size.

**ITEM NO. 56:** *Inquiry:* Regarding specification section 46 33 33 – Centrifuge Polymer Feed System, drawing M-55 shows three (3) pumps while the spec indicates two (2) pumps. Please clarify the quantity of pumps require for this equipment.

*Response:* See the response to ITEM NO. 53 in Addendum NO. 3.

**ITEM NO. 57:** *Inquiry:* In regards to specification section 44 76 33 – Centrifuges, section 2.16, B. 20 states that the Bowl Drive shall be an 18 pulse drive. When attempting to get pricing from Allen-Bradley (the named manufacturer) they advised that they were not quoting an 18 pulse drive for this equipment. Is an 18 pulse drive necessary for such a small centrifuge or can an alternate VFD be provided?

*Response:* See the REVISIONS TO THE SPECIFICATIONS in this Addendum.

**ITEM NO. 58:** *Inquiry:* Biomag building 9/S-18 elevation varies bearing note , if this were correct would the bond beam need to cut to the bearing heights ?

*Response:* Since the roof planks are flat (not pitched), the bond beam will be positioned at a constant elevation. Therefore, the bond beam will not need to be cut. See revised Section 9/S-18 attached.

**ITEM NO. 59:** *Inquiry:* Biomag building S-15 looking for notes on grout fill on interior walls 4/S -17 in Blower room wall shows section but when looking @ 4/S-17 on page S-17 it shows 4/S-15 ?

*Response:* A section through the interior masonry walls has been added to clarify the reinforcement and bracing requirements for these walls.

**ITEM NO. 60:** *Inquiry:* Head works building there is no steel or bearing details for new 8' wide roll up doors – I am excluding masonry demo for these and providing a price to tooth and re-jamb unless I should include demo as well ?

*Response:* There are standard lintel details on the revised S-3.

**ITEM NO. 61:** *Correction to Addendum No. 3, Item No. 40:* The DBE requirements cannot be revised.



**REVISIONS TO THE SPECIFICATIONS**

Page 09 90 00-1, Painting – **ADD**, Paragraph 1.1.C.5. as follows:

**“5. No new or existing concrete surfaces are to be painted.”**

Page 23 81 28-1, Mini Split-System Heating and Cooling - **DELETE** Paragraph 1.2.D.

Page 25 50 01-1, Process Control System General Requirements – **ADD**, the following System Integrators to the list of Approved System Integrators in Paragraph 1.1.A.2:

**“GES Automation Technology  
2020 Greenwood Street  
Harrisburg, PA 17104  
717-236-8733  
Contact: Gary Slatt**

**Hartwell Engineering, Inc.  
2141 Priest Bridge Drive, Suite 8  
Crofton, MD 21114  
301-858-9281  
Contact: Tim Hartwell”**

Page 25 50 40-5, Programmable Controller System – **ADD**, Paragraph 2.4.A.10 to read as follows:

**“10. One (1) 12” PanelView Plus 7 Operator Interface Terminal.”**

Page 25 50 45-3, HMI Software – **ADD**, Paragraph 2.1.A.4.g to read as follows:

**“g. Provide a FactoryTalk ViewPoint three (3) Client System with the HMI software.”**

Page 26 21 00-1, Electric Service – **CHANGE**, Paragraph 1.2.B to read as follows:

**“B. The power company representative is Chuck Barger. Telephone number is 301-582-5266.”**

Page 40 23 19-3, Pipe and Pipe Fittings – **DELETE** Paragraph 2.5 and **REPLACE** with the following:

**“2.5 STAINLESS STEEL DOUBLE WALL PIPING SYSTEM**

- A. The double containment piping system shall be a Custom-Guard™ pre-fabricated system as manufactured by IPEX, or equal. The system shall be fabricated, installed and tested in accordance with IPEX’s recommendations and as specified herein and shall be suitable for the intended service. Manufacturer shall have a minimum of five (5) years experience. Contractor shall not design and/or fabricate the piping system.**

*(NOTE: The wording of all “Inquiries” submitted are displayed exactly as received.)*

**B. Each contained piping system shall consist of Schedule 40 T304L Stainless Steel primary piping system supported within a Schedule 10 T304L Stainless Steel secondary containment housing. Each system shall be provided with suitable drains and vents and be designed to provide complete drainage of both the primary and secondary containment piping. Interstitial supporting devices shall be made from Polypropylene clips and shall be provided within the secondary containment pipe, and shall be designed to allow continuous drainage in the annular space to the drain points. Drain fittings shall be designed to allow a valve attachment to be made so that the secondary containment compartment may be readily drained and manually checked for leaks.**

**C. Materials**

- 1. The primary pipe and fittings shall be manufactured from Schedule 40 T304L Stainless Steel materials as listed by ASTM and ANSI.**
- 2. The secondary containment pipe and fittings shall be Schedule 10 T304L Stainless Steel.**
- 3. All listed primary pipe and containments shall be schedule 40 materials. Pipe shall have schedule 40 steel pipe thickness according to ANSI. All listed pressure fittings shall be schedule 40 according to ANSI. All other unlisted components that are intended for use as pressure retaining components shall have sufficient thickness and reinforcement so as to be able to maintain the same pressure ratings as the equivalent schedule 40 steel pipe.**
- 4. Interstitial supporting devices used to center and support the primary piping within the secondary containment piping shall be manufactured from Polypropylene clips, according to ASTM and ANSI.**
- 5. All listed secondary containment pipe and fittings shall be schedule 10 thickness. Containment fittings shall have carrier components pre-assembled, supported and tested. Carrier fittings shall be pre-beveled ready for field welding. Containment fittings shall have spigot ends to allow for a closure coupling to be installed after primary system is pressure tested. All other unlisted components that are intended for use as pressure retaining components shall have sufficient thickness and reinforcement so as to be able to maintain the same pressure ratings as the equivalent schedule 10 T304L stainless steel pipe and fittings.**
- 6. All fittings will be pre-assembled and pre-tested by the manufacturer of Custom-Guard™ (IPEX), or equal.**

**D. Installation**

- 1. All installation procedures shall be according to the manufacturer's (IPEX) specific recommendations. (The manufacturer shall furnish the services of a competent representative to supervise the contractor's personnel during the start of installation.)**

*(NOTE: The wording of all "Inquiries" submitted are displayed exactly as received.)*

2. All primary piping welds shall be made using gas arc welding (GAW, TIG or MIG) techniques according to ASM B31.3. All welding shall be performed by a certified pipe welder and shall be subject to 100% visual inspection prior to testing.
3. Secondary containment joints shall be slip style closure couplings using (GAW) techniques according to ASME B 31.3. The splitting and re-welding of fittings shall not be permitted. Flanges, unions, couplings or other methods of disassembly shall be provided at connections to equipment, dissimilar piping, and at other locations suitable for inspection or dismantling of a system.
4. All contractor personnel that will prepare gas welded stainless steel field welds shall be qualified to do so according to the requirements of the ASME Boiler and Pressure Vessel Code, by sufficient experience, or by some other agreed to method.
5. All contractor personnel that will prepare stainless steel joints shall be qualified for such welding practices according to the welding qualification procedures described in ASME B 31.3, Chapter VII for welding of metal piping.

**E. Cleaning and Testing**

1. Upon completion of installation, the primary piping system shall be pressure tested at 150% of the system design pressure for a period of one hour. Additionally, the system may be tested during the installation at intervals to be determined by the manufacturer IPEX. Both the preliminary and final tests shall be done in strict accordance with recommendations of the manufacturer (IPEX) including the sequence and duration of such tests.
2. Upon completion of the installation, the secondary containment piping system shall be pneumatically tested at a minimum duration of 2 ½ hours. The external joints should be soaped and visually inspected for leaks. Both the preliminary and final tests shall be done in strict accordance with the recommendations of the manufacturer (IPEX), including the sequence and duration of such test.
3. Following installation of the systems, the primary piping system shall be flushed clean. The contractor shall check the operation of all valves, leak detection devices and appurtenances.
4. The annular space shall be purged of moisture containing air by replacing the volume of air with clean, dry nitrogen.

**F. Leak Detection**

1. Provide and install at each zone a density sensor station consisting of an external clip-on sensor, drip leg and drain valve with hose connection and/or riser and sensor extension handle. Each sensor shall have LED testing lamp, adjusting potentiometer and be removable for periodic testing. Sensor shall

*(NOTE: The wording of all "Inquiries" submitted are displayed exactly as received.)*

not penetrate the containment piping jacket. Control console shall be housed in a NEMA IV enclosure, operating on 120 VAC and supplies 24 VDC to zone sensors. Console shall have alarm lamps, pilot lamp, test buttons and mute switch. Console shall also have a common audible alarm and external output switch for accessory alarms. Leak detection system shall be Centra-Guard™ as manufactured by IPEX.

**G. Spare Parts**

1. Provide two sections of straight pipe, 5 feet in length.
2. Provide two spares of each type of fitting and specialty device used.”

Page 41 12 00-2, Screw Conveyors - In paragraphs 1.4.C.1, 2., 3., & 4., note that the trough diameter listed is to be the minimum diameter provided. The screw conveyor manufacturer is to provide the trough diameter they deem necessary to provide the specified design capacity. Also, in para. 1.4..C.2.c., **CHANGE** trough diameter to **16½”**.

Page 43 27 33-1, Automatic Strainer – **CHANGE**, paragraph 1.2.D. to read as follows:

- “D. Strainer must be a Model AP as manufactured by S.P. Kinney, a 700 Series Hyper-Jet as manufactured by Fluid Engineering, or equal.”**

Page 46 33 46-1, Polymer Feed Pumps – In Paragraph 1.1.A.1., **CHANGE** “Two polymer...” to read **“Three polymer...”**.

Page 46 66 56-9, Ultraviolet Disinfection System – **ADD**, Paragraph 2.2.R. as follows:

**“R. Channel Level Control:**

1. Provide each channel with a motorized self-contained tilting weir gate to maintain the proper water level in the channel for varying flow rates. Gate actuators shall be 480V, 3-phase with a positioner to accept a 4-20 mA positioning signal and shall have a 4-20 mA position report back output signal. Each actuator shall have an integral 480V, 3-phase disconnect, local/remote selector switch and open/stop/close pushbuttons and a digital display. Actuator controls shall be of the non-intrusive type with setup and programming accomplished using on-board devices or a hand-held infrared programmer. Provide auxiliary dry contact outputs for “remote status, full open status, and fully closed status”. The level control gates will be powered by breakers located in a local motor control center. The gate positioning control and status monitoring shall be performed by the UV system control center. All analog and status input and output wiring shall terminate in the UV system control center.
2. Provide a level probe and level transmitter for each UV channel. Level signal to be utilized for level control gate positioning. Level transmitters shall be of the sonic or radar type. Provide necessary length of signal

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**cable from the probe to the transmitter. Level transmitters shall operate on a 120V, 1 phase power source. Provide the necessary stainless steel mounting hardware for the probe.”**

Page 46 76 33-12, Centrifuges - In Paragraph 2.16.B.20, in the fourth sentence, **CHANGE** “2.5% impedance” to **“5.0 % impedance”**.

Page 46 76 33-12, Centrifuges - In Paragraph 2.16.B.20, in the fifth sentence, **CHANGE** “18 pulse drive” to **“6 pulse drive”**.

### **REVISIONS TO THE DRAWINGS**

Drawing No. C-3, Proposed Yard Piping Plan – Where Line No. 144 ties into Line No. 6, provide a 30”x6” saddle for making the connection.

Drawing No. C-4, Yard Piping Schedules - In New Yard Piping Schedule, for Pipe No. 130, **CHANGE** Size to **3 - 1 ½”** and **CHANGE** Test Pressure to **100 PSI**.

Drawing No. C-7, Yard Piping Connection Details - **DELETE** Connection Detail No. 21 and **REPLACE** with revised Connection Detail No. 21, attached to this Addendum No. 4.

Drawing No. PM-39, Filter/UV Building Plan and Sections/Drawing No. E-57, Filter/UV Electrical Plan – The two level control gates shown on Drawing No. PM-39 are being **CHANGED**, to a motorized type. Therefore, on Drawing No. E-57, **ADD**, power and control wiring from each level control gate as follows:

- 1. 3#10+#10 Neutral – ¾”C to MCC –F**
- 2. 2#18SHLD, and #14 ground link -3/4”C to UV System Control Center**
- 3. 10#14-3/4”C to UV System Control Center.**

Drawing No. E-2, Existing Electrical Site Plan – **ADD**, Note 7 to read as follows:

- “7. Relocate the existing site lighting conduits located to the south of the existing final clarifiers as required for the construction of Final Clarifier No. 3 and the Final Clarifier No. 3 RAS Pump Station.”**

Drawing No. E-3, Overall Electrical Site Plan - **CHANGE** the underground electric service duct bank as shown on the attached drawing, and **ADD** an electric service manhole to the duct bank run. The electric service will originate from the power company junction box located to the south of Final Clarifier No. 3. This revision applies to the large scale electrical site plans.

Drawing No. E-32, Headworks Building HVAC Electrical Plan - **ADD** a NEMA 4X start/stop push button station at each of the two entry doors to the Grit/Bar Screen Area. Run 4#14-3/4”C from each start/stop push button to PLC-H for start/stop control of the Headworks Ventilation Fans.

*(NOTE: The wording of all “Inquiries” submitted are displayed exactly as received.)*

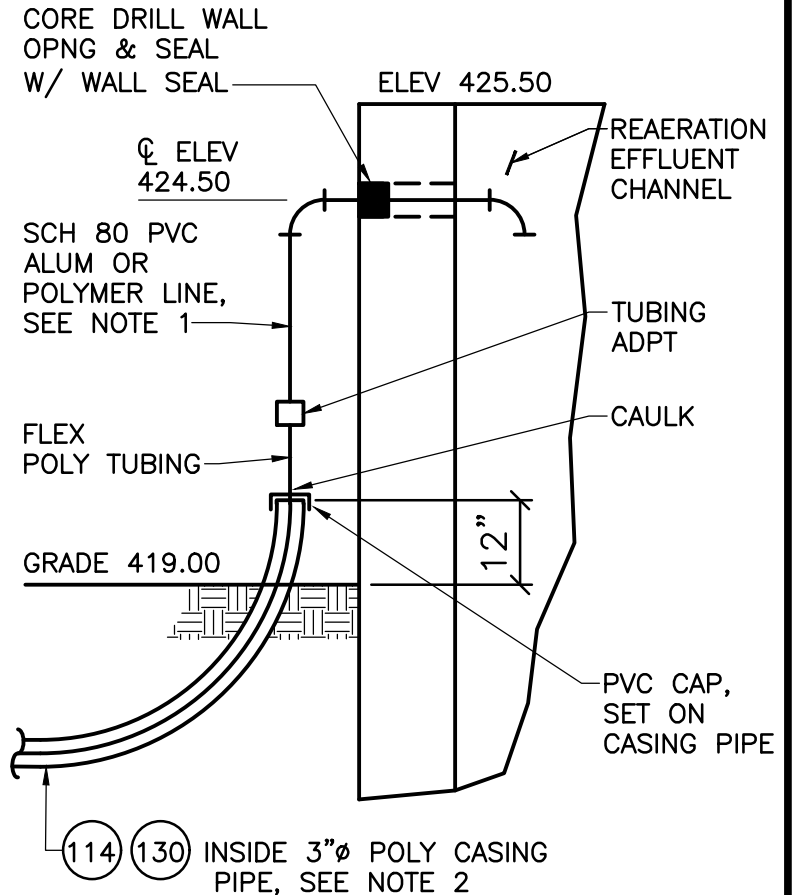
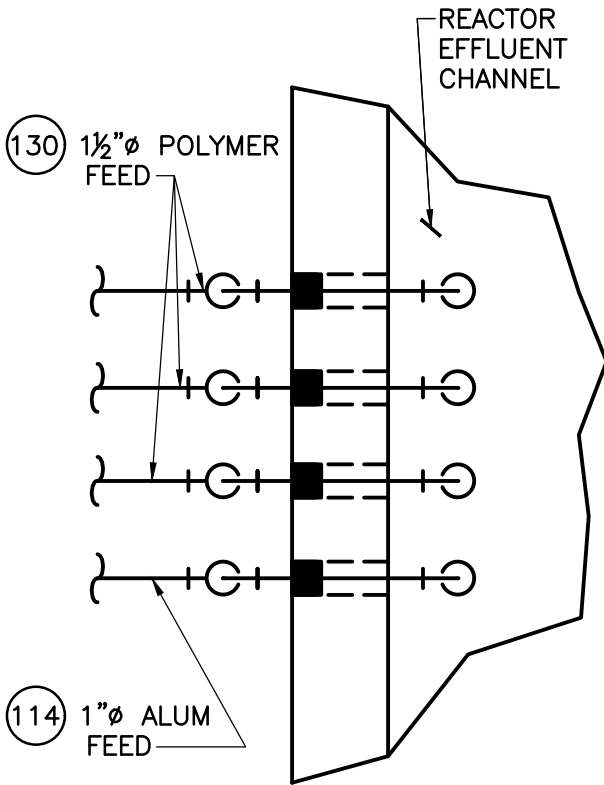
Drawing No. PCS-42, MCC-F Elevation and One-Line Diagram – In MCC-F one line wiring diagram; **ADD**, two 20A-3P T-M breakers to power the UV Channel No. 1 and UV Channel No. 2 level control gates.

The UV System supply will provide a level transmitter for each channel which will be located upstream of the level control gates. Power each transmitter from a spare 20 amp breaker in Panel “FL”. Using 2#12-3/4” C. Route 2#18 SHLD and No. 14 ground – ¾ to from each transmitter to the UV system Control Center.

BY AUTHORITY OF:

A handwritten signature in black ink, reading "Karen R. Luther". The signature is written in a cursive, flowing style.

Karen R. Luther, CPPO  
Director of Purchasing



**NOTE:**

1. INSULATE AND HEAT TRACE ALUM AND POLYMER FEED LINES FROM 3'-6" BELOW GRADE TO FACE OF CONCRETE WALL.
2. PROVIDE LONG SWEEP RADIUS AT EACH CHANGE IN DIRECTION OF THE CASING PIPE. CASING PIPE TO TERMINATE 12" ABOVE BIOMAG BUILDING FLOOR.

PLAN

SECTION

21  
C-7  
C-3

# CONNECTION DETAIL NO. 21

NOT TO SCALE

\\BHR\FST1\DATA\PROJ\76436-02\CADD\ADDENDUM\C-7\_76436-02ED07.DWG/5/2/2016 4:23 PM/Smyser, Ed

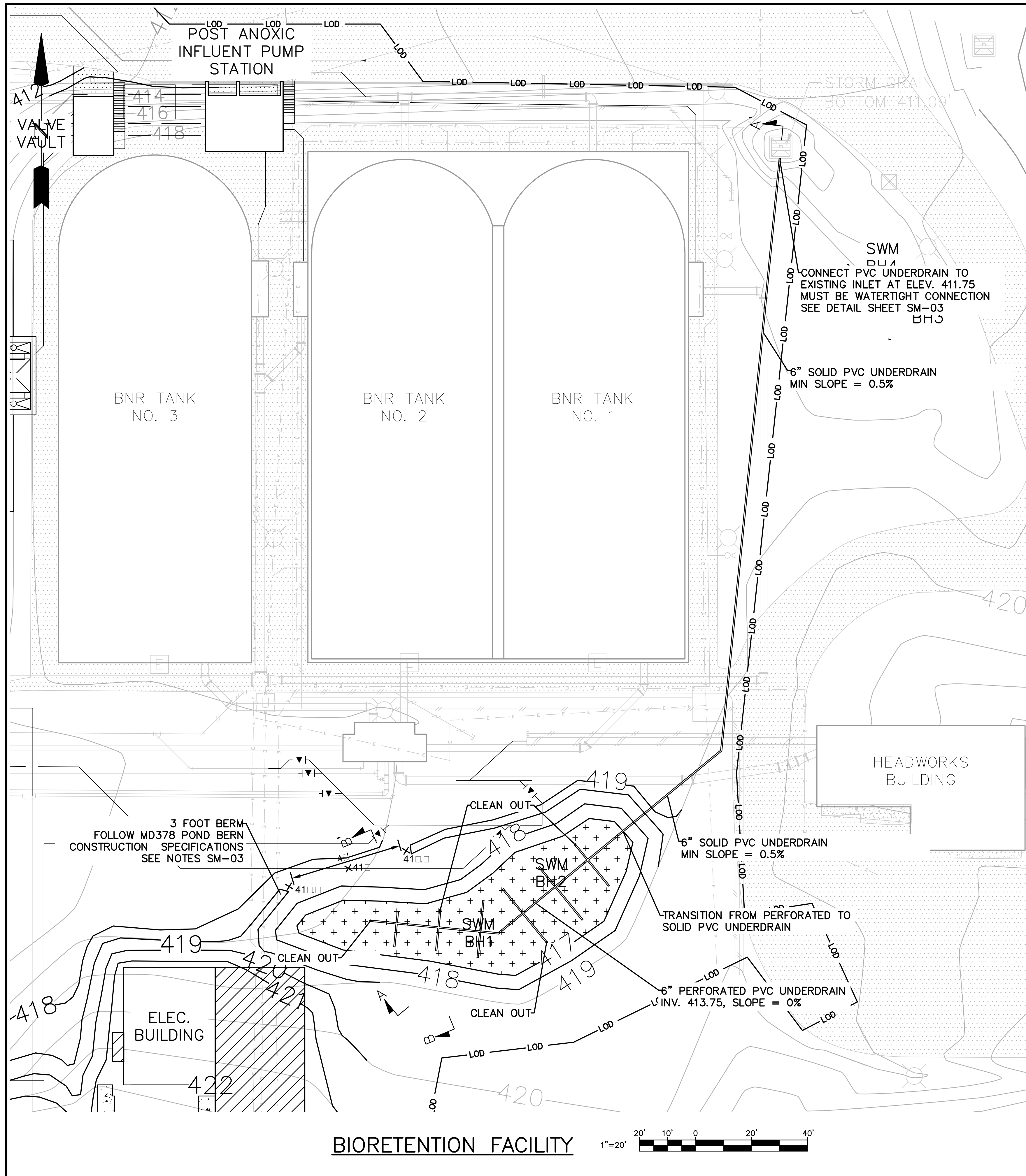


WASHINGTON COUNTY, MARYLAND  
DEPARTMENT OF WATER QUALITY  
CONOCOCHIEGUE  
TREATMENT PLANT BNR UPGRADE

PROJECT NO:	14-001
ISSUE DATE:	5/2016
ISSUED FOR:	ADDENDUM
SHEET REF:	C-7
CHECKED BY:	JMW
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DWG TITLE:	YARD PIPING CONNECTION DETAILS
DWG NO.:	C-7





**NOTES:**

**BIORETENTION**

- THE CONTRACTOR SHALL ENSURE THAT CONSTRUCTION EQUIPMENT AND VEHICLE TRAFFIC IS KEPT OUTSIDE OF THE PROPOSED BIORETENTION LOCATION. COMPACTION OF THE SOILS AND MEDIA IN THIS AREA IS UNACCEPTABLE.
- THIS SITE IS LOCATED IN A KARST AREA. GEOTECHNICAL FIELD EXPLORATIONS DETERMINED THAT INFILTRATION TYPE FACILITIES ARE NOT SUITABLE AT THIS LOCATION. THE FOLLOWING NOTES PERTAIN TO CONSTRUCTION REQUIREMENTS RELATED TO THE KARST TERRAIN:
  - AFTER EXCAVATION, ANY LOOSE OR BLASTED ROCK SHALL BE COMPLETELY REMOVED TO A DEPTH OF AT LEAST THREE (3) FEET BELOW THE PROPOSED FACILITY BOTTOM AND REPLACED WITH CONTROLLED FILL CONSISTING OF CLAYEY ON-SITE OR IMPORTED SOILS.
  - SUBGRADE SOILS WHICH WILL SUPPORT CONTROLLED FILL SHOULD BE PROOF-ROLLED WITH APPROVED CONSTRUCTION EQUIPMENT TO LOCATE ISOLATED SOFT SPOTS OR AREAS OF EXCESSIVE "PUMPING" WHICH ARE TOO WET TO ACCOMMODATE COMPACTED FILL. THESE AREAS SHOULD BE EITHER SCARIFIED, AIR-DRIED TO A SUFFICIENT MOISTURE CONTENT AND RE-COMPACTED PRIOR TO FILL PLACEMENT, MECHANICALLY STABILIZED OR REMOVED TO THE LEVEL OF STABLE SOILS.
  - THE BIORETENTION FACILITY SHALL BE FULLY LINED (BOTTOM AND SIDES) WITH A SYNTHETIC IMPERMEABLE LINER. SEE MATERIAL SPECIFICATIONS AND DETAILS ON SM-03.
- THE PERFORATED UNDERDRAINS SHALL BE SET AT 0% SLOPE AND BE MADE OF 6" DIAMETER PVC PIPE WITH 1/2" PERFORATIONS EVERY 6" ON CENTER. OBSERVATION WELLS (AKA CLEAN OUTS) SHALL BE PLACED AT THE SPECIFIED LOCATIONS AS SHOWN ON PLANS. THE OBSERVATION WELL SHALL CONSIST OF A RIGID NON-PERFORATED PVC PIPE, 6" IN DIAMETER. THE TOP MUST EXTEND 6" ABOVE THE FINAL FACILITY TOP ELEVATION AND BE CAPPED WITH A SCREW, OR FLANGE TYPE COVER. A LOCK IS NOT NECESSARY.
- THE 12" GRAVEL LAYER OF NO. 57 STONE SHALL FULLY WRAP THE UNDERDRAIN.
- THE BIORETENTION MEDIA SHALL CONFORM TO THE SPECIFICATIONS AS PROVIDED ON SWM-03. THE MEDIA SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. THE MEDIA SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 12 INCHES. THE MEDIA SHALL BE COMPACTED BY SATURATING THE ENTIRE BIORETENTION FACILITY AREA AFTER EACH LIFT OF MEDIA IS PLACED. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.
- THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD FINE SHREDDED AGED HARDWOOD MULCH. THE MULCH SHOULD BE APPLIED UNIFORMLY TO A DEPTH OF 3 INCHES. YEARLY REPLENISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.

**OPERATION AND MAINTENANCE INSPECTION AND SCHEDULE**

- THE OWNER SHALL INSPECT THE FACILITY ANNUALLY AND AFTER EVERY HEAVY STORM TO DETERMINE IF THE BMP IS DRAINING PROPERLY. THE FILTER SURFACE AREA AND THE OBSERVATION WELL SHOULD BE CHECKED.
- THE OWNER SHALL REMOVE ANY DEBRIS FROM THE FACILITY.
- THE OWNER SHALL REMOVE AND REPLACE 3" OF HARDWOOD MULCH ANNUALLY.
- IF FACILITY IS NOT PROPERLY DRAINING, THE BIORETENTION SOIL MIX MUST BE REMOVED AND REPLACED.
- THE OWNER SHALL MOW THE SIDE SLOPES AS NEEDED.

**OPERATION AND MAINTENANCE PLAN - BIORETENTION**

Inspection Item	Inspection Requirements	Remedial Action
<b>Maintenance Access</b>		
General	Check for accessibility to facility, excessive vegetation, surface stability	Repair erosion and maintain access surface in good condition
<b>Pretreatment</b>		
Grass filter strip or sand layer	Check for sediment accumulation	Remove sediment as needed
Optional sand layer	Check sand for staining and sediment accumulation	If contaminated, replace first three inches of sand layer
Gravel diaphragm	Check for sediment accumulation and evidence of erosion	Remove sediment and replace gravel as needed
Mulch layer	Check for a (1-2) inch mulch layer	Remove mulch and replace as needed
<b>Filter Bed</b>		
Dewatering	Check for dewatering within 48 hours of rainfall, noticeable odors, water stains on the filter surface or at the outlet, presence of algae or aquatic vegetation	Remove mulch and the top (1-2) inches of soil/sediment and replace with suitable materials per plan specifications; follow up inspections shall confirm adequate dewatering; contact the plan approval authority if the facility does not function as intended
Sediment	Check for sediment accumulation	Remove sediment as needed
Mulch layer	Check for adequate cover, sediment accumulation, discoloration	Remove and replace mulch and excess sediment as needed
<b>Vegetation</b>		
Plant composition and health	Check for plant composition according to approved plans; invasive species, weeds, and dead or dying vegetation	Remove and replace plants as necessary
Vegetative cover/erosion	Check for erosion, runoff channelizing, or bare spots	Repair/grade and stabilize as needed
<b>Outlets</b>		
Underdrain system	Check outlet end to ensure that discharge is not obstructed; check for erosion	Remove any flow obstructions; grade and stabilize any eroded areas to provide stable conveyance
Overflow spillway	Check for displacement or rip-rap, stable conveyance, and erosion below the outlet	Repair and replace as needed
<b>Conveyance Systems</b>		
General	Check for erosion, flow blockages or bypass, and stable conveyance	Repair/replace and stabilize as needed
Flow diversion	Check flow splitter for proper functioning	Repair as necessary
<b>Trash and Debris</b>		
	Check for trash and debris accumulation	Trash and debris shall be disposed of in an acceptable manner
<b>Structural Components</b>		
	Check for structural deterioration, spalling or cracking	Repair according to specifications on the approved plan

Field conditions may require a modification to the original approval in order to achieve the intended design function. The plan approval authority should be contacted for review and approval of all proposed modifications. Inspection and maintenance should occur after any major rain event (e.g., meeting or exceeding the design rainfall depth for the facility).

**NOTICE OF REQUIRED STORMWATER MANAGEMENT INSPECTIONS  
SAND FILTERS, BIORETENTION AND RAIN GARDEN FACILITIES**

The following inspections are required to be performed by the Qualified Professional for the construction of any Sand Filter, Bio-Retention or Rain Garden Facility. Additional inspections may be needed based on professional engineering judgement. Each inspection is required at the start of each stage.

Inspection Item	Certifying Engineer	Date	County Inspector	Date
<b>EXCAVATION OF FACILITY</b> - Prior to excavation, verify sediment and erosion control features are in place to prevent sediment inflow. Verify all flagging required in the area for sensitive area protection. Verify grading is accurately established-out and re-established as needed. Facility dimensions shall be verified and soils checked for infiltration. Verify contributing area is permanently stabilized. Verify that water is not present. Ensure roughening of side walls if sheared and sealed by heavy equipment. Verify that compaction of facility base is minimized.				
<b>PLACEMENT OF FILTER CLOTH (Trenches)</b> - Ensure filter fabric is overlapping six (6) inches between strips of cloth. Ensure tree roots or other obstacles are removed from facility walls or sides and base to prevent tearing. Verify that upfill fabric roll overlaps two (2) feet over downhill roll.				
<b>PLACEMENT OF UNDERDRAINS AND OBSERVATION WELLS</b> - Location, size, and material of under drain and observation wells shall be verified prior to stone placement. Verify pipe ends capped. Verify 12" gravel cover.				
<b>PLACEMENT OF FILTERING MEDIA</b> - Verify bottom layer material and thickness. Verify sand and/or filter media layer and thickness. Verify filter fabric or pea gravel used between sand layers. Verify top filter media layer.				
<b>PLACEMENT OF SAND FILTER LAYER OR GRAVEL DIAPHRAGM</b> - Verify depth and width of sand and/or diaphragm layer. Verify fill material.				
<b>STABILIZATION AND LANDSCAPING</b> - Verify site top soiled, seeded and mulched. Verify embankment top soiled and seeded. Verify location, size, type and number of planted landscape material. Verify no more than 1/2 inch root ball exposed. Verify planting stock kept moist during on-site storage. Verify installation location, size, material type of fencing or other safety barriers.				

The Qualified Professional may request the presence of a County Construction Standards Inspector at least 4 hours in advance by calling (410) 311-4111.

**RK&K**  
RUMMEL, KLEPPER & KAHL, LLP  
81 MOSHER ST.  
BALTIMORE, MARYLAND 21217  
410.728.2900

**BUCHART HORN, INC.**

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 1420, Expiration Date: 04/20/2017.

WASHINGTON COUNTY, MARYLAND  
DEPARTMENT OF WATER QUALITY  
CONOCOCHEAQUE WASTEWATER  
TREATMENT PLANT ENR UPGRADE

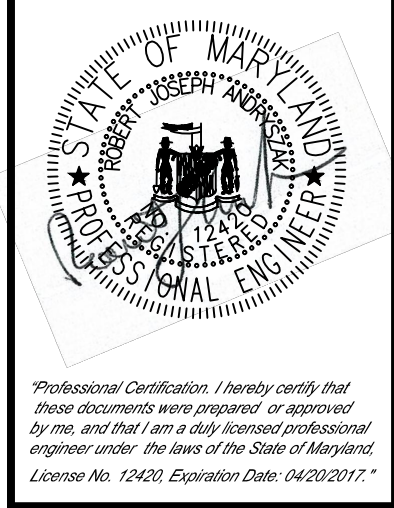
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DESIGN BY: RJA  
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DATE: 3/24/2016  
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**STORMWATER  
MANAGEMENT  
PLAN**

DRAWING NO.: **SM-02**  
SHEET NO.: 22 OF 327  
SP-15-028



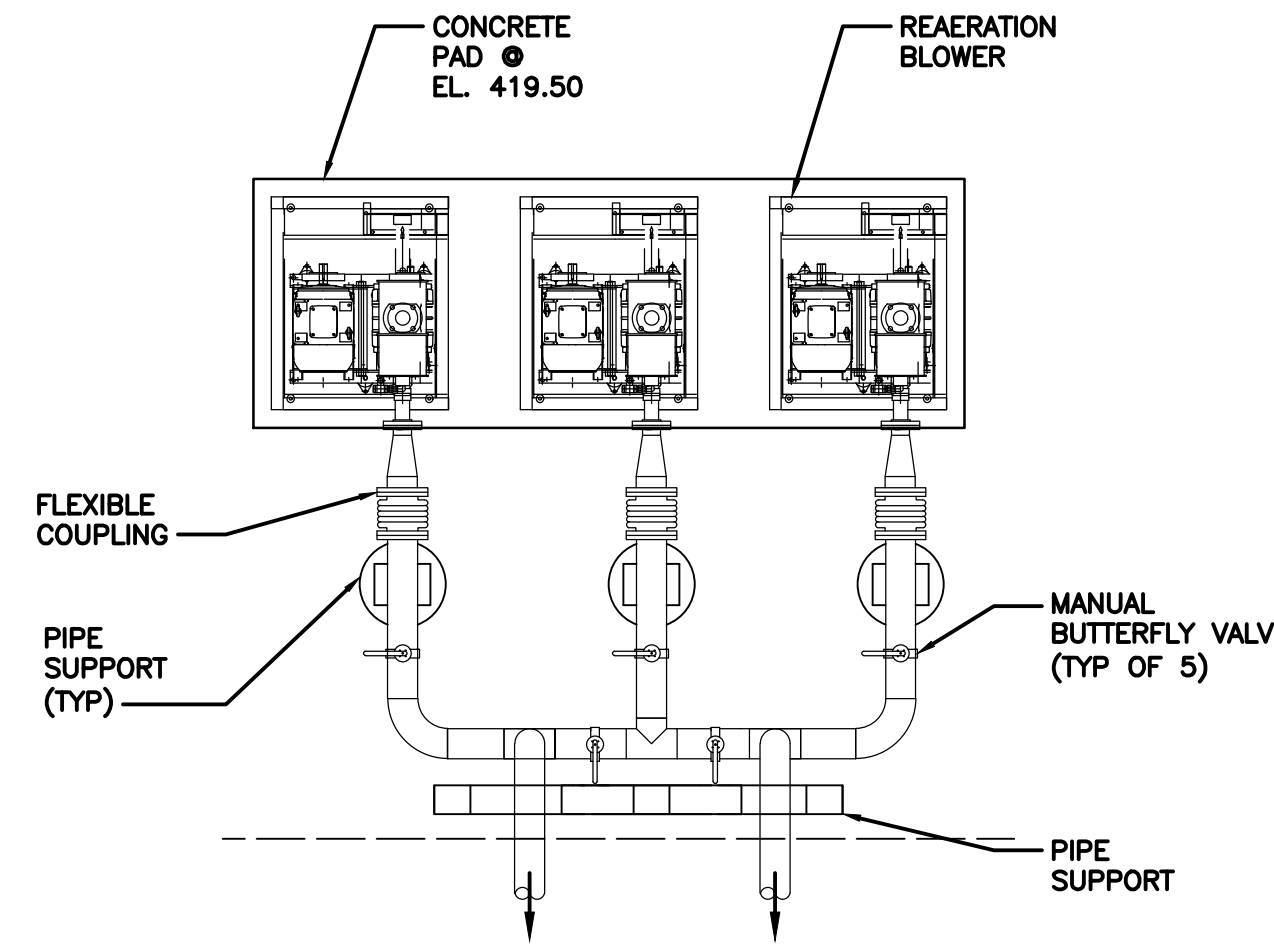
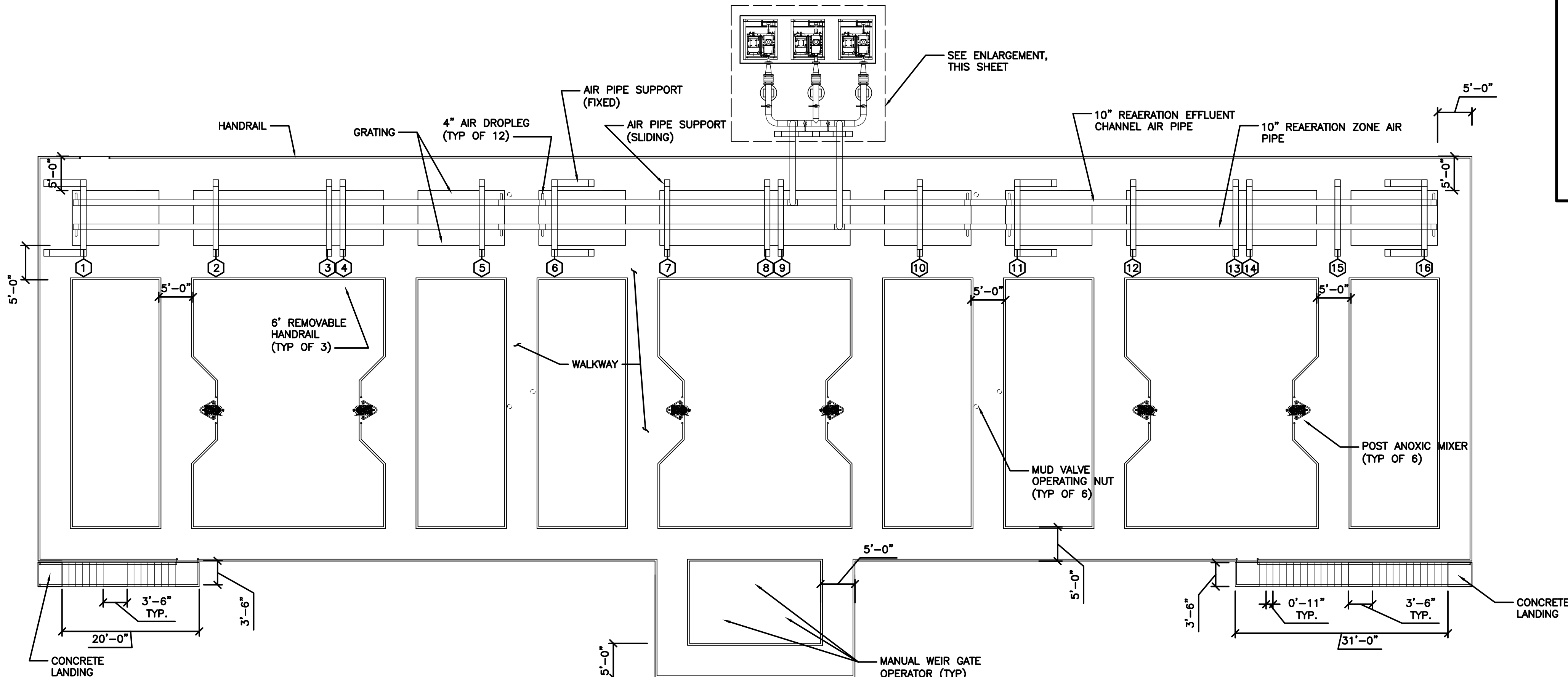


WASHINGTON COUNTY, MARYLAND  
 DEPARTMENT OF WATER QUALITY  
 CONOCOCHEAQUE WASTEWATER  
 TREATMENT PLANT ENR UPGRADE

NO.	REVISION	BY	DATE

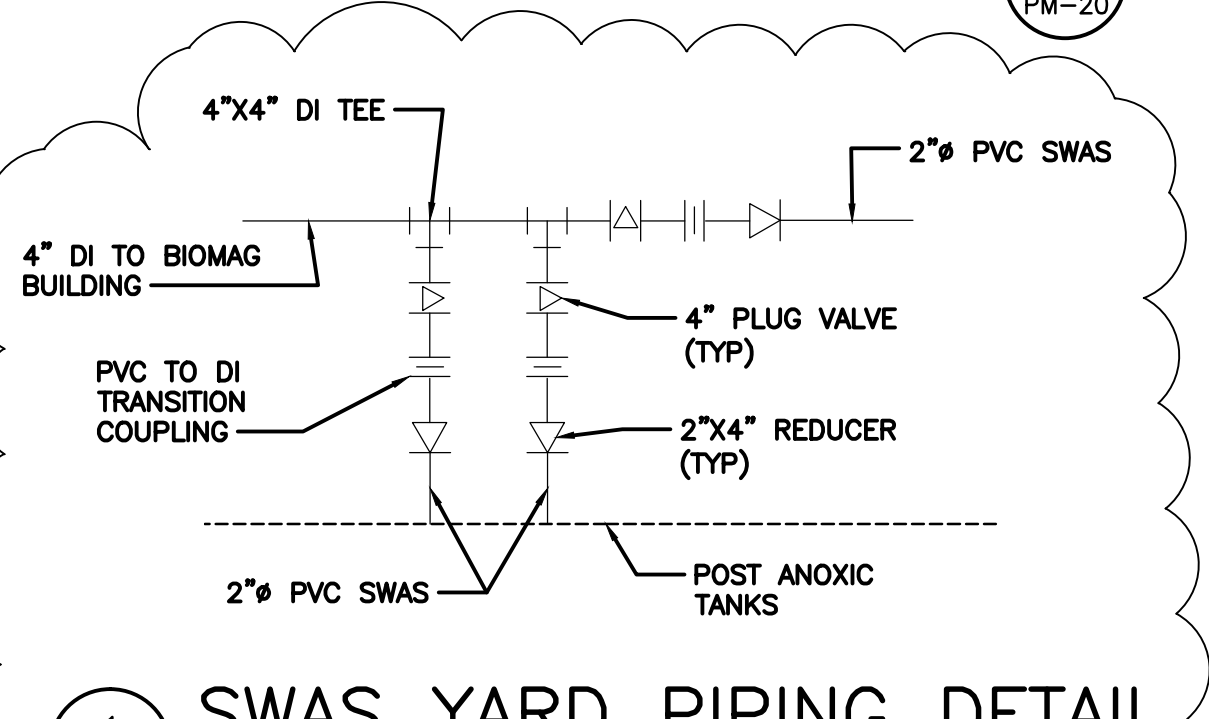
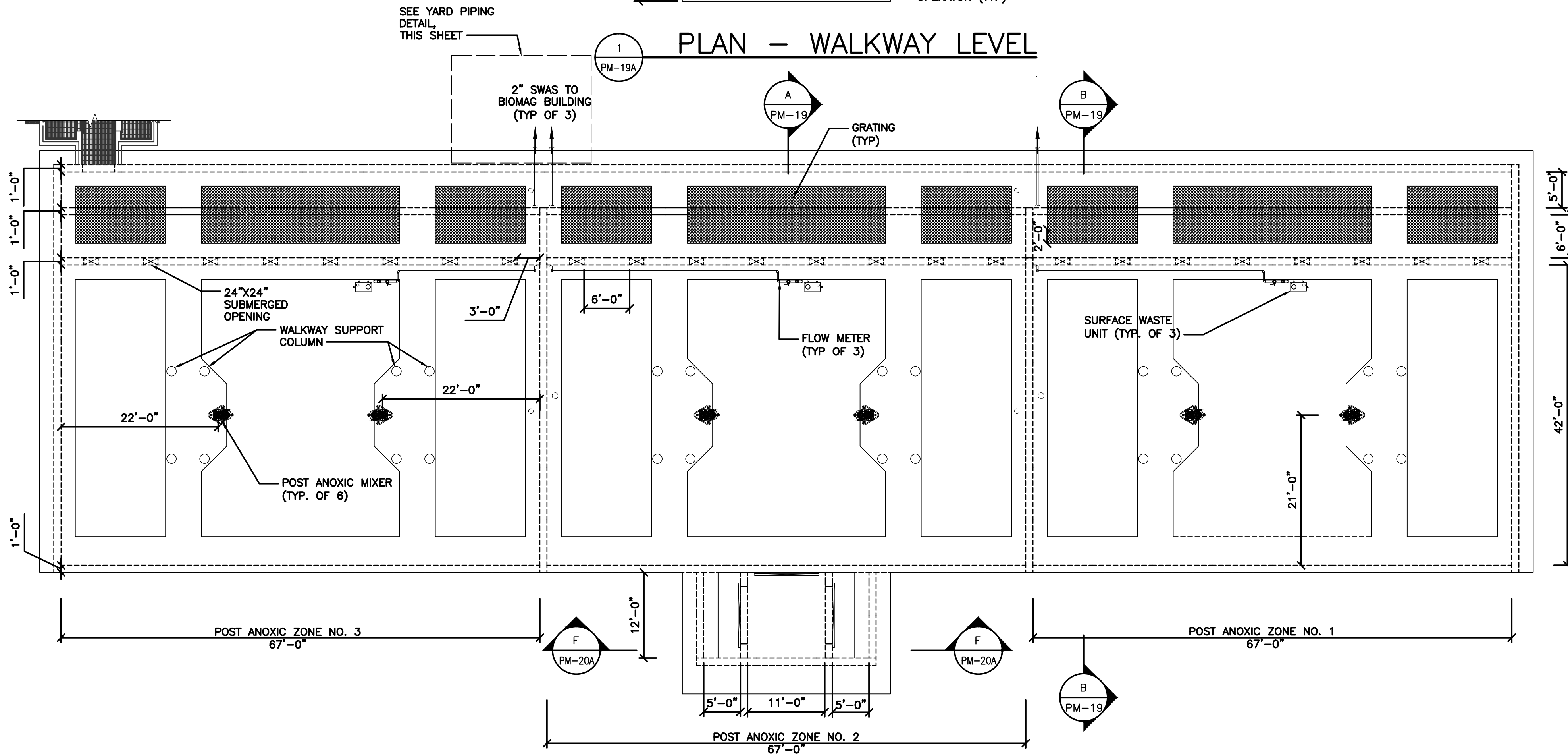
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 CHECKED BY: RJA  
 DATE: 3/24/2016

POST ANOXIC/ REAERATION TANK PLANS  
 DRAWING NO.: **PM-19A**  
 SHEET NO.: 45 OF 327  
 SP-15-028

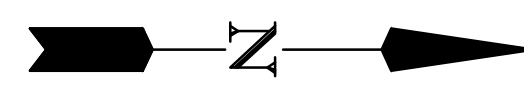


**1** PM-19A  
**BLOWER ENLARGEMENT**

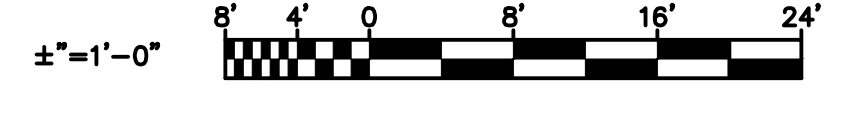
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6	FIXED	0+68.65
7	SLIDING	0+85.00
8	SLIDING	0+99.65
9	SLIDING	1+01.65
10	SLIDING	1+21.91
11	FIXED	1+36.10
12	SLIDING	1+53.00
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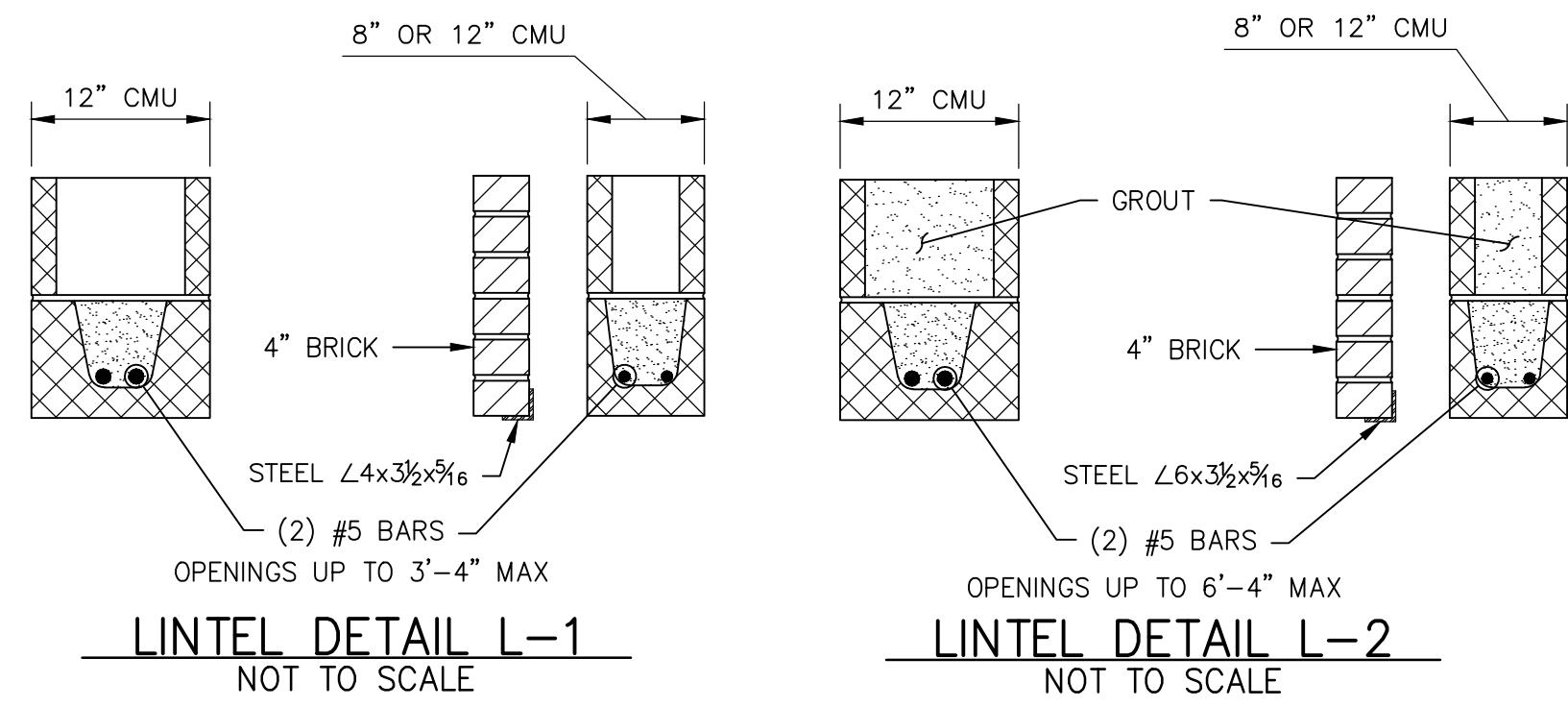


**1** PM-19A  
**SWAS YARD PIPING DETAIL**



**1** PM-19A  
**PLAN - BELOW WALKWAY**

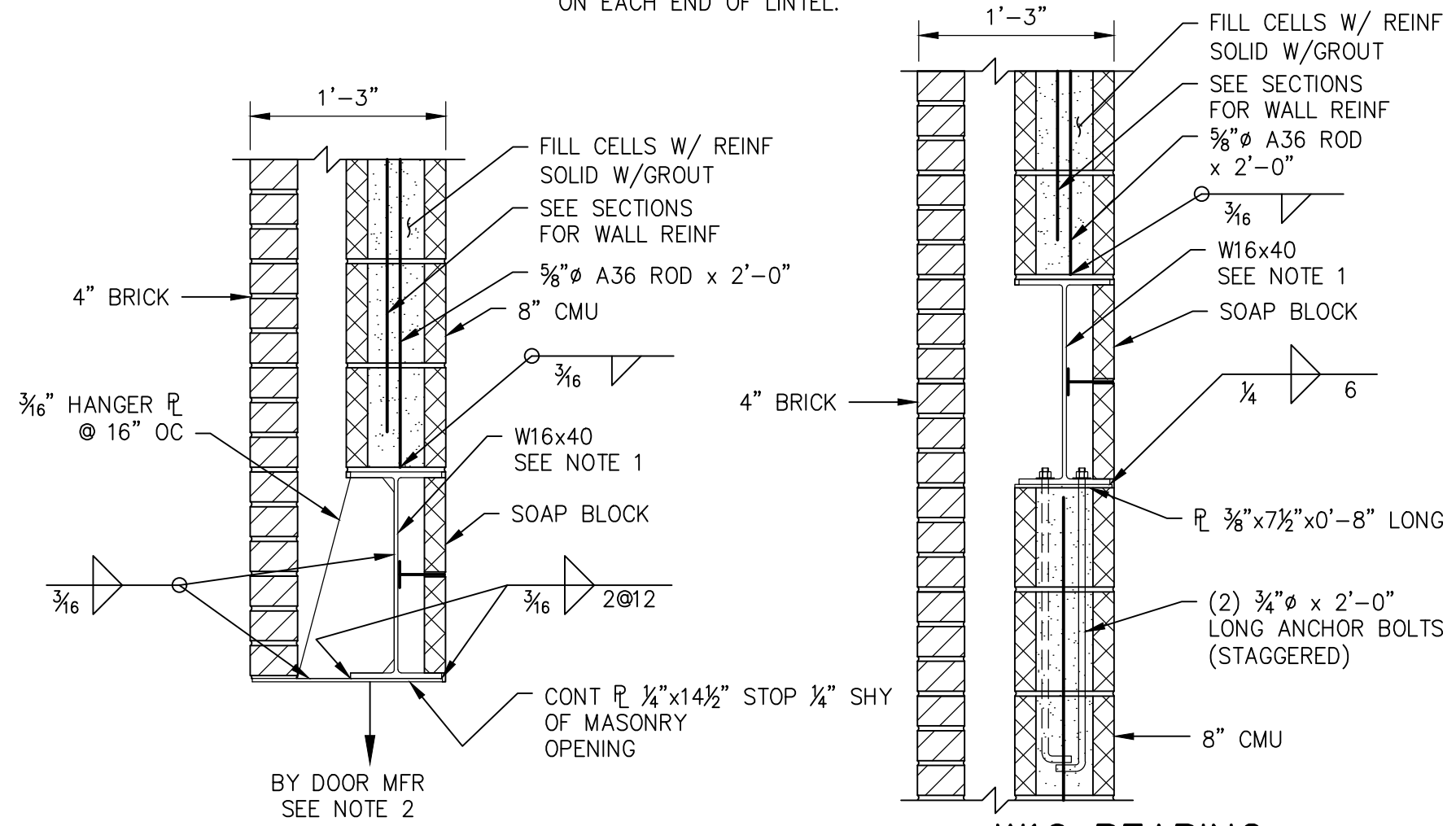




**LINTEL DETAIL L-1**  
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**LINTEL DETAIL L-2**  
NOT TO SCALE

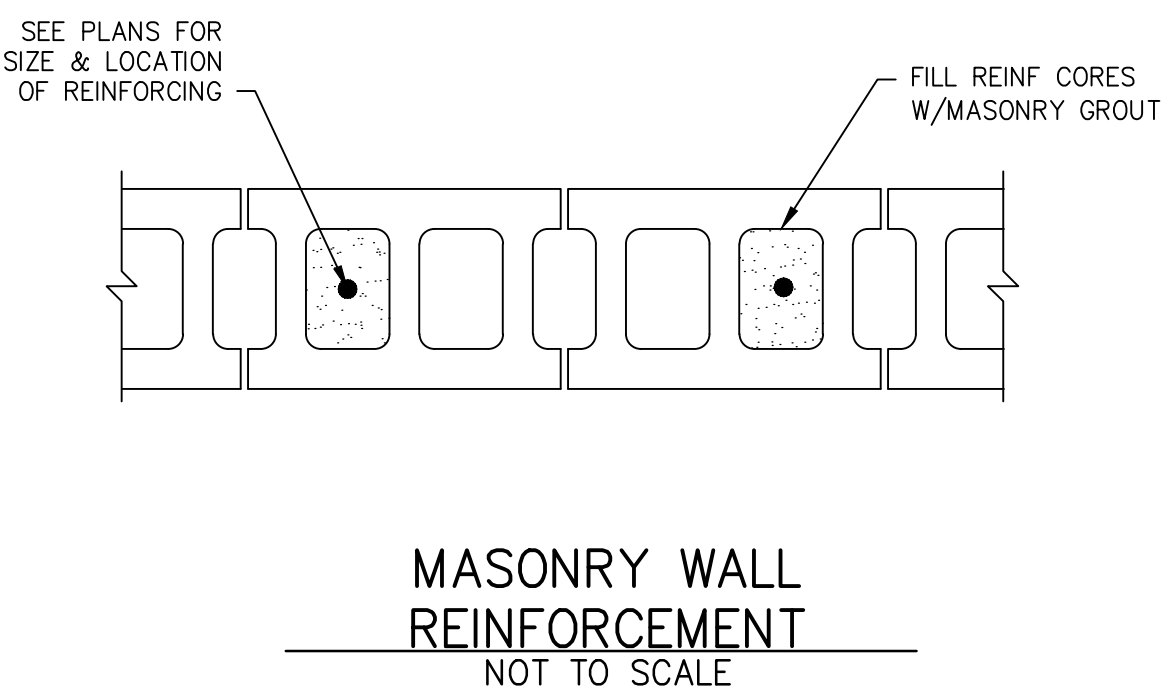
NOTE:  
PROVIDE 6" MIN BEARING  
ON EACH END OF LINTEL.



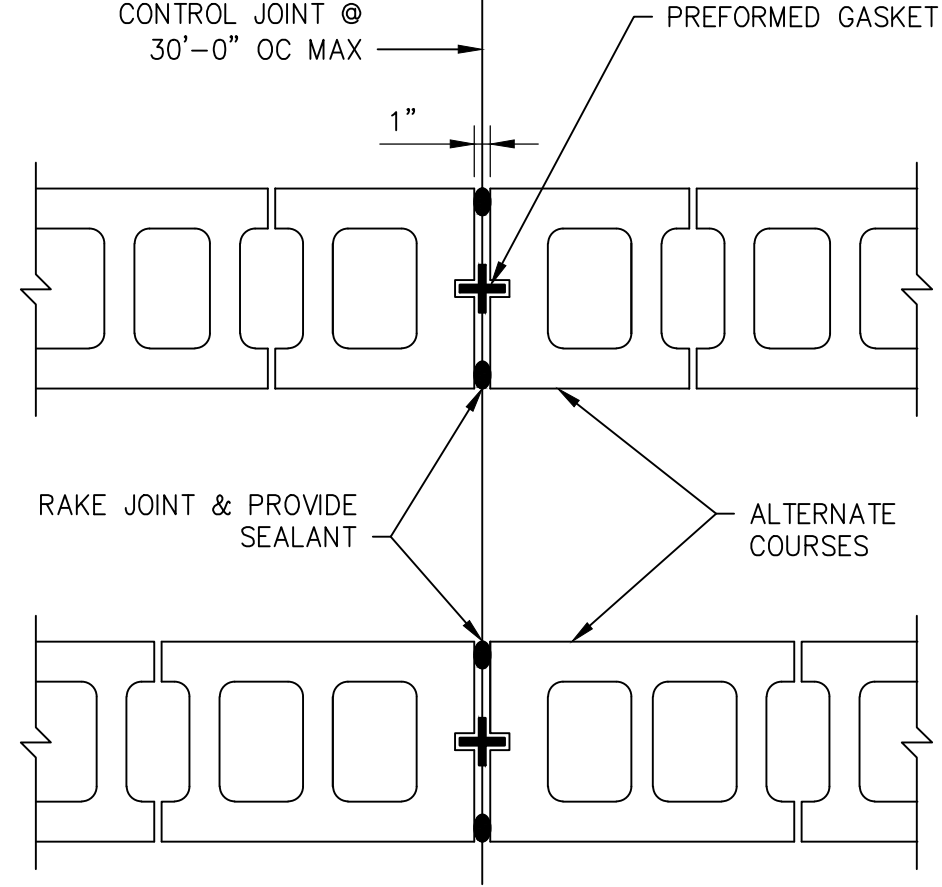
**W16 BEARING  
ON CMU WALL**

**OVERHEAD DOOR  
LINTEL DETAIL L-3**  
NOT TO SCALE

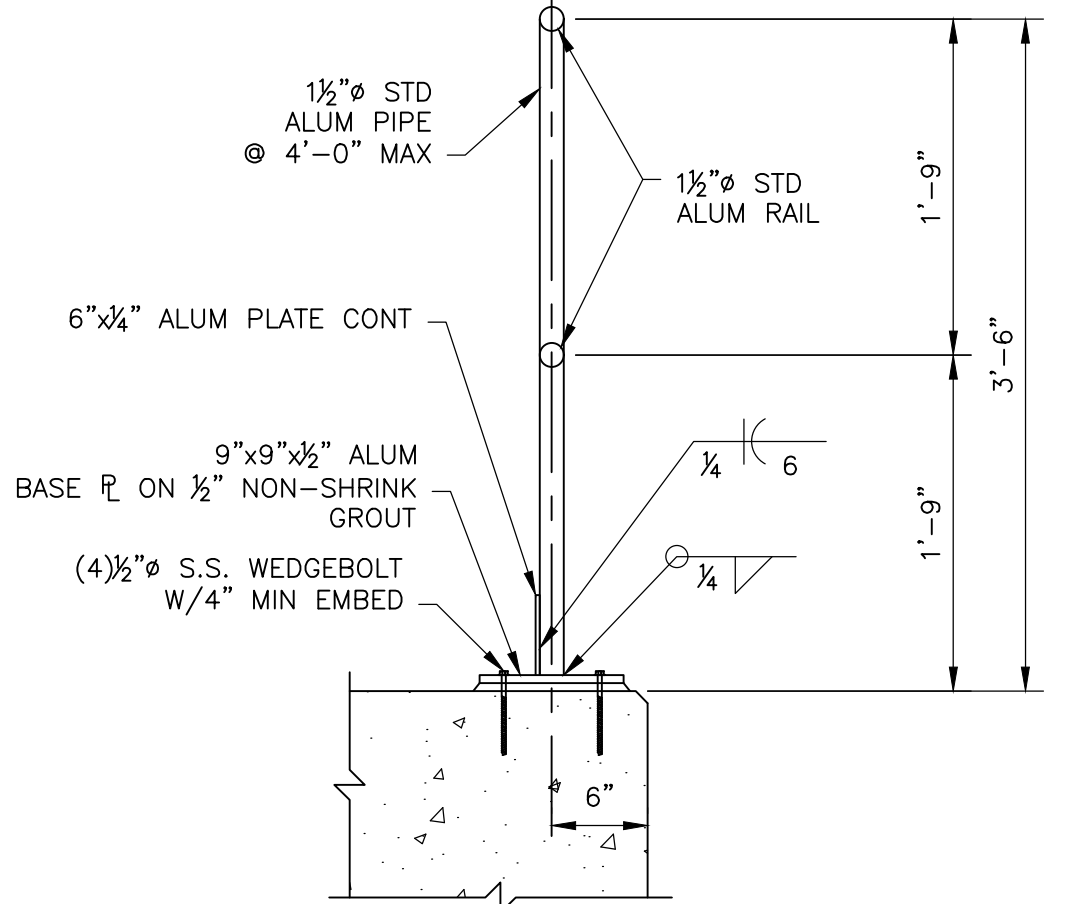
- NOTES:
1. PROVIDE 8" MIN BEARING ON EACH END OF LINTEL. SEE "W16 BEARING ON CMU WALL" FOR DETAIL.
  2. MAXIMUM WIDTH M.O. = 14'-0".



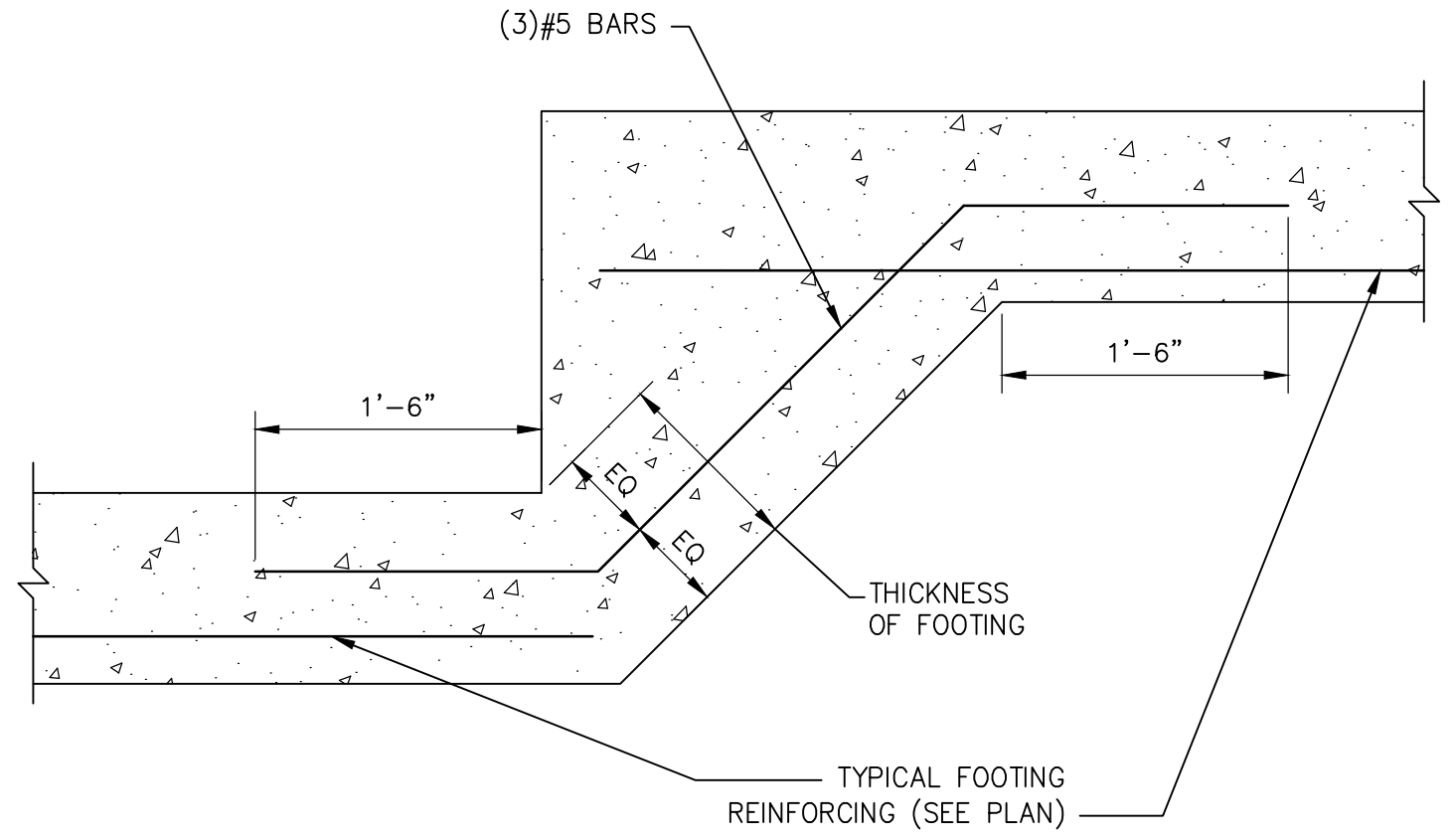
**MASONRY WALL  
REINFORCEMENT**  
NOT TO SCALE



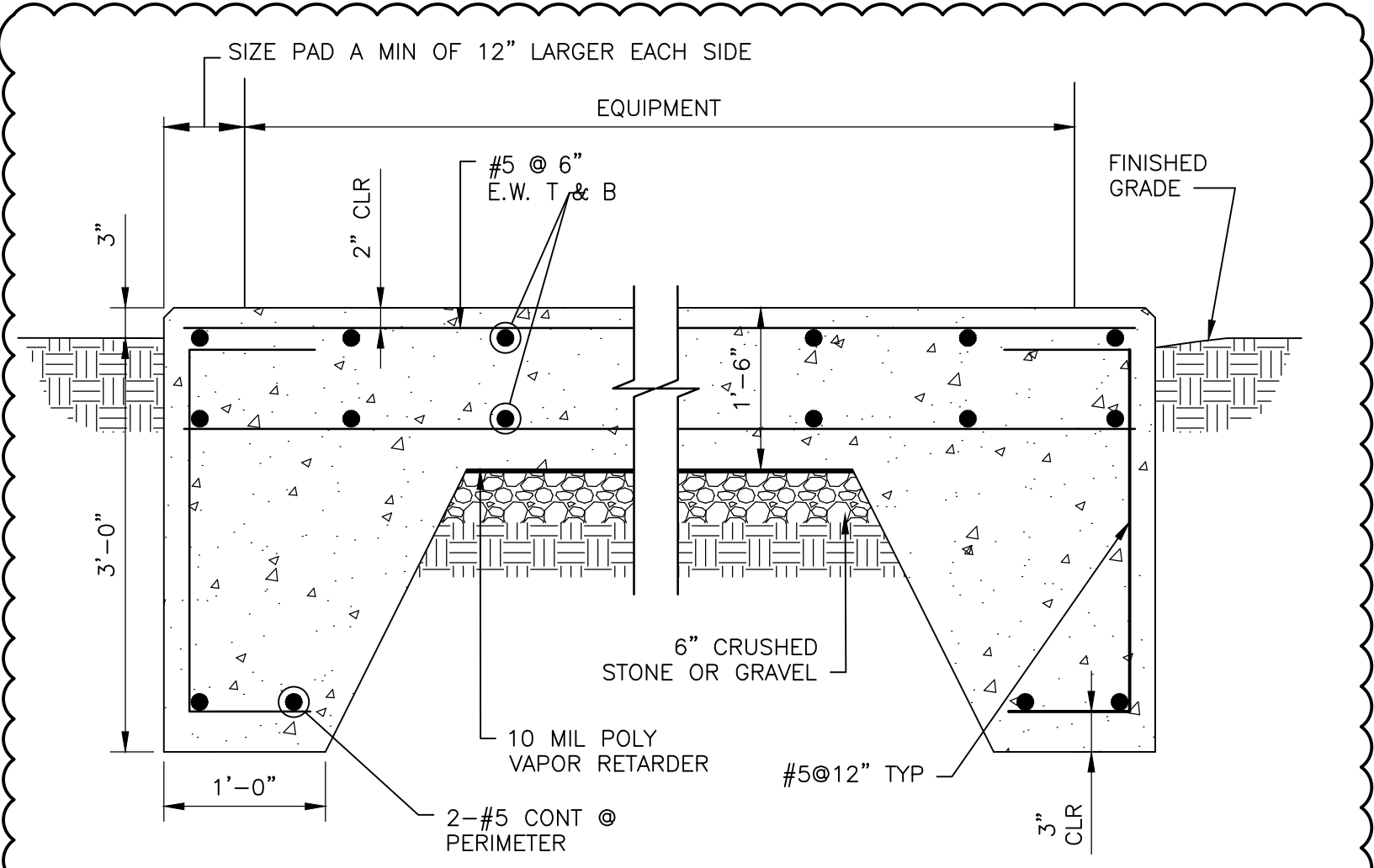
**CONTROL JOINTS IN  
MASONRY WALLS**  
NOT TO SCALE



**ALUM HANDRAIL CONNECTION**  
NOT TO SCALE

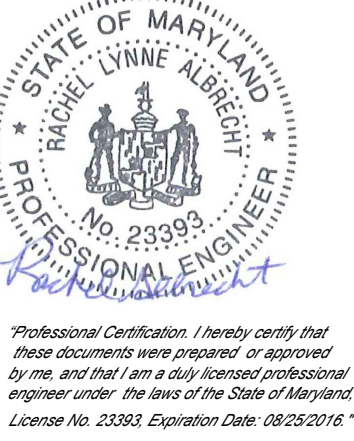
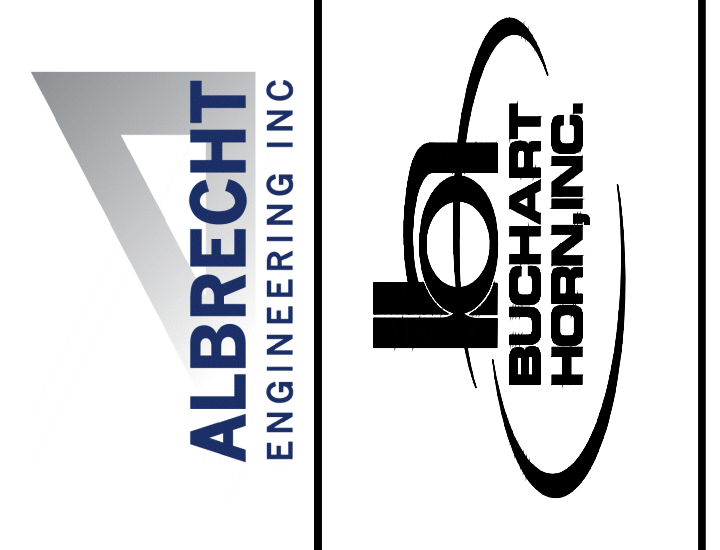


**STEP FOOTING**  
NOT TO SCALE



**EQUIPMENT PAD SUPPORT**  
NOT TO SCALE

NOTE: SEE TYPICAL DETAIL FOR ADDITIONAL REINFORCEMENT AT SLAB CORNERS



WASHINGTON COUNTY, MARYLAND  
DEPARTMENT OF WATER QUALITY  
CONOCOCHEAQUE WASTEWATER  
TREATMENT PLANT ENR UPGRADE

ADDENDUM #3	DATE	BY	REVISION
	5/05/16	JWG	

PROJECT NO.: 76436-04  
CAD FILE: 2014-026-S-1\_S-3.dwg  
ENGR./ARCH.: AEI  
DESIGN BY: JWG  
DRAWN BY: KAP  
CHECKED BY: RLA  
DATE: 3/24/2016

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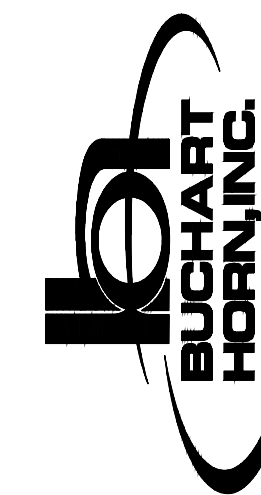
**TYPICAL  
DETAILS**

DRAWING NO:  
**S-3**  
SHEET NO:  
101 OF 327  
SP-15-028





**ALBRECHT**  
ENGINEERING INC



*Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 29395, Expiration Date: 08/25/2016*

WASHINGTON COUNTY, MARYLAND  
DEPARTMENT OF WATER QUALITY  
CONOCOCHEAQUE WASTEWATER  
TREATMENT PLANT ENR UPGRADE

ADDENDUM #3	NO.	REVISION	BY	DATE

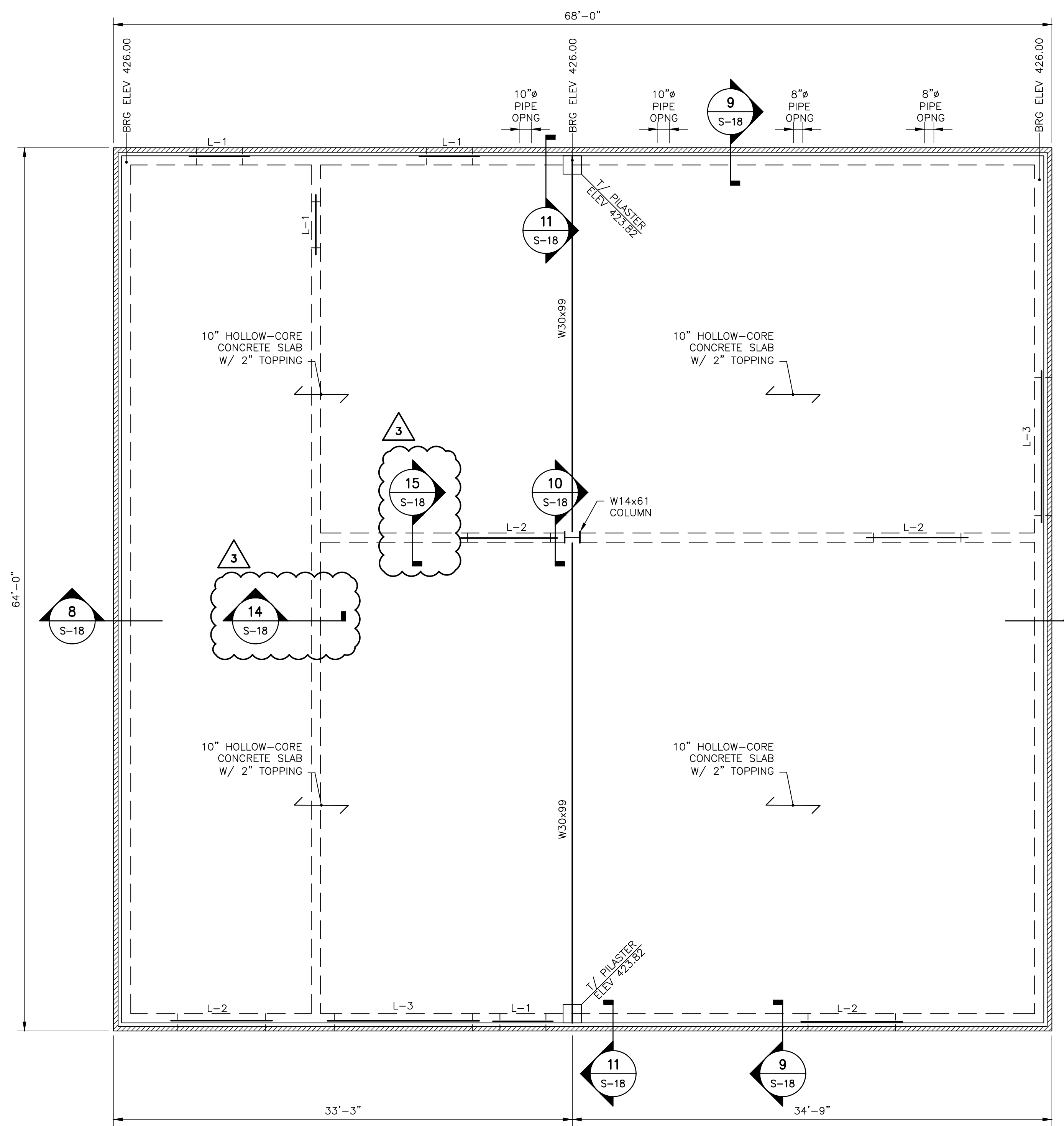
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 ENGR./ARCH.: AEI  
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 DRAWN BY: KAP  
 CHECKED BY: RLA  
 DATE: 3/24/2016

BIOMAG BUILDING  
ROOF FRAMING PLAN

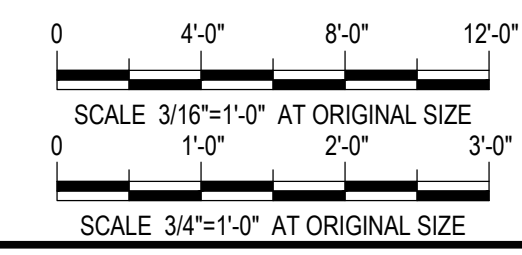
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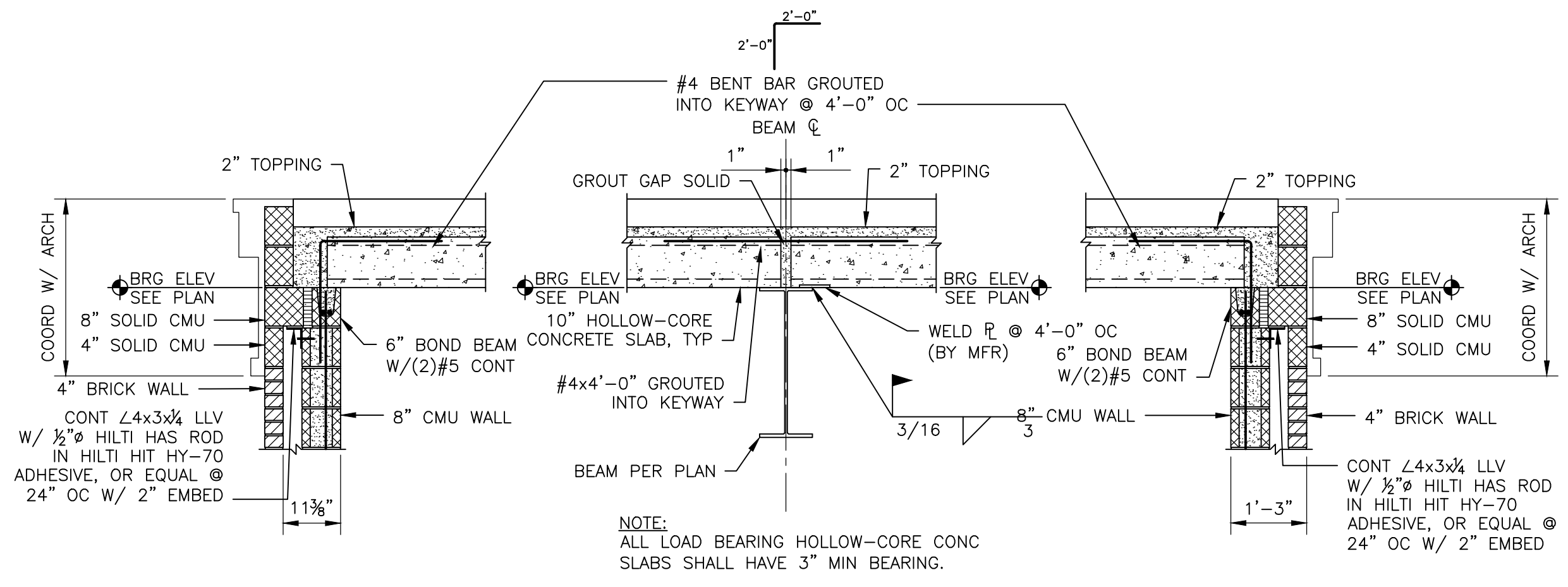
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114 OF 327

SP-15-028

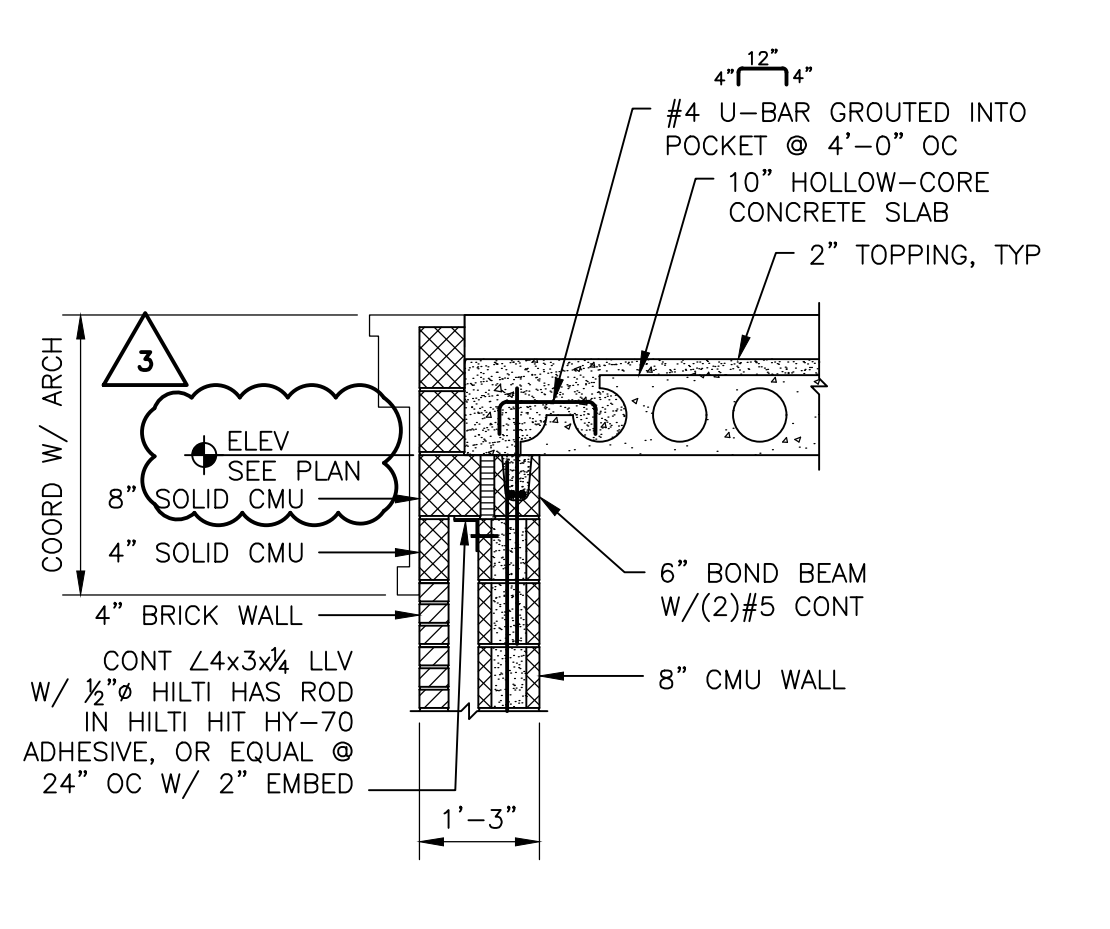


BIOMAG BUILDING  
ROOF FRAMING PLAN  
SCALE: 3/16" = 1'-0"

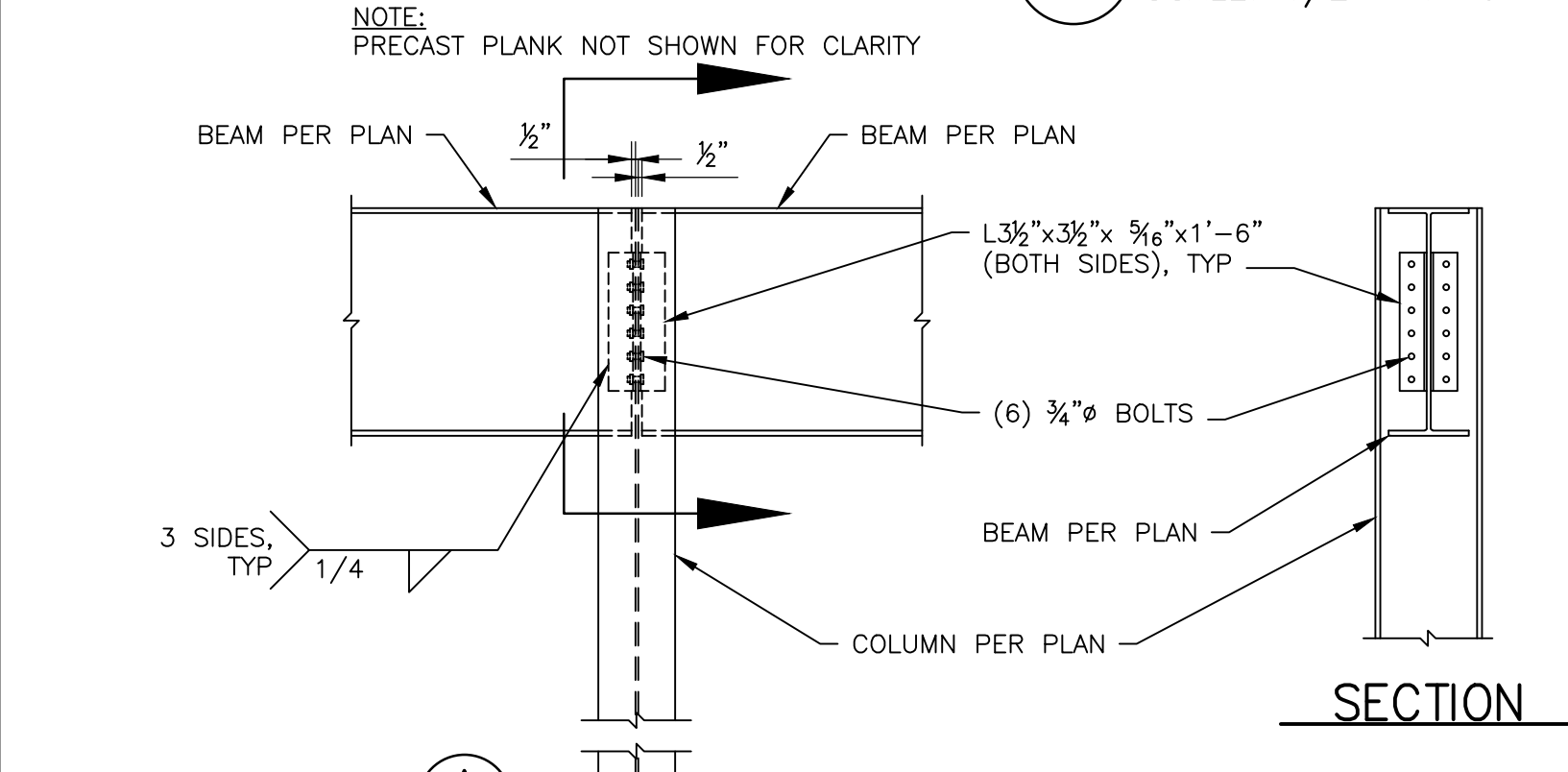




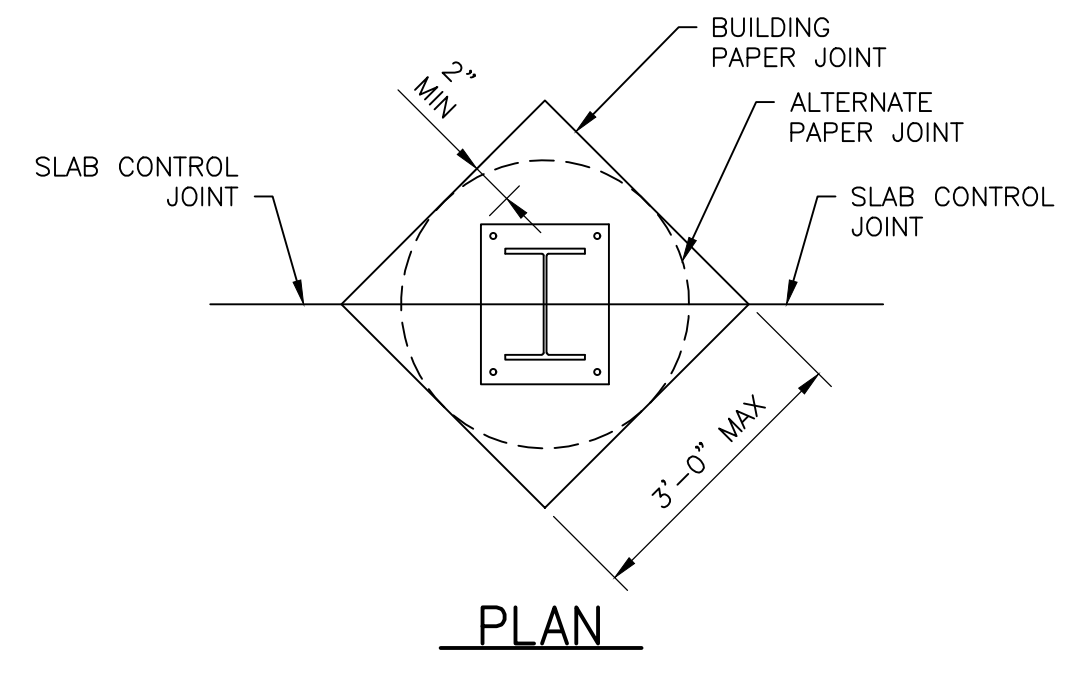
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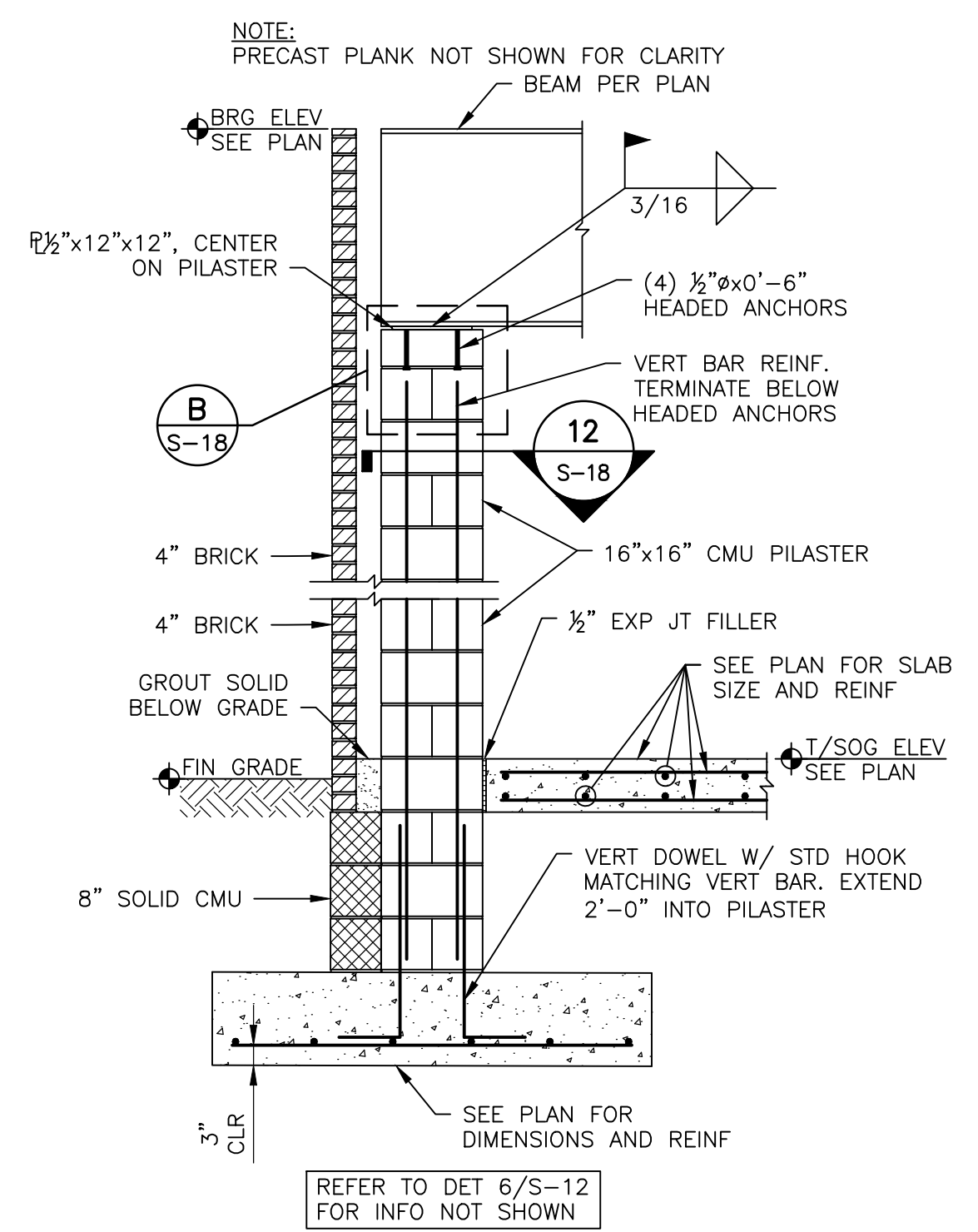
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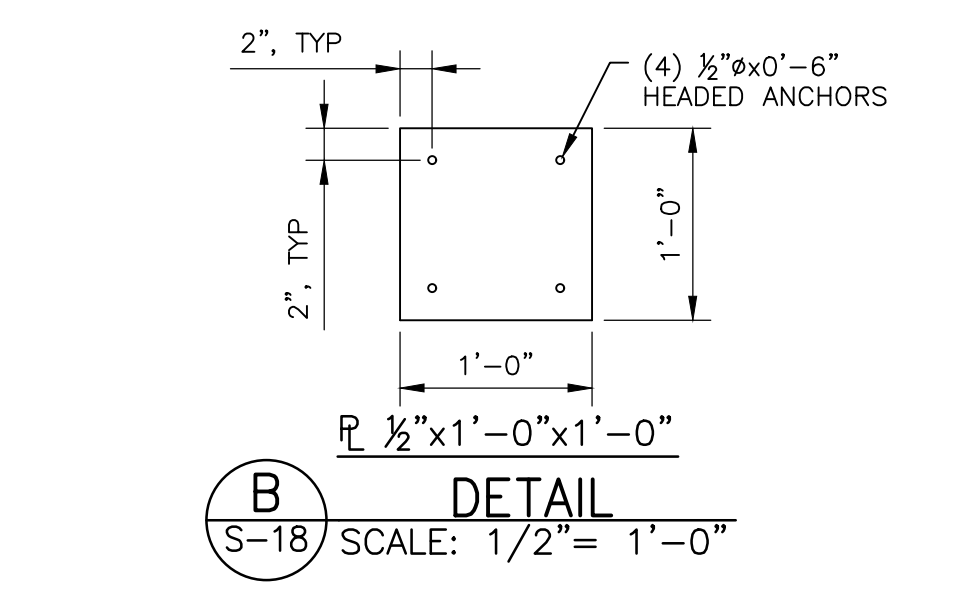
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S-15, S-16 SCALE: 1/2" = 1'-0"



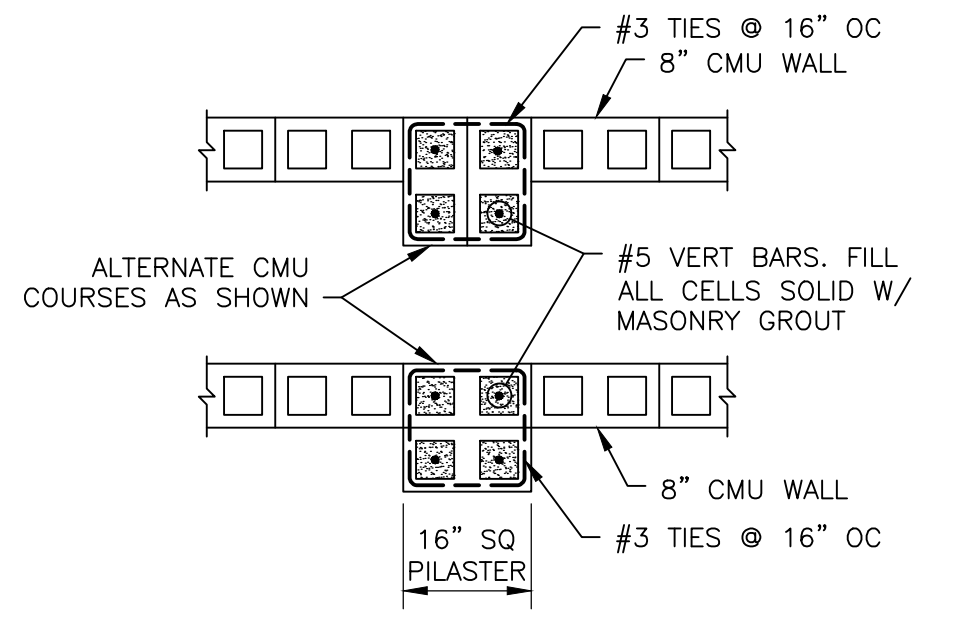
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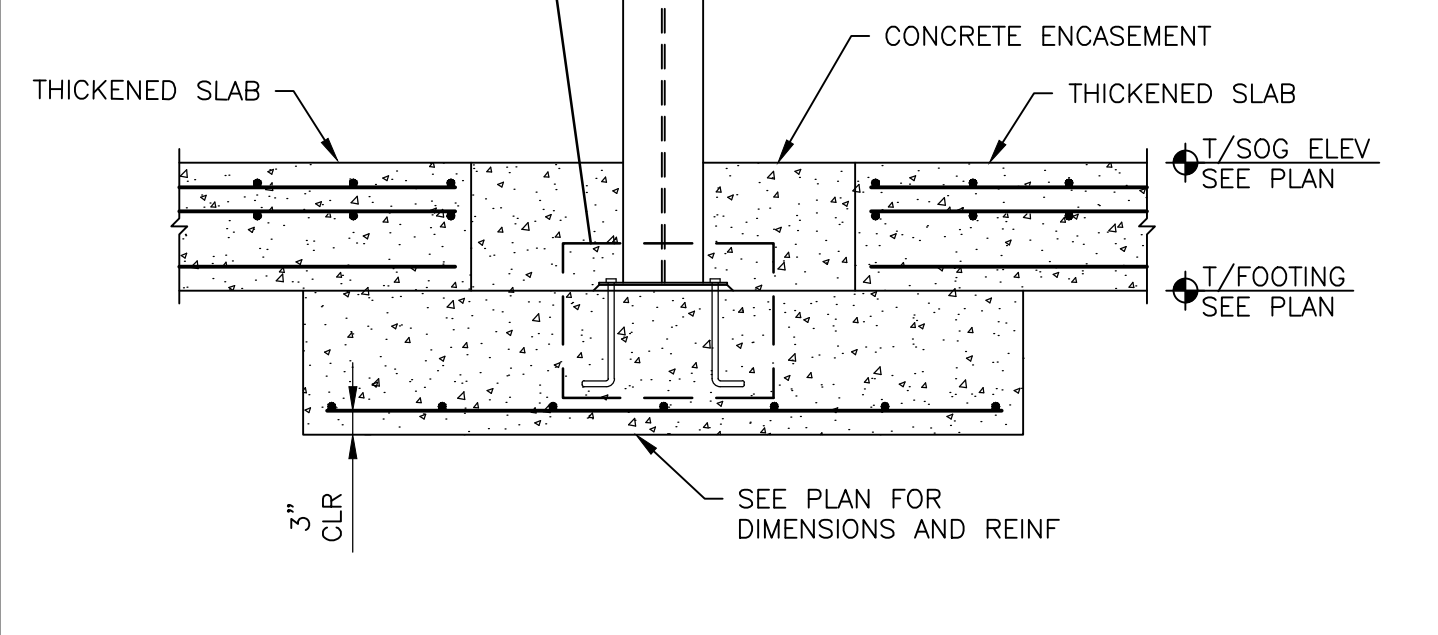
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S-15, S-16 SCALE: 1/2" = 1'-0"



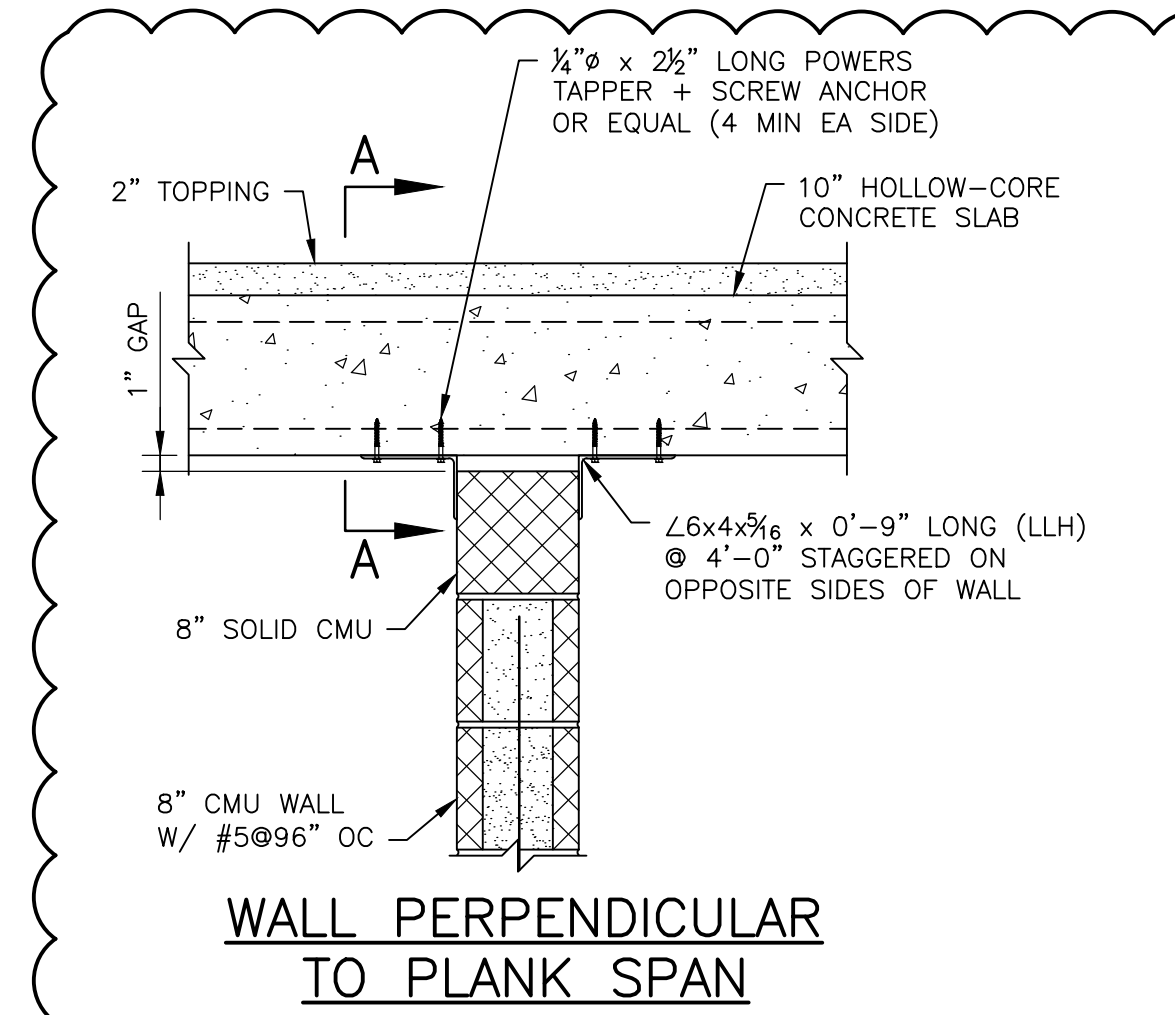
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S-18 SCALE: 1/2" = 1'-0"



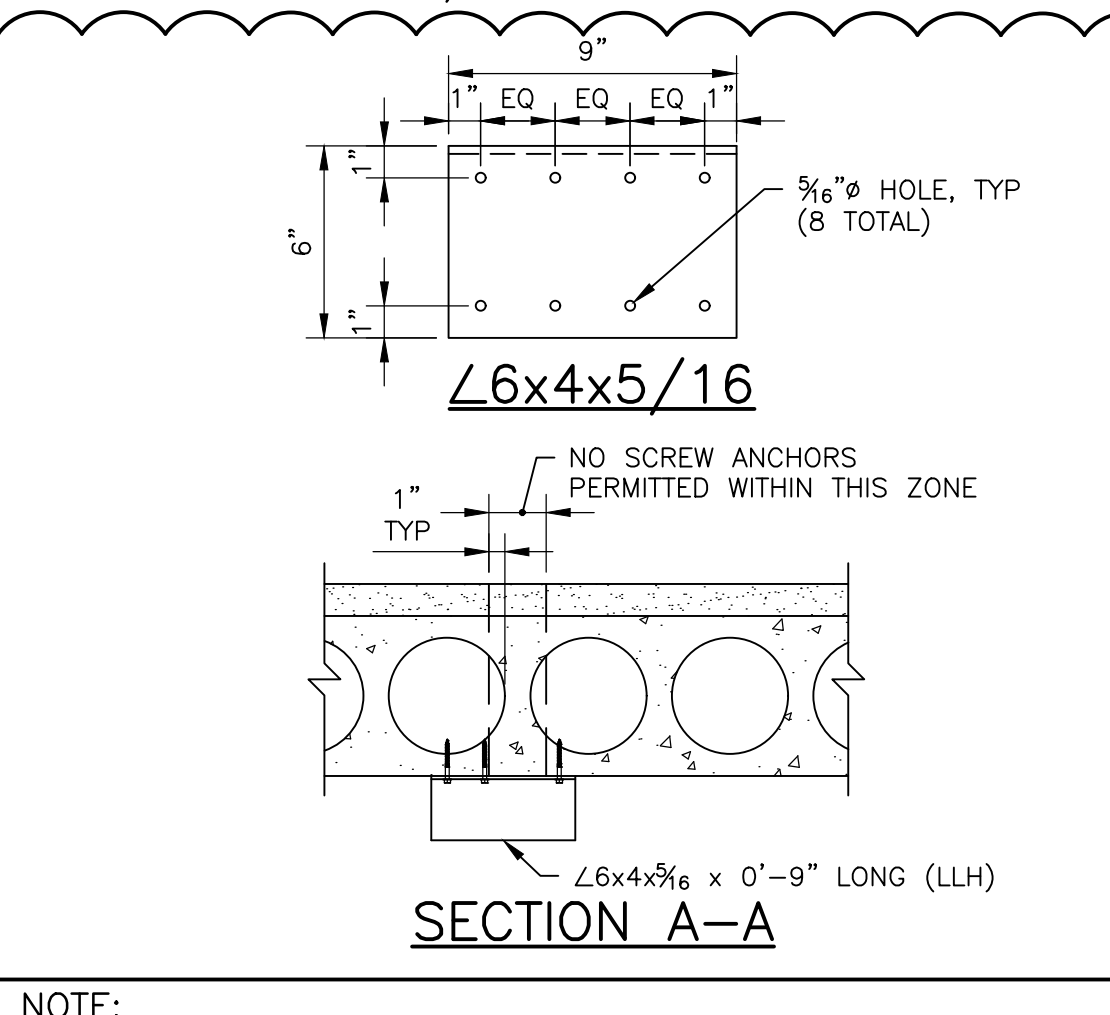
**12 SECTION**  
S-18 SCALE: 1/2" = 1'-0"



**13 SECTION**  
S-18 SCALE: 1/2" = 1'-0"

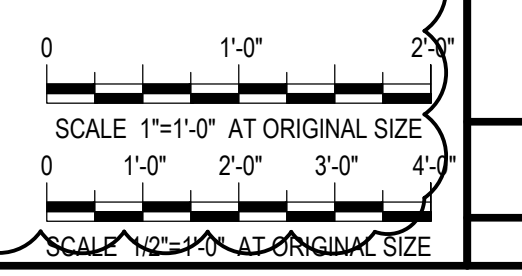


**14 SECTION**  
S-16 SCALE: 1" = 1'-0"



**15 SECTION**  
S-16, S-19 SCALE: 1" = 1'-0"

**NOTE:** PRIOR TO FABRICATION, THE CONTRACTOR SHALL CONFIRM THAT THE SPECIFIED AMOUNT OF ANCHORS CAN BE INSTALLED BASED ON THE PLANK CONFIGURATION IN THE FIELD. NOTIFY THE ENGINEER IMMEDIATELY IF ANCHORS CANNOT BE INSTALLED AS SPECIFIED.



**WASHINGTON COUNTY, MARYLAND**  
**DEPARTMENT OF WATER QUALITY**  
**CONOCOCHEAQUE WASTEWATER**  
**TREATMENT PLANT ENR UPGRADE**

NO.	REVISION	BY	DATE

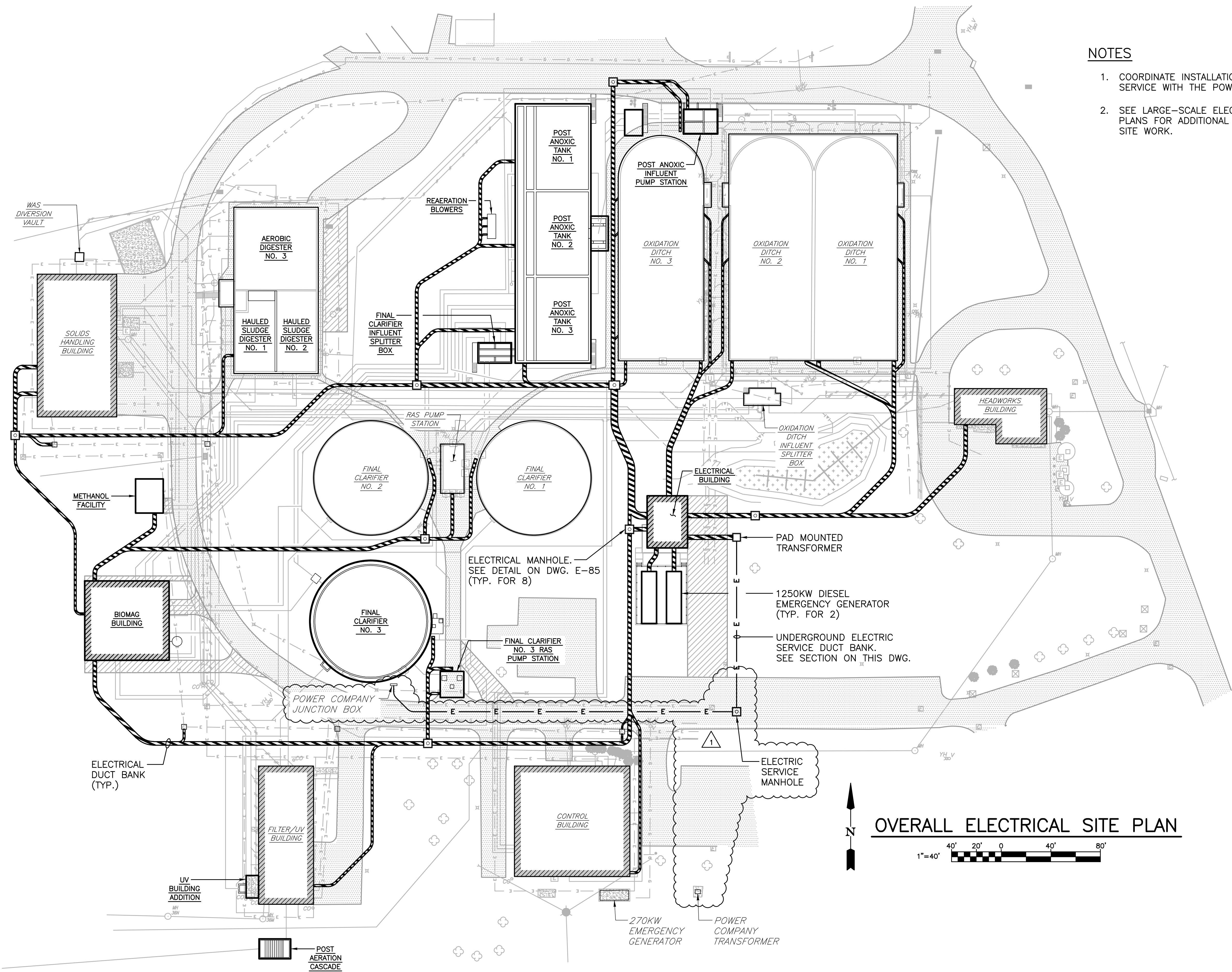
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 CAD FILE: 2014-026\_S-15\_S-18.dwg  
 ENGR./ARCH.: **AEI**  
 DESIGN BY: **JWG**  
 DRAWN BY: **KAP**  
 CHECKED BY: **RLA**  
 DATE: **3/24/2016**

**BIOMAG BUILDING SECTIONS**



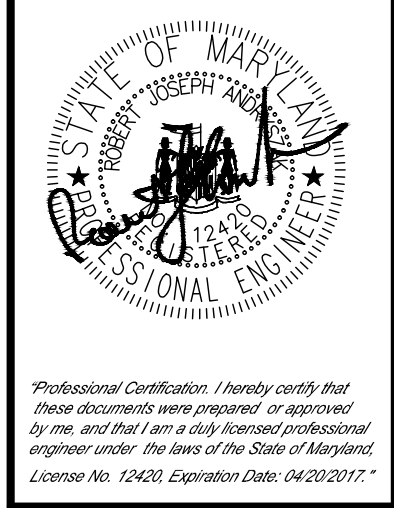
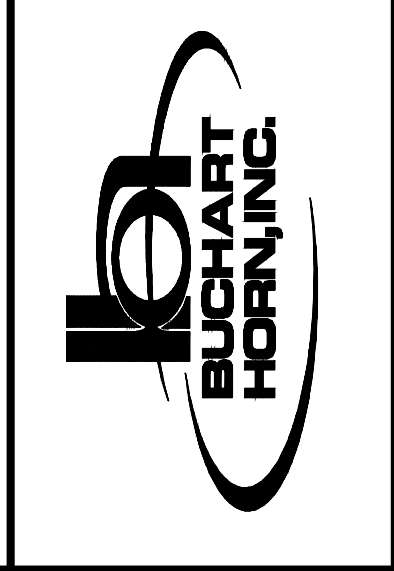


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 Layout Name: Layout1  
 Date: May 09, 2016 - 11:05am



- NOTES**
- COORDINATE INSTALLATION OF ELECTRIC SERVICE WITH THE POWER COMPANY.
  - SEE LARGE-SCALE ELECTRICAL SITE PLANS FOR ADDITIONAL ELECTRICAL SITE WORK.

**RK&K**  
 RUMMEL, KLEPPER & KAHL, LLP  
 81 MOSHER ST.  
 BALTIMORE, MARYLAND 21217  
 410.728.2900

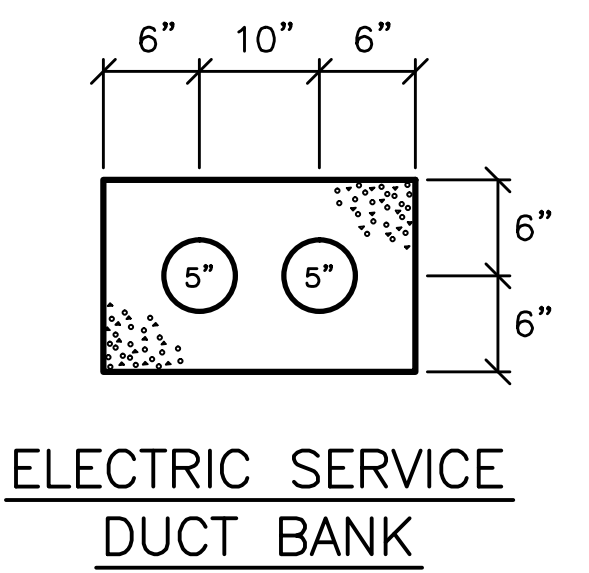
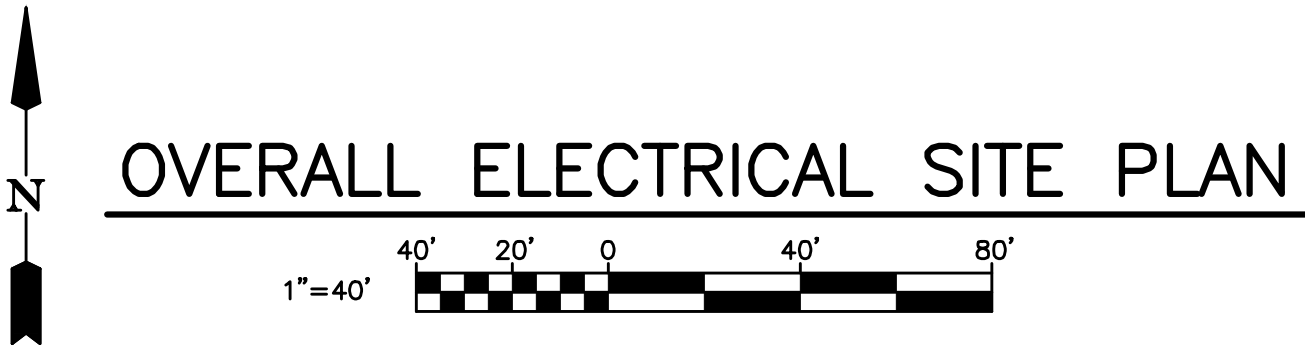


WASHINGTON COUNTY, MARYLAND  
 DEPARTMENT OF WATER QUALITY  
 CONOCOCHEAQUE  
 TREATMENT PLANT ENR UPGRADE

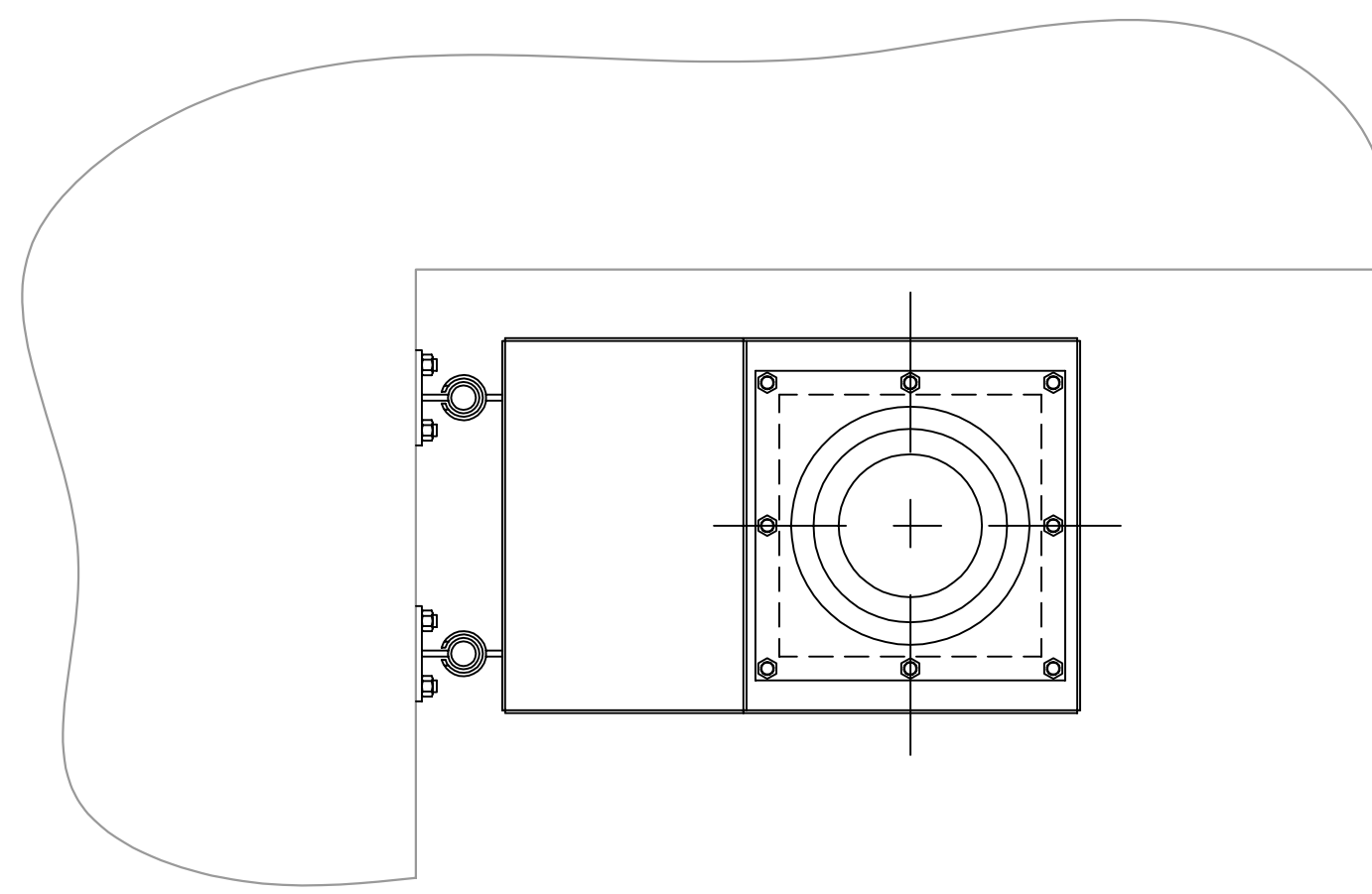
NO.	REVISION	BY	DATE
1	ADDENDUM NO. 3	SMJ	5/16

PROJECT NO.: 76436-04  
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 CHECKED BY: DTB  
 DATE: 3/24/2016

DRAWING NO. **E-3**  
 SHEET NO. 141 OF 327  
 SP-15-028

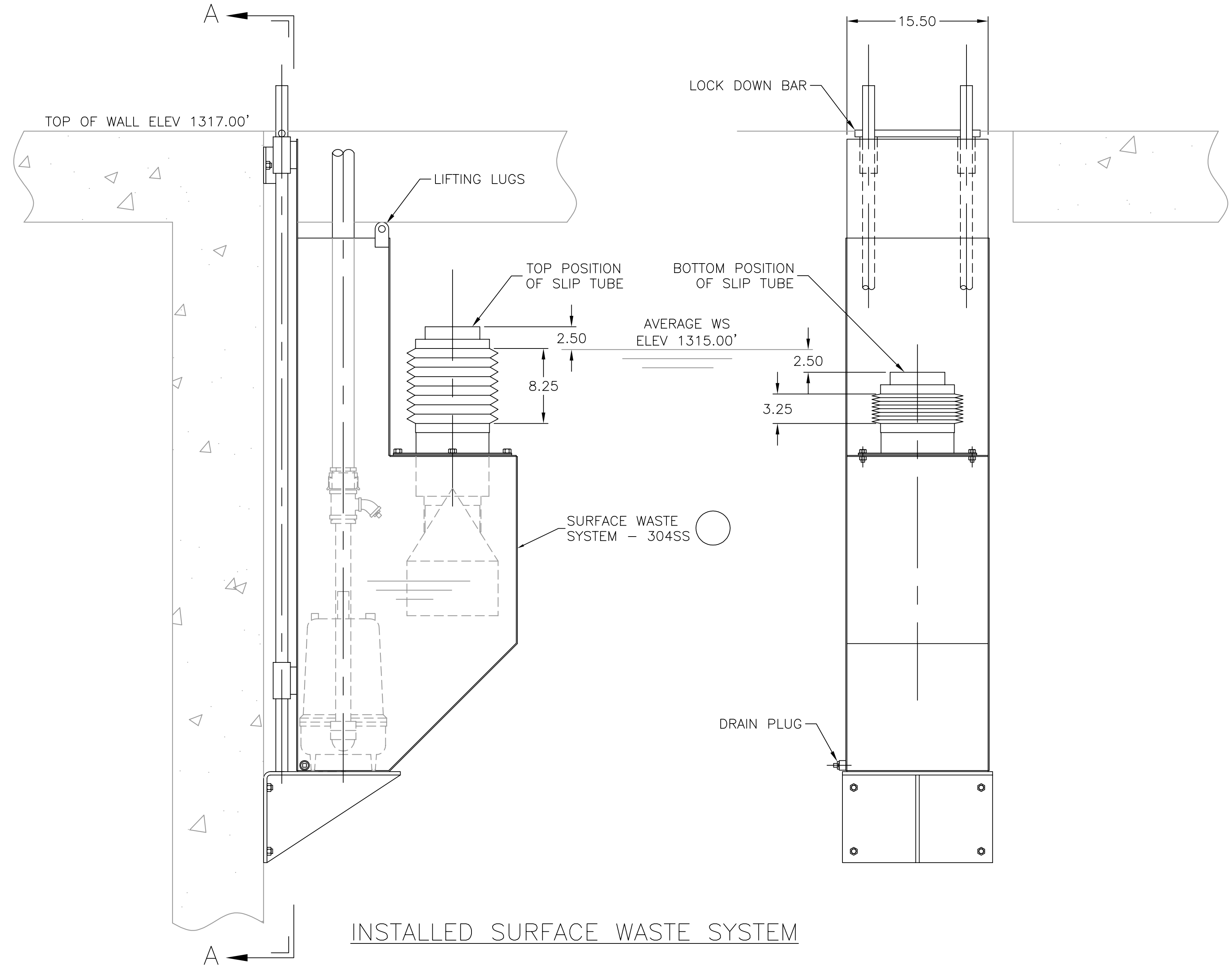






**INSTALLATION NOTES:**

- PUMP MUST BE EQUIPPED WITH A LOCAL HAND/OFF/AUTO SWITCH TO ALLOW FOR PUMPING DURING WASTE SYSTEM REMOVAL.
- FLEXIBLE DRAIN HOSE MUST BE EQUIPPED WITH A QUICK DISSCONNECT TO ALLOW CONTENTS OF WASTE CHAMBER TO BE PUMPED BACK INTO TANK FOR INSTALLATION/REMOVAL.



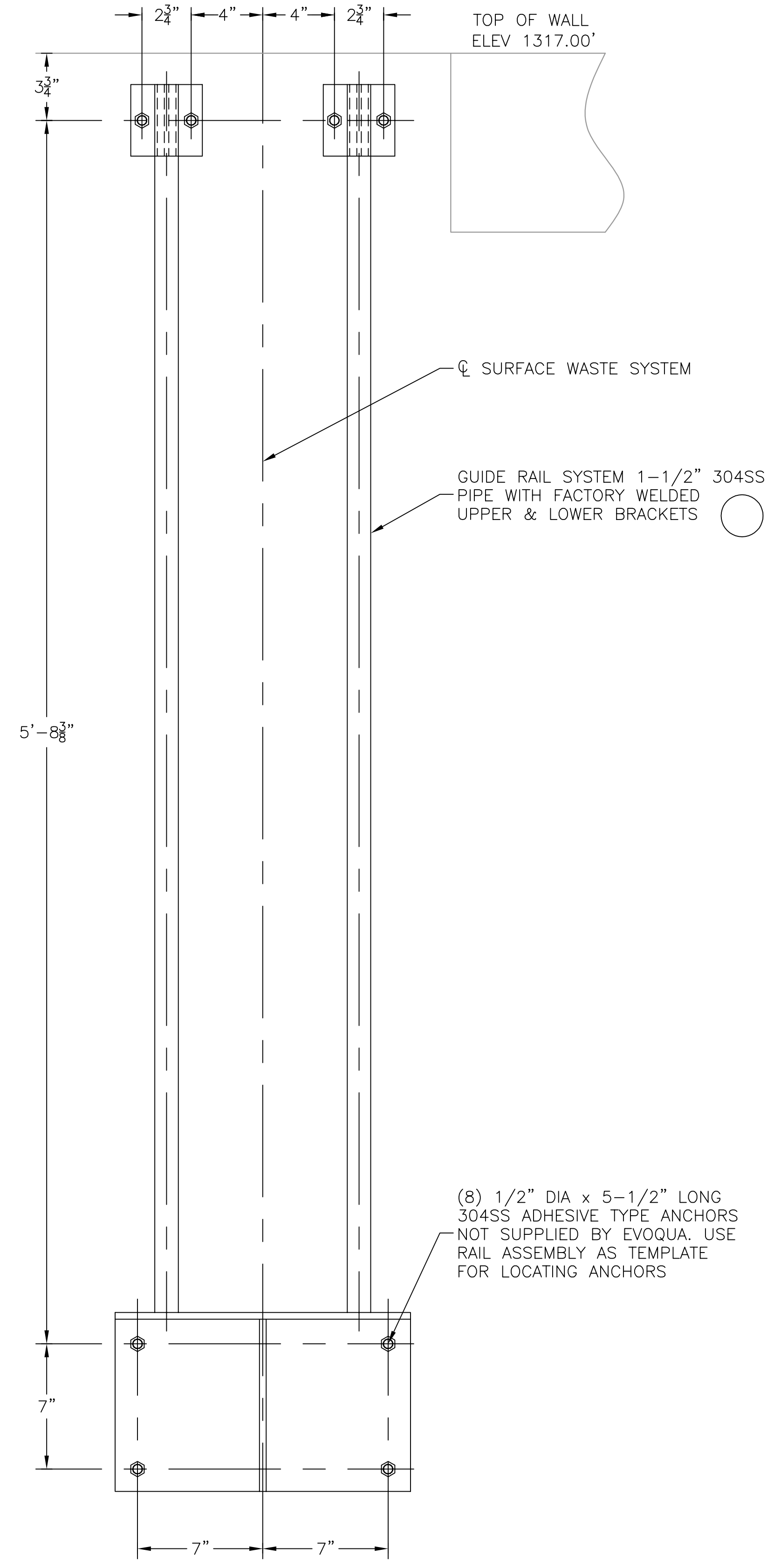
**INSTALLED SURFACE WASTE SYSTEM**

**INSTALLING SURFACE WASTE SYSTEM:**

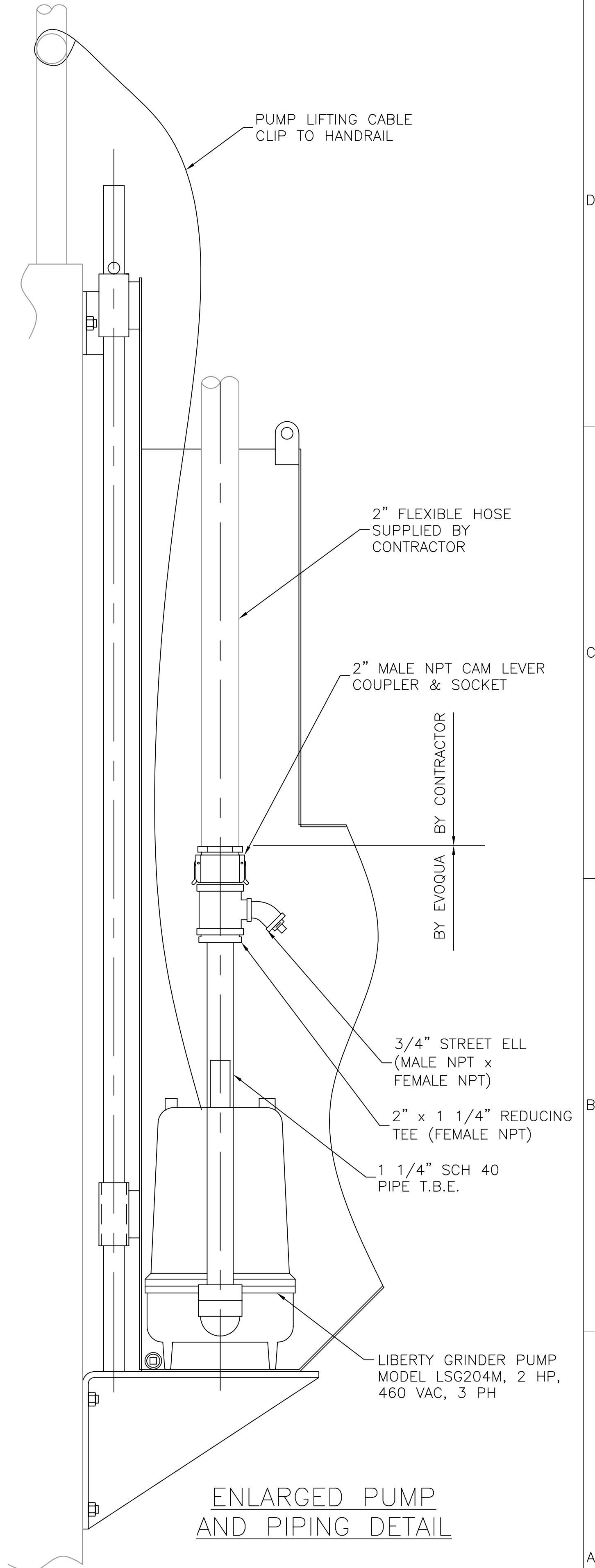
AFTER ANCHORS AND GUIDE RAIL SYSTEM HAVE BEEN INSTALLED LOWER ASSEMBLED SURFACE WASTE BOX INTO TANK SLIDING RAIL GUIDES OVER GUIDE PIPE UNTIL UNIT SITS ON WATER SURFACE. USING A HOSE, FILL WASTE BOX WITH WATER UNTIL UNIT SINKS AND SITS ON LOWER SUPPORT. INSTALL LOCKING BAR AND COTTER PINS TO HOLD BOX IN PLACE. LOWER PUMP ASSEMBLY INTO CHAMBER UNTIL IT SITS ON BOTTOM. RUN PUMP UNTIL SLIP TUBE SITS EVEN WITH WATER SURFACE.

**REMOVING SURFACE WASTE SYSTEM:**

FILL WASTE SYSTEM CHAMBER WITH WATER AND UNCOUPLE FLEXIBLE DISCHARGE HOSE TO ALLOW PUMPED LIQUID TO DRAIN BACK INTO TANK. REMOVE LOCK DOWN BAR. USING HAND/OFF/AUTO PUMP SWITCH START PUMPING LIQUID OUT OF THE CHAMBER UNTIL THE UNIT FLOATS TO THE SURFACE. AT THIS POINT MAINTENANCE ON TUBE UNIT MAY BE PERFORMED. IF UNIT IS TO BE COMPLETELY REMOVED FROM TANK HOOK UP TO LIFTING DEVICE AND REMOVE. DRAIN PLUG MAY BE REMOVED AS IT BECOMES ACCESSIBLE.



**VIEW A-A**



**ENLARGED PUMP AND PIPING DETAIL**

COMPANY CONFIDENTIAL DOCUMENT AND ALL INFORMATION CONTAINED HEREIN ARE THE PROPERTY OF EVOQUA AND/OR ITS AFFILIATES. THE DESIGN CONCEPTS AND INFORMATION CONTAINED HEREIN ARE PROPRIETARY TO EVOQUA AND ARE SUBMITTED IN CONFIDENCE. THEY ARE NOT TRANSFERABLE AND MUST BE USED ONLY FOR THE PURPOSE FOR WHICH THIS DOCUMENT IS EXPRESSLY LOANED. THEY MUST NOT BE DISCLOSED, REPRODUCED, LOANED OR USED IN ANY OTHER MANNER WITHOUT THE EXPRESS WRITTEN CONSENT OF EVOQUA. IN NO EVENT SHALL THEY BE USED IN ANY MANNER DETRIMENTAL TO THE INTEREST OF EVOQUA. ALL PATENT RIGHTS ARE RESERVED. UPON THE DEMAND OF EVOQUA, THIS DOCUMENT, ALONG WITH ALL COPIES AND EXTRACTS, AND ALL RELATED NOTES AND ANALYSES, MUST BE RETURNED TO EVOQUA OR DESTROYED, AS INSTRUCTED BY EVOQUA. ACCEPTANCE OF THE DELIVERY OF THIS DOCUMENT CONSTITUTES AGREEMENT TO THESE TERMS.						DESIGNER R/JF	DATE 1/27/15	TITLE SURFACE WASTE SYSTEM BioMag SYSTEM				
						CHECKER FEDIE	DATE 1/27/15	CLIENT WINEBRENNER TREATMENT PLANT WASHINGTON COUNTY, MD				
						ENGINEER	DATE					
B PUMP SIZE AND VOLTAGE HAS BEEN REVISED						03/09/15	DJF	DJF	BEH			
A ISSUED FOR APPROVAL						1/28/15	RJF	RJF	BEH			
REV	DESCRIPTION	DATE	DWN	CHKD	APVD	ECN	SCALE: 1:8 / 1:5	PROJECT 2033/000460	CODE 8002A	DRAWING 45147-104	SHEET 1 OF 1	REV B



**SOIL EROSION, SEDIMENT CONTROL, & SEEDING NOTES**

- All soil erosion/sediment control measures shall comply with the "2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control" and the provisions of the approved plan.
- All grading and stabilization shall comply with the "2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control", "Section B – Grading and Stabilization" and the provisions of the approved plan.
- All soil erosion and sediment control practices (BMP's) are to be constructed and/or installed prior to or at the initiation of grading in accordance with "2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control", and the approved plan.
- A grading unit is the maximum contiguous area allowed to be graded at a given time and is limited to 20 acres. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the enforcement authority and/or the Washington County Soil Conservation District (approval authority). Unless otherwise specified and approved by the approval authority, no more than 30 acres cumulatively may be disturbed at a given time.
- For initial soil disturbance or re-disturbance, temporary, or permanent stabilization must be completed within:
  - Three (3) calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and
  - Seven (7) calendar days as to all other disturbed or graded areas on the project site not under active grading.
- Stockpiles must be stabilized in accordance with the 7 day stabilization requirement, as well as, Standard B-4.1 Incremental Stabilization and Standard B-4.4 Temporary Stabilization (as applicable).
- All constructed channels and swales shall have specified treatment installed to the design flow depth completed downstream to upstream as construction progresses. An installation detail shall be shown on the plans.

- All storm drain and sanitary sewer lines not in paved areas are to be mulched and seeded within 3 days of initial backfill unless otherwise specified on plans.
- Electric Power, telephone, and gas lines are to be compacted, seeded, and mulched within 3 days after initial backfill unless otherwise specified on plans.
- No slope shall be greater than 2:1.

**For sites 1.0 acre or more, the following are required:**

- Maryland Department of the Environment, General Permit for Stormwater Associated with a Construction Activity, NPDES Permit Number MDRC, State Discharge Permit Number 14GP, or an Individual Permit.
- The Maryland Department of the Environment (General/Individual Permit - Notice of Intent-NOI) application and permit shall be posted and/or available on-site at all times.
- During construction, all soil erosion and sediment control practices (BMP's) shall be inspected and recorded on the "Standard Inspection Form", "General Permit for Stormwater Associated with Construction Activity" per the Maryland Department of the Environment (General/Individual Permit - Notice of Intent-NOI).
- Following construction and release of the sight for soil erosion and sediment control by the Washington County Soil Conservation District, i.e., all portions of a site have been permanently stabilized, and all stormwater discharges from construction sites that are authorized by the permit are eliminated, the authorized permittee shall submit the Maryland Department of the Environment, General/Individual Permit - Notice of Termination-NOT.

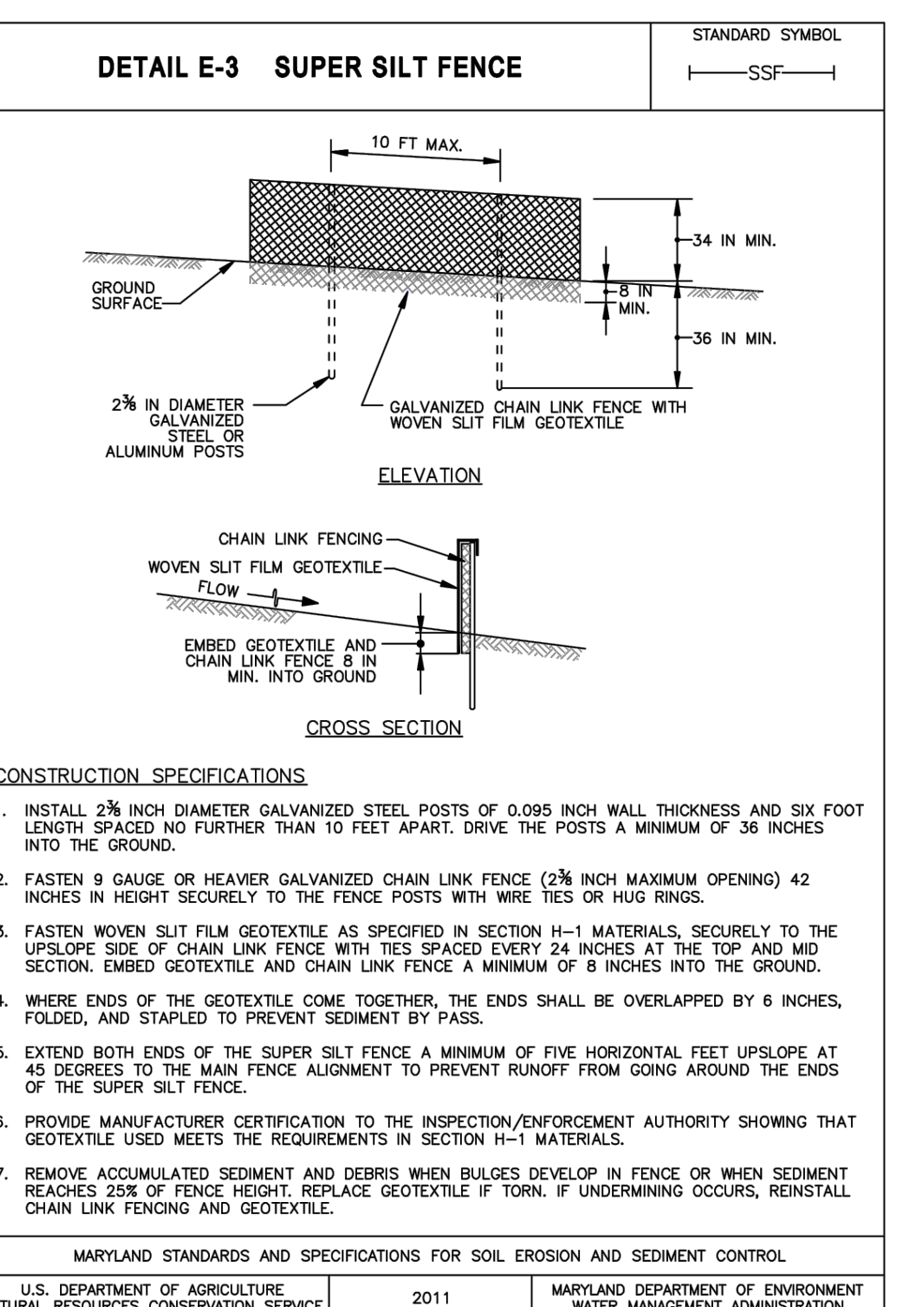
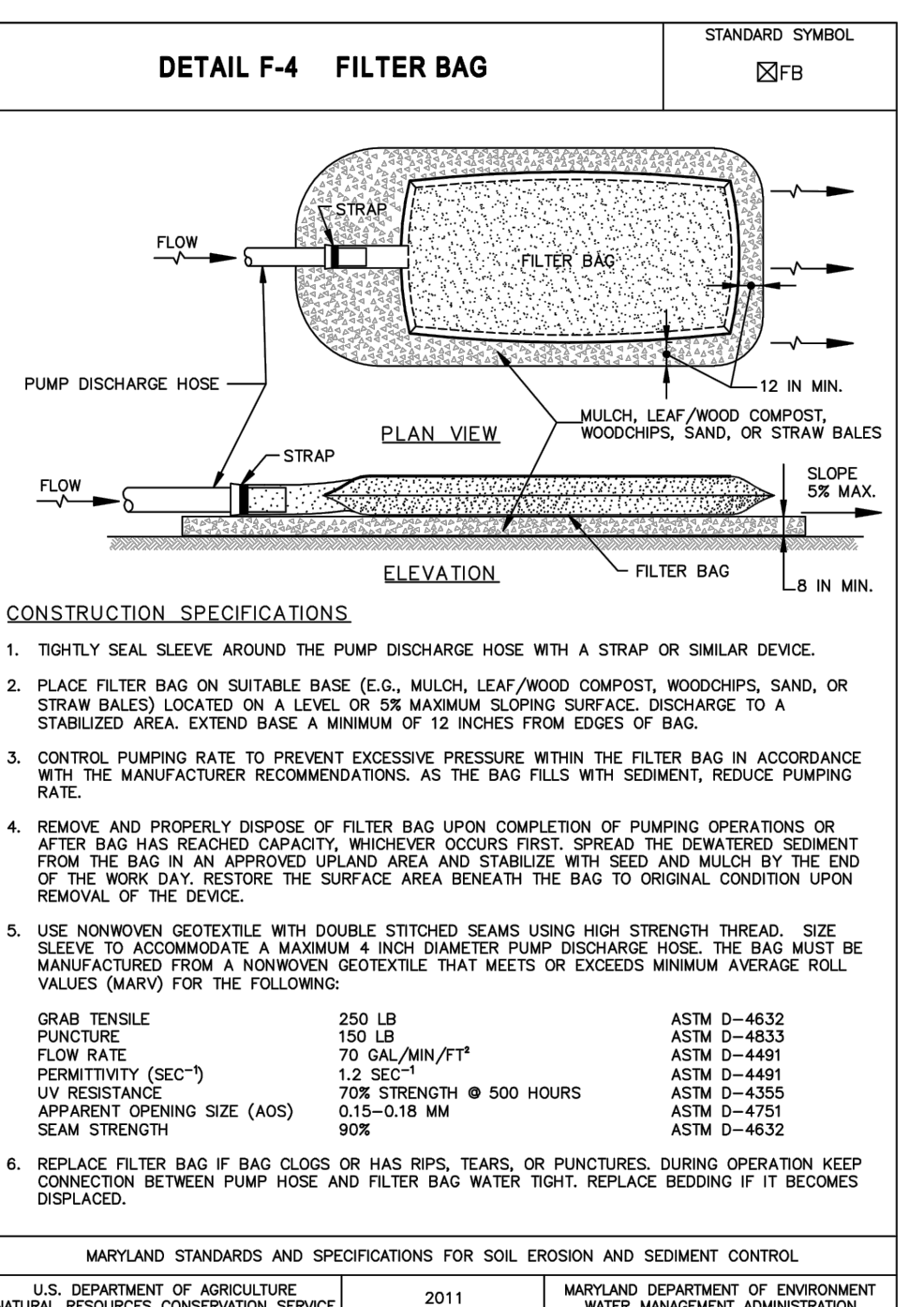
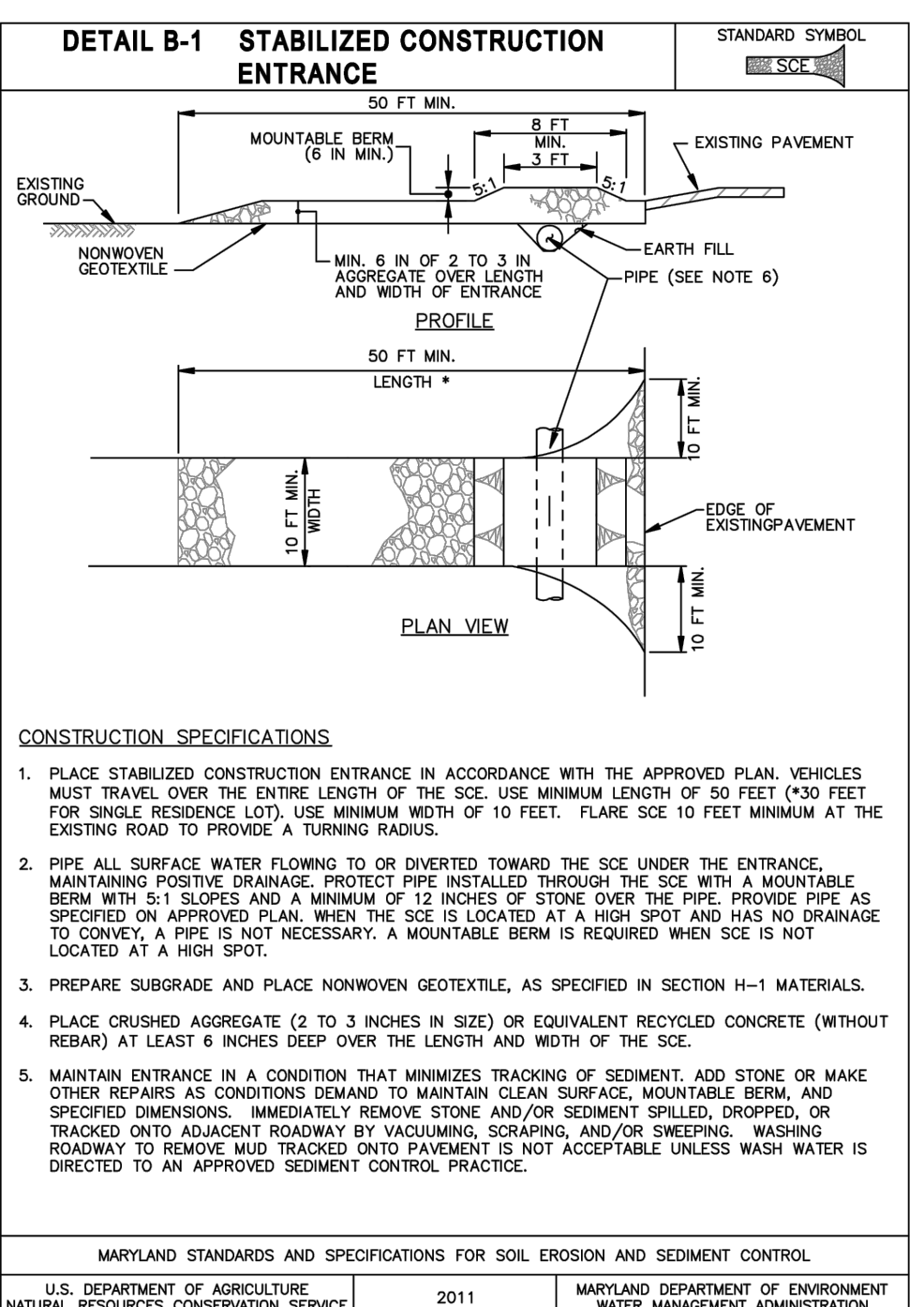
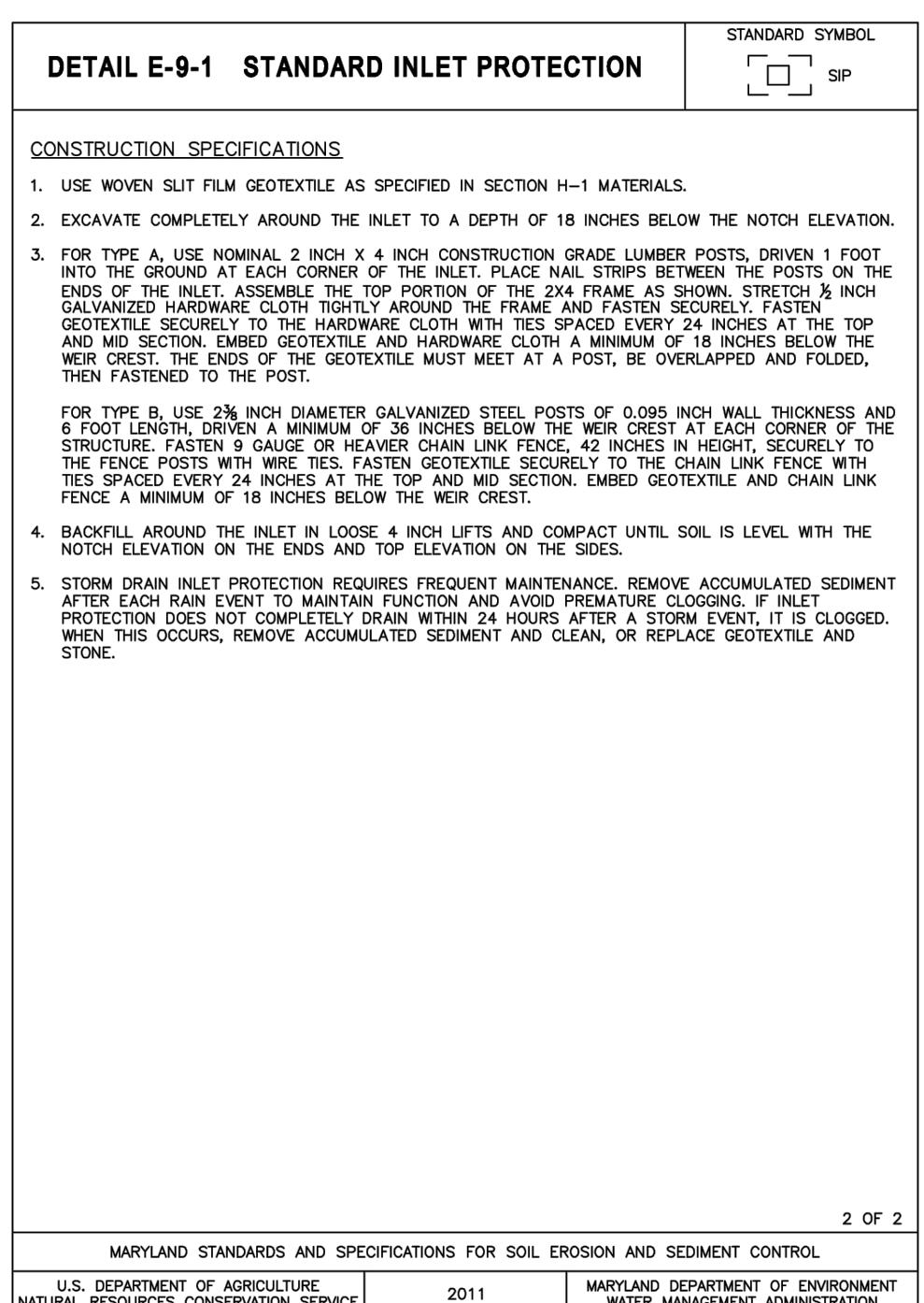
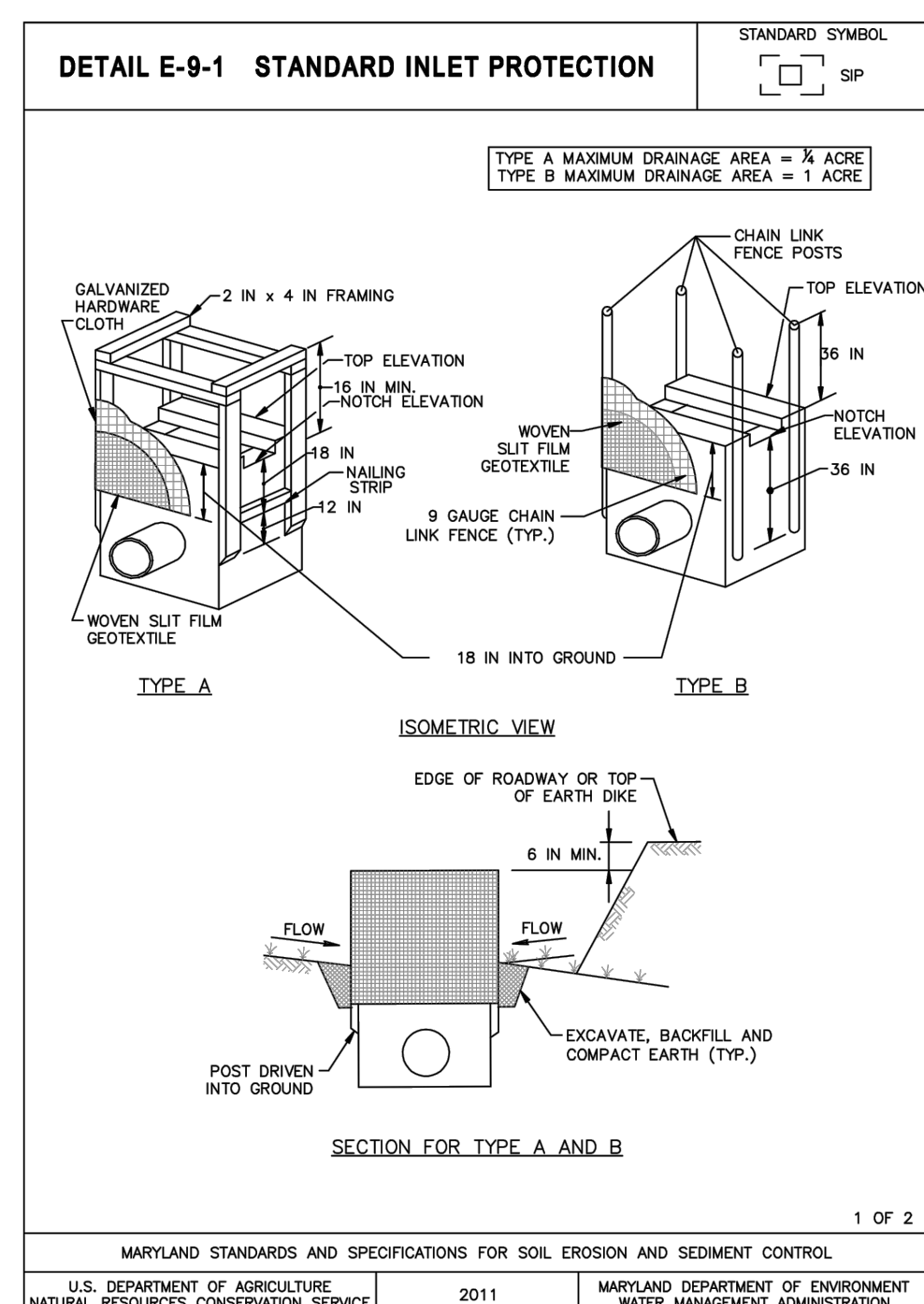
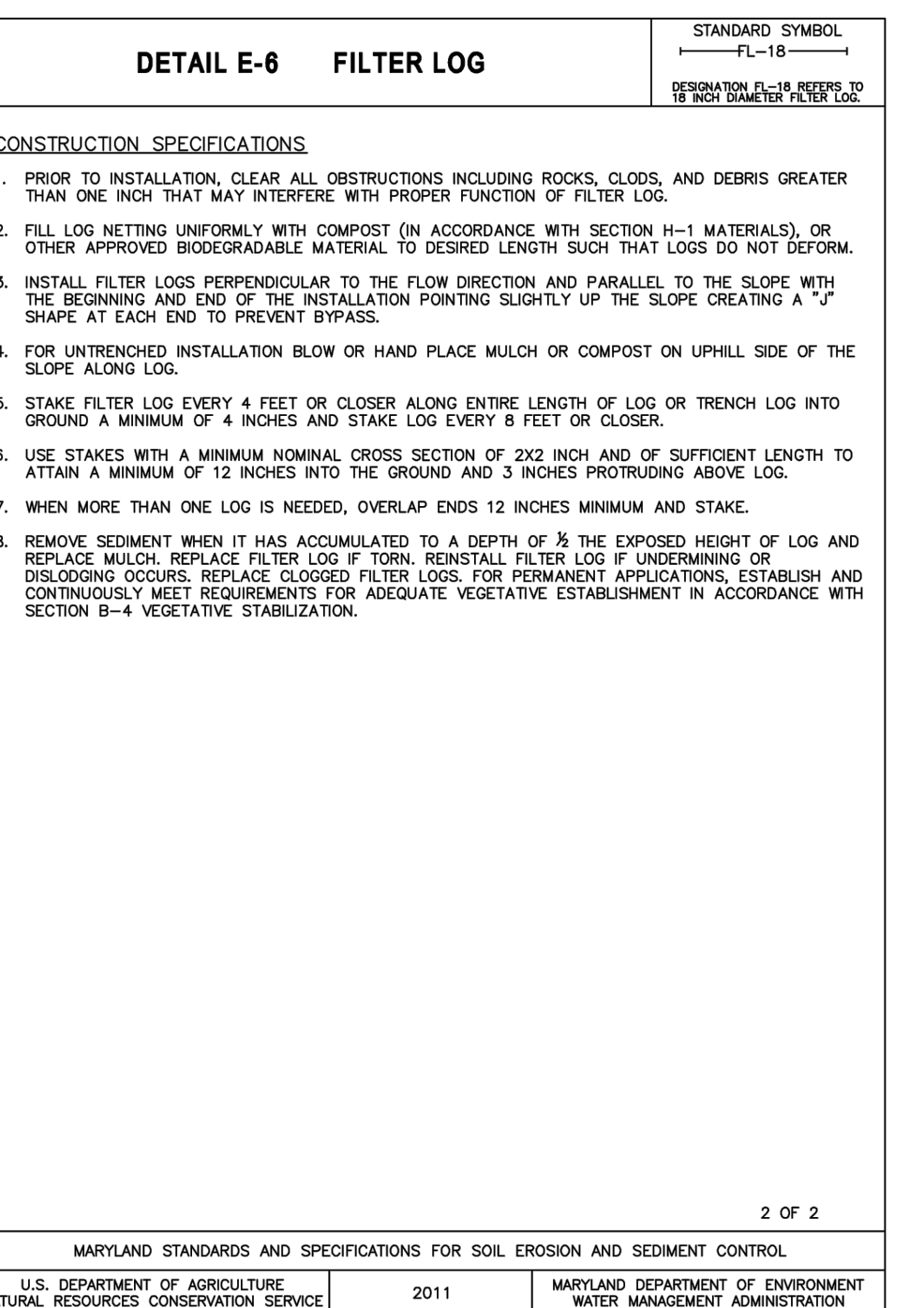
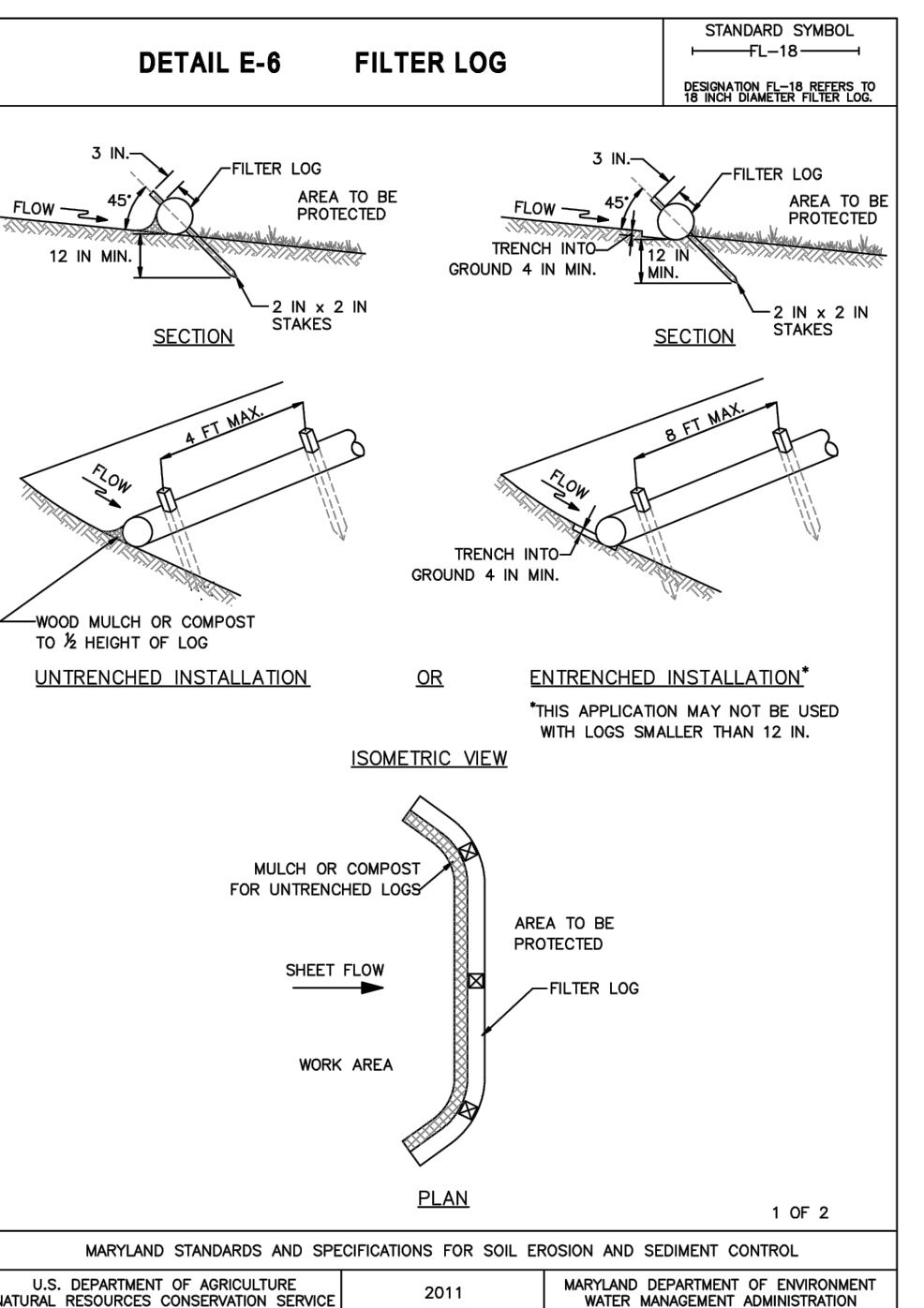
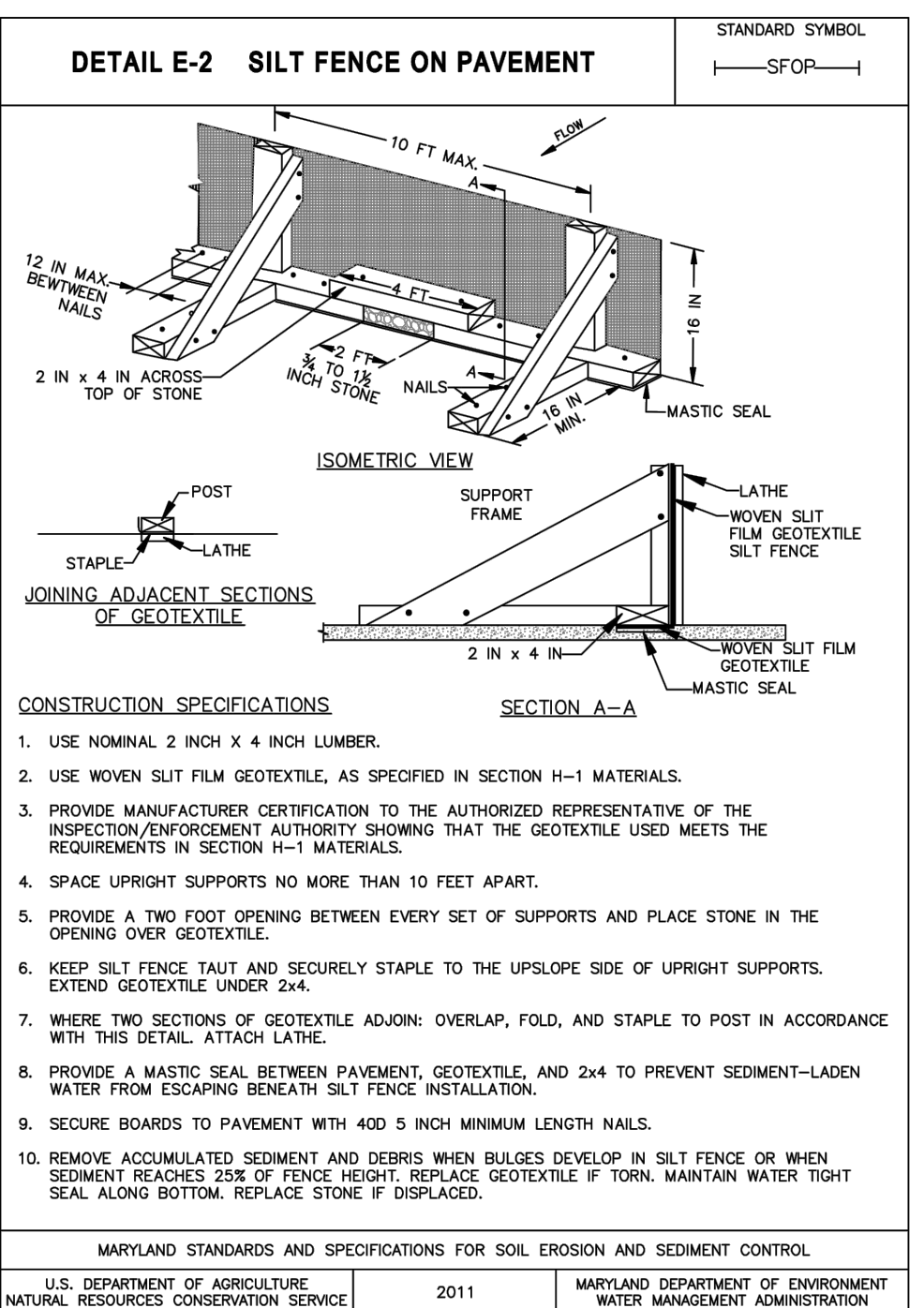
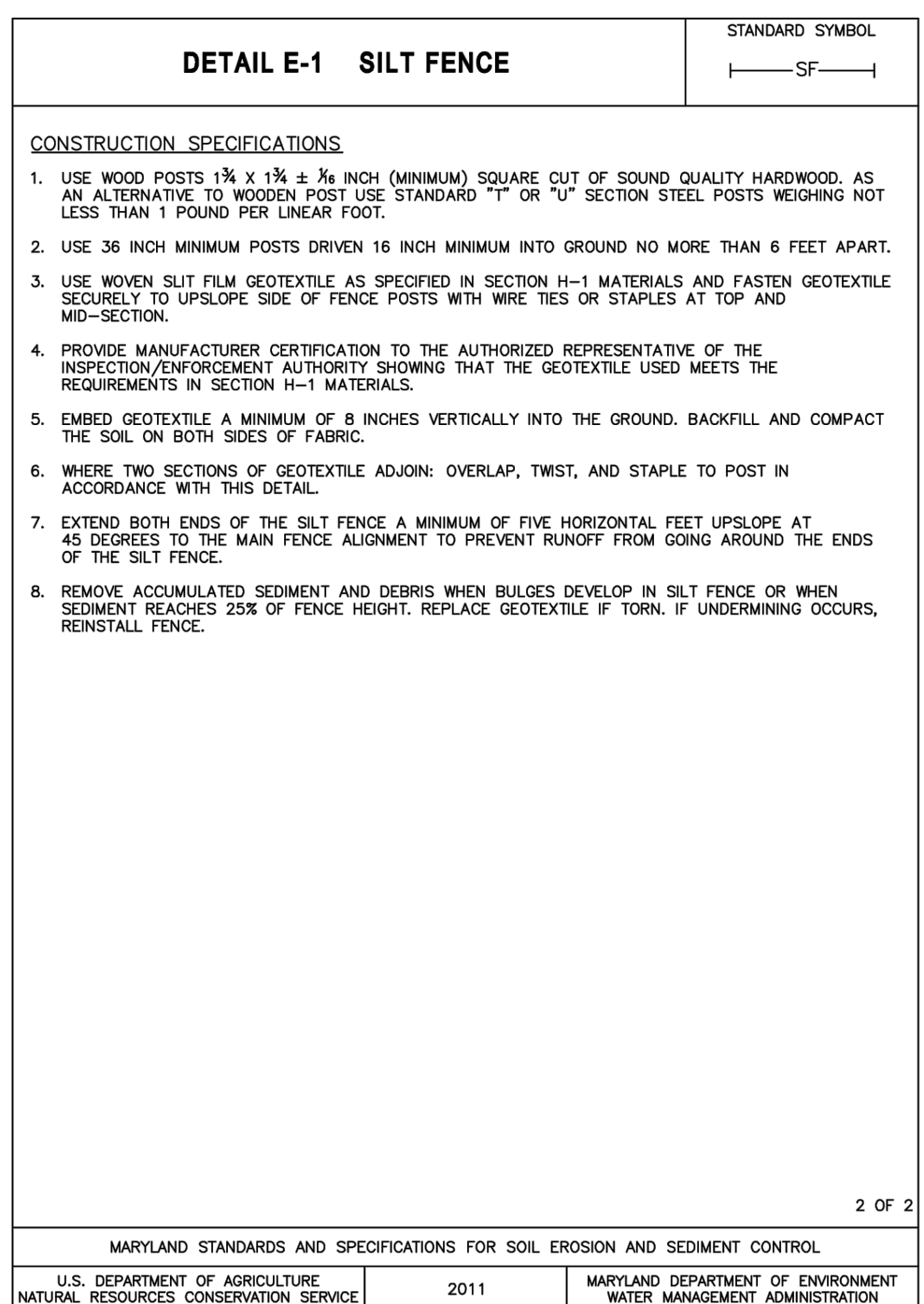
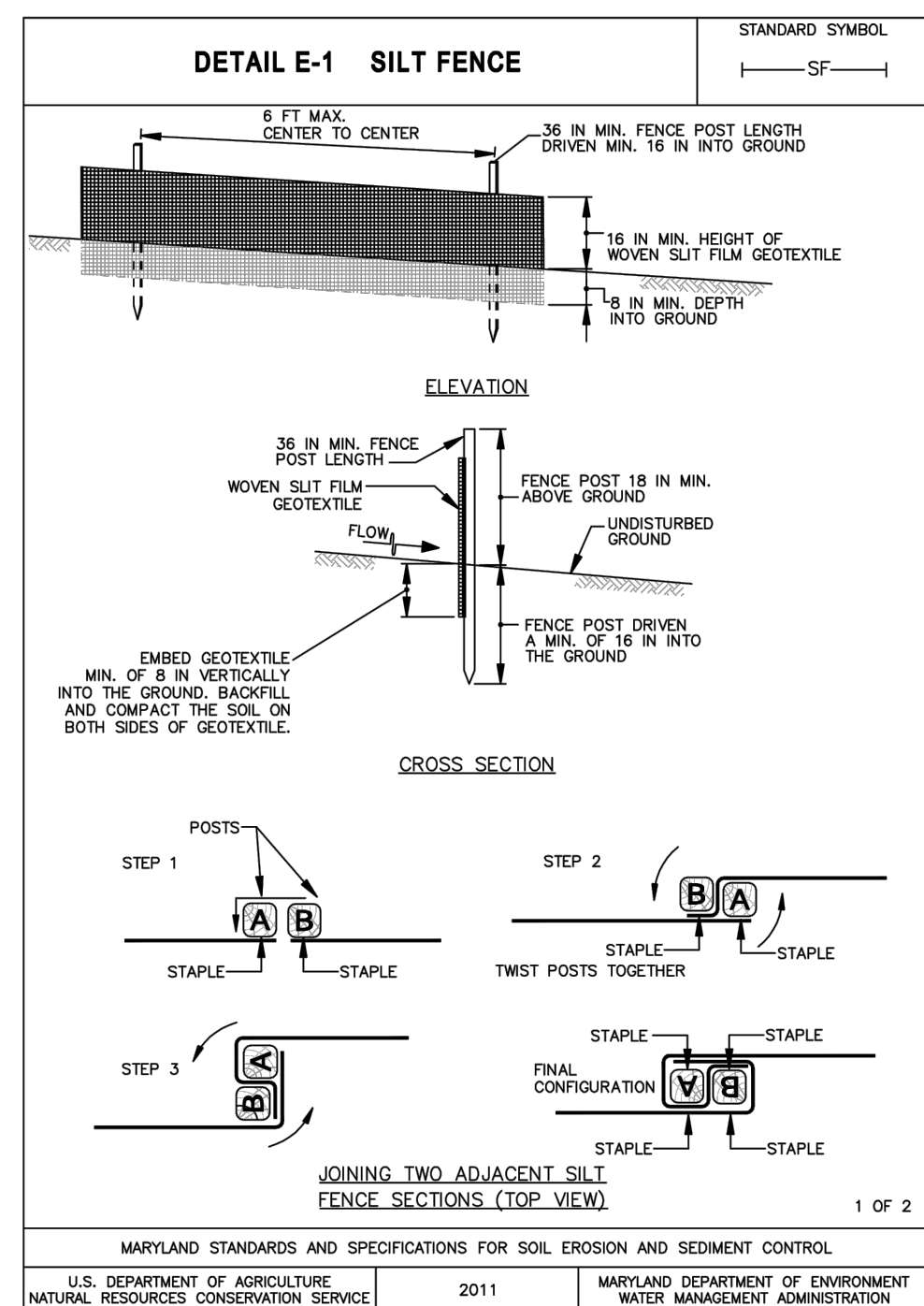
TEMPORARY SEEDING SUMMARY						
HARDINESS ZONE: 6B						
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS (INCHES)	FERTILIZER RATE (10-20-20)	LIME RATE
1	BARLEY ( <i>Hordeum vulgare</i> )	96 LB/AC 2.2 LB/1000 SF	3/15-5/31; 8/1-9/30	1.0	436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)
2	FOX TAIL MILLET ( <i>Setaria italica</i> )	30 LB/AC 0.7 LB/1000 SF	5/16-7/31	0.5	436 LB/AC (10 LB/1000 SF)	2 TONS/AC (90 LB/1000 SF)

PERMANENT SEEDING SUMMARY								
HARDINESS ZONE: 6B								
SEED MIXTURE: 6								
FERTILIZER RATE (10-20-20)								
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS	N	P205	K20	LIME RATE
6	Tall Fescue ( <i>Lolium arundinaceum</i> )	40	3/1-5/15; 8/15-10/15	1/4-1/2 INCHES	45 LB/AC (1 LB/ 1000 SF)	90 LB/AC (2 LB/ 1000 SF)	90 LB/AC (2 LB/ 1000 SF)	2 TONS/AC (90 LB/ 1000 SF)
	Perennial Ryegrass ( <i>Lolium perenne</i> )	25	3/1-5/15; 8/1-10/15	1/4-1/2 INCHES				
	White Clover ( <i>Trifolium repens</i> )	5	3/1-5/15; 8/1-10/15	1/4-1/2 INCHES				

**RK&K**  
 RUMMEL, KLEPPER & KAHL, LLP  
 81 MOSHER ST.  
 BALTIMORE, MARYLAND 21217  
 410.728.2900

**BUCHART HORNINC.**

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 1420. Expiration Date: 12/31/2011.



WASHINGTON COUNTY, MARYLAND  
 DEPARTMENT OF WATER QUALITY  
 CONOCOHEAGUE WASTEWATER  
 TREATMENT PLANT ENR UPGRADE

NO.	REVISION	BY	DATE

PROJECT NO.: 76436-02  
 CAD FILE: ES-01.dwg  
 ENGR./ARCH.: KN  
 DESIGN BY: RJA  
 DRAWN BY: ENV DRAFTERS  
 CHECKED BY: RJA  
 DATE: 3/24/2016

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ES-02  
 20 OF 327  
 SHEET NO.  
 SP-15-028