AUGUST 25, 2022

CONTRACT NO. 1760 G, E, H, P

CSO BYPASS AND DISINFECTION

ADDENDUM NO. 5

All bidders bidding Contract No. **1760 G, E, H, P** shall read and take note of this Addendum **No. 5**. The Contract Documents for **Contract No. 1760 G, E, H, P – CSO Bypass and Disinfection** are hereby revised and/or clarified as stated below.

Acknowledgement of Contract No. 1760 G, E, H, P ; Addendum No. 5
The Acknowledgement attached to Addendum **No. 5** is to be signed and returned immediately via **email** to **Kathleen P. Uniatowski** at contract.clerks@alcosan.org and acknowledged with Bidder's Proposal.

Kimberly Kennedy

Kimberly Kennedy, P.E.
Director – Engineering and Construction

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www.alcosan.org

ACKNOWLEDGEMENT OF

CONTRACT NO. 1760 G, E, H, P – CSO BYPASS AND DISINFECTION

ADDENDUM NUMBER 5

FIRM NAME: _____

SIGNATURE: _____

TITLE: _____

DATE: _____

AUGUST 25, 2022

CONTRACT NO. 1760 G, E, H, P

CSO BYPASS AND DISINFECTION

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CONTRACT NO. 1760 G, E, H, P

CSO BYPASS AND DISINFECTION

ADDENDUM NO. 5

A. Contract Documents – Volume 1

1. Legal Notice: In the first paragraph, change the date and time of the bid opening from Wednesday, August 31, 2022 at 11:00 A.M. to **Wednesday, September 7, 2022 at 2:00 P.M.**

2. Article 2: In section 2.04 (page 2-3), change the date and time of the bid opening from Wednesday, August 31, 2022 at 11:00 A.M. to **Wednesday, September 7, 2022 at 2:00 P.M.**

3. Article 2: Project Stabilization Agreement. In Article II, Section 2 (page 2-26), change the contract duration from 1,050 calendar days to 1,141 calendar days.

4. Article 3 - General Contract Conditions
    a. Section 3.29.A, delete the words "…Paragraph 3".
    b. Section 3.32.B.1.a, change "within five (5) Calendar Days…" to "within seven (7) Calendar Days".
    c. Section 3.32.B.1.b, change "within five (5) Calendar Days…" to "within seven (7) Calendar Days".
    d. Section 3.34.B, change "withing five (5) Calendar Days…" to "within seven (7) Calendar Days".
    e. Section 3.77: The third paragraph ("Work performed……contract documents.") shall be deleted in its entirety.

5. Article 4 - Contract Agreement
    a. Make the following changes to pages 4-5G, 4-2E, 4-2H, and 4-2P:
        1. Paragraph # 2 – change the contract time from 1,050 calendar days to 1,141 calendar days.
        2. In the table associated with paragraph # 2, change the contract time for substantial completion from 1,005 days to 1,096 days. Additionally, change the contract time for final completion from 1,050 days to 1,141 days.

B. Contract Specifications – Volume 2

1. In Job Conditions (Section 01 11 20) section 3.1.B. This paragraph ("Work performed contract documents.") shall be deleted in its entirety.
2. In Measurement and Payment (Section 01 22 00), section 3.1.M. Add the following: "3. Depth of repairs is anticipated to be up to two (2) inches."

3. In Measurement and Payment (Section 01 22 00), section 3.1.N. Add the following: "3. Depth of repairs is anticipated to be up to two (2) inches."

4. In Maintenance of Plant Operations (Section 01 52 00) section 1.2. Add the following item: "P. Specific Constraint No. 1: Demolition of existing 5kv medium voltage duct bank between the Primary Sedimentation Tanks and the Aeration Basins cannot start until June 1 2023."

5. In Maintenance of Plant Operations (Section 01 52 00) section 1.2. Add the following item: "Q. Specific Constraint No. 2: No work may commence in the BCCT (840), sodium bisulfite area (842), or existing CCT sampling building (841) until after December 31, 2024."

6. In Maintenance of Plant Operations (Section 01 52 00) change Para 1.22.D.3 to read: Work to be completed prior to work area 840.4.

7. In Maintenance of Plant Operations (Section 01 52 00) change Para 1.22.D.4 to read: Work to be completed as part of work area 840.4

8. In Manufacturer Acceptance of Conditions (Section 01 71 16), On-site services for facility startup (Page 8, Cast Iron Sluice Gates) - Change Number of Trips to 4, and change Assistance During Installation and Inspection to 4 days.

9. In Manufacturer Acceptance of Conditions (Section 01 71 16), On-site services for facility startup (Page 10, Chain and Flight Collection System) - Change Assistance During Installation and Inspection to 2 days per tank (18 total) and change Acceptance/Performance Testing and Certification of Proper Installation to 2 days per tank (18 total).

10. In Liquid Tightness Test for Concrete Structures (Specification 03 30 10), replace the table in Para 1.6 with the table below:

Structure	Elevation of Test Water Level [(1)]	Test Designation
CSO Bypass Chamber	725.00	HST-050
BCCT Influent Chamber	723.43	HST-050
BCCT Effluent Chamber	723.43	HST-050
BCCT Outfall Chamber	721.57	HST-050

11. In Insulated Translucent Panels (Section 08 95 00), Para. 1.01.A.1, 1.01.B.1 and 1.02.A.1.a change 4" to 2 ¾".

C. Contract Specifications – Volume 3

1. In DCS Input Output Database (Section 40 61 93), Attachment A, Point Name PN HS865HTP001E and HS865HTP002E, REPLACE "L-R Status" with "Overload Alarm"

2. In Functional Control Descriptions (Section 40 61 98), delete Para. 19.2.A.3.a "A combination starter" and add Para. 19.2.A.4.a "A combination starter".

D. Contract Drawings

1. Replace drawing 000-SD-64 with the attached updated sheet.

2. Replace drawing 822-S-60 with the attached updated sheet.

3. Replace drawing 000-G-12 with the attached updated sheet.

4. On drawing 000-CDM-11: Add Note 19: GC shall move miscellaneous items adjacent to BCCT as necessary to complete the work. Coordinate location / disposal with ALCOSAN.

5. On drawing 750-M-01, add Note 1: Process flow diagram on this sheet includes (8) 4"-BLVs shown graphically, the remainder are not shown for clarity. See Sheet 750-M-41 for depiction of all (32) 4"-BLVs required.

6. On drawing 840-ET-12, Slide Gates No. 1 through 7, delete the conduits tagged 1-840-101 through 1-840-107

7. Replace drawing 842-ES-02 with the attached updated sheet

8. Replace drawing 842-ET-10 with the attached updated sheet.

9. Replace drawing 842-I-01 with the attached updated sheet.

10. Replace drawing 842-M-41 with the attached updated sheet

11. Replace drawing 865-AD-62 with the attached updated sheet.

12. Replace drawing 865-EZ-01, with the attached updated sheet.

13. On drawing 900-EM-03, replace Feed Pump Note No. 1 with "VFD provided by pump supplier".

E. Questions

Revision **to the response to Question #113, (from addendum #4):**

Question: Reference drawings 000-EDM-10&11 (sheets 248 & 249) and drawings 000-ESP-10,11,12,13 (sheets 250,251,252,253) : Regarding the demolition, removal, and replacement of the "medium voltage duct bank running over the top of flow regulator chambers", please confirm that this can be done in sections as defined by the first four phases. Please also confirm that the "medium 5kV medium voltage conduit running along exterior north wall of 708 building" will be in place, under separate contract, prior to the beginning of our five-phased work of the general contract. And, please confirm that this 5kV service will provide the complete by-pass of the medium voltage duct bank (over the regulator chambers) that we are to remove, for the entire duration of the first four phases, prior to us then removing it.

Answer: Confirmed, the medium voltage conduit/cable in Area 708 is being installed under Contract 1739. Removal of existing 5 kV in sections is acceptable. Confirming 5 kV cable over Area 708 is the bypass for the 5-kV duct bank over the regulator chambers. ***NOTE: The medium voltage duct bank will not be available for removal until June 1, 2023.***

Response to Question #117, (from addendum #4):

Question: Reference drawing 822-M-40 (sheet 175): Regarding the replacement of the flow regulator pipe. Note that the existing centerline locations of the existing are different than the centerline locations of the new pipe. Since these will be significant in size, please provide a more specific detail, other than the general patching detail (SD64 on sheet 69) provided. We request dimensioned, engineered details, for the cut-out, reinforcement, and patch-back of the existing walls on both the effluent channel and aeration tank sides of the flow regulator chambers.

Answer: Refer to the updated structural drawings in this addendum.

143. ***Question:*** I cannot locate in the specifications the warranty period requirements for the eight (8) 54" Butterfly Valves with AUMA modulating actuators to be provided by the Venturi Flowmeter Rate-of-Flow Controller manufacturer. Please provide the warranty requirements for those 54" butterfly valve and modulating actuators.

Answer: Refer to Section 3.59 of General Contract Conditions – Article 3, for warranty requirements not covered by special warranties listed in the technical specifications.

144. ***Question:*** To be able to quote the equipment on this project, I need more guidance on exactly what domestic sourcing requirements the valves will have to comply with as there are many and they are very different. Will this project need to be AIS, ST-3, Buy American, Buy American Build American, etc.

Answer: Refer to Sections 3.79, 3.80 and 3.81 of General Contract Conditions – Article 3.

145. ***Question:*** Reference Addendum No. 2 Q/A #30 & #32: Are Victaulic Style 232S Restrained Flexible Couplings acceptable for use at 8 - 72" joints shown on 822-M-10, 822-M-40 & 832-M-10, in lieu of Victaulic W77B grooved couplings specified in 40 05 24? See attached Victaulic info.

Answer: Provide grooved couplings as specified.

146. ***Question:*** Reference drawing 750-M-41 which shows 32ea – 4" BLVs in the Primary Effluent Channel Area, while 750-M-01 only calls out 8ea – 4" BLVs in the Primary Effluent Channel Area (numbered 4"-BLV004-700 through 4"-BLV007-700). Please confirm 32ea – 4" SS Body Manually Operated BLVs are required (1 at each 4" SS drop to the aeration headers).

Answer: A total of (32) 4"-BLVs are required on the Primary Effluent Channel Aeration header.

147. ***Question:*** Reference drawing 822-M-40 for the following questions regarding the 72" PEF-SS Piping:

a. Flanges: Please clarify if AWWA C228 Class SD Ring flanges, and/or ASTM A183 (plate spec) flanges are acceptable. Please clarify if forged ASME B16.5 flanges are required.
b. Please specify the grout Ring/Water Collar thickness & projection for the 72" wall pipes. Also indicate how far the 72" wall pipe flanges must extend from the wall faces.

Answer:

a). AWWA C228 flanges, Class SD, are acceptable;
b). Projection shall be 6-inches per detail 11 on Sheet 000-MD-60. Minimum collar thickness shall be ¼-inch per Section 01 73 20, Article 2.1.A.2.

148. ***Question:*** Reference specification 31 21 00 1.8.C & Geotech Report page 15 of 33. The Geotech report mentions that any temporary earth retention systems using driven or vibratory methods are "likely not acceptable". The specifications note that the use of driving or vibratory hammers shall only be used if the Contractor receives written approval by the Engineer. Neither of these cited requirements provide definitive direction as to the allowable use of driving or vibratory hammers. Please clarify if the contractor can assume the use of impact or vibratory hammers as the basis of their bid, or if the basis of bid shall be using other methods for installation of TERS.

Answer: The Geotech report is provided for reference only and not part of the Contract Documents. Refer to Section 31 21 00 Para 1.7, 1.8, 1.9.

149. ***Question:*** Reference drawing 840-M-10:

a) Please provide diffuser counts for the aeration system in Chlorine Contact Chambers.
b) Please provide diffuser counts for the aeration system in BCC Outfall Channel.

Answer: For the BCCT Dechlorination Zone and BCCT Effluent Outfall Channel, Manufacturer shall design the diffuser system size, quantity, and spacing of individual diffusers per Specification Section 46 51 21. The total airflow for each system is included in the specifications, and the manufacturer shall determine the quantity of diffusers based on their standard airflow per diffuser.

150. ***Question:*** Refer to drawing 822-M-40. Considering both constructability, and future maintenance/disassembly, it is noticed that the 8ea FRC locations would create a major challenge because of the rigid < 2' FLG x FLG spool length between the upstream wall pipes & flow meter assemblies. Please confirm no dismantling joints or flange coupling adapters are required between the upstream wall pipe & flow meter assembly to facilitate assembly and future maintenance.

Answer: No changes to the joints will be made at this time

151. ***Question:*** Reference Addendum No. 4, Article 3 – General Contract Conditions regarding the following:

a. Section 3.2(D) – Order of Precedence – Change Orders and Addendum are no longer listed. Please clarify where they fall on the order of precedence.
b. Section 3.3(D) – Change Order – "A Change Order, dependent upon the value, requires prior written authorization by the Owner's Director of Engineering and Construction or Executive Director and approval by the Owner's Board of Directors." - Please specify the value at which the Owner's Director of Engineering and Construction or Executive Director and approval by the Owner's Board of Directors is required.
c. Section 3.10 – Indemnification – The Owner's indemnity has been broadened by the addition of "in any way". This creates uninsurable risk because it does not need to directly result from the contractors acts or omission. Please remove this language from section 3.10.
d. Section 3.32(B) – Claims for Additional Costs - The 5-calendar day notification provision to submit a claim for additional compensation considering the required supporting documents is unreasonable. Please revise this requirement to allow for 15-calendar days to submit the claim for additional cost.
e. Section 3.34(A) – Delays and Time Extensions (causes) – The re-issued General Conditions includes a very specific list of situations in which the contractor may be entitle to a time extension. The previous version of the General conditions included language which stated that the contractor would be entitled to a time extension for " any other cause beyond the reasonable control of Contractor and all subcontractors". The removal of this language transfers unreasonable risk to the contractor. Please revise this section to

allow for time extension for "any other cause beyond the reasonable control of Contractor and all subcontractors".

f. Section 3.34(B) – Delays and Time Extensions (timing) – The 5-calendar day notification provision to submit a claim for additional time considering the required supporting documents is unreasonable. Please revise this requirement to allow for 20-calendar days to submit the claim for additional time (20-30 days is normal for most industry standard contract, AIA, EJCDC, etc.).

Answer:

a. Addendum revisions will be captured within the Conformed Documents; therefore, they are a part of the signed Agreement. Change Orders are revisions to the Agreement after signing of the Agreement.
b. Per ALCOSAN Board Resolution, there is not a set value across all contracts. It will vary from contract to contract.
c. No revision will be made.
d. Refer to changes above.
e. No revision will be made.
f. Refer to changes above.

152. ***Question:*** Reference Addendum No. 4, Specification Revision #3 - 3.12.A.2.a: System 1 SCH40 72" 304SS pipe. Please confirm this is SCH 40 & not SCH40s. , and provide 72" dia. pipe wall thickness required. (According to pipe fabricators, the wall thickness is needed, not just sch40 designation).

Answer: Provide minimum pipe thickness of 1/2 inch on all SS primary effluent piping.

153. ***Question:*** Reference specification 01 52 00 MoPO : Work Area 840.3, Section 4, Item B – What is the meaning of "construction controls" ? Does this include requirements per the PADEP Permit? If so, will you be issuing that permit for review, prior to the bid date ?

Answer: Construction controls refer to E&S controls as shown on the Contract Drawings. The PAG-02 NPDES permit will be provided as reference after the project is awarded.

154. ***Question:*** Reference drawing 000-G-12 (sheet 10) and specification 01 52 00 MoPO Work Area 840.3: There's a disconnect between these two documents. The drawing shows three shaded areas 10, 11, & 12 at the north end as 840.3, 840.4, & 840.5. The shaded area 12 (840.5) isn't over the Sampling Building, but south of it. The MoPO indicates the Sampling Building as Area 840.3 but the drawing indicates that the north end new Effluent Chamber is 840.3. The MoPO description of Work Area 840.4 references 840.3 & 840.5. Please clarify.

Answer: Refer to updated 000-G-12 and Section 01 52 00.

155. ***Question:*** Reference the existing West & East Primary Effluent Channels : Please provide loading/design parameters for the temporary support of the Primary Effluent Channels as required during the excavation and construction new adjacent CSO Bypass Channel.

Answer: Dead Loads, Live Loads, Fluid Loads, and Constructions loads as required by the building codes. Loads shall be determined by Professional engineer that designs temporary shoring.

156. ***Question:*** Reference specification 03 30 10 Liquid Tightness Test for Concrete Structures: Paragraphs 1.A.1 states requirement for testing but the Paragraph 1.6 schedule of structures is not applicable to this project. Will this schedule be updated to include the structures for this project, primarily the CSO & BCCT ? If so, will we be required to test each Phase of the CSO individually ? If so, will we be required to test the N&S (modified) ends of the BCCT ? Will we also be required to test the (main) center section of the BCCT ? Or, will that not be required since we're only extending the height of the walls ? Please advise.

Answer: Refer to updated Table / Para 1.6 above. The main section of the BCCT does not require leak testing.

157. ***Question:*** Reference the G Bid Form page 1-3G Items 12 & 13 : What depth should we figure for these two slab repair unit prices ?

Answer: See revision to Measurement and Payment (Section 01 22 00).

158. ***Question:*** Reference drawing 840-SDM-10 (sheet 90) : Please confirm that the entire section of the tunnel shown shaded is to be removed completely and that none of that section can be left in place. Or, can it be left in place and grouted, as long as it doesn't interfere with the new work ? Or, can any portion of it be left in place ?

Answer: Entire section of tunnel shall be removed as shown.

159. ***Question:*** Reference specification 08 95 00 Insulated Translucent Panels :

Part 1). The specification calls for the use of a 4-inch panel. This is available We can supply this but is it really what is desired for this application ? It is expensive. A more economical 2¾-inch thick standard panel is a more common use for use in a skylight and is what has been used on other ALCOSAN projects and will be used on the removeable skylights on the Chemical building on the North End project. Will you consider changing this thickness specification from 4-inch to 2¾-inch ?

Part 2). The curb detail for the skylights should be revised. The wood blocking will interfere with the structural connection and the top plate member must be 1/2" thick steel or greater for fastening.

Part 3). The specification also references a 70% Kynar paint, AAMA 2605 paint finish. Kalwall / SUI has been able to provide this paint finish with outside vendors in the past. However, in the last year or so, going to outside painting vendors has been a real problem with soaring costs and lead times. The lead times are very

long and undependable, due to resin and paint shortages, and preference towards more frequent customers (since Kalwall does most finishing in-house). Kalwall uses their corrosion resistant finish (AAMA 2604 paint) and offer long term warranties (5 years to meet the spec with an extension to 10 years if desired, exceeding the spec) with that finish since Kalwall controls the process in-house. We realize that Baker Engineering will not consider substitutions prior to bid time, but will ALCOSAN consider adding the use of this paint as an option provided it meets the specification ? Especially since this finish is what has been provided on several ALCOSAN projects.

Answer: 1) Refer to spec changes above. 2) Refer to updated drawing 865-AD-62 3) No additions to the specification will be made at this time.

160. ***Question:*** On drawing 840-S-44 section D, it shows the wall height being increased from from 722' to 724.5'. Does this new concrete run the entire length of the chlorine tank?

Answer: Yes that is correct.

161. ***Question:*** Is the electrical contractor to carry all temporary power and lighting for use in the primary effluent tanks as well as any other confined spaces?

Answer: Temporary lighting shall be provided by the Electrical Contractor for all locations, including confined spaces.

162. ***Question:*** Controls Panels: In Addendum 3 Question 70 confirms that the Electrical Contractor is responsible for supplying control stations for the Sodium Hypochlorite Transfer Pumps No. 1 and 2 on sheet 320 and Sodium Hypochlorite Feeds Pumps No. 1 through 4. We cannot find a Bill of Materials, wiring diagram or Panel General Arrangement on the drawings for these control panels. Can this information be provided?

Answer: Sodium Hypochlorite feed pumps are controlled via VFDs which are being provided by the pump supplier. Refer to the updated schematic and elementary diagram on Drawing 865-EZ-01.

163. ***Question:*** Sheet 332, Drawing 900-EM-03 – Feed Pump Note No. 1 states “Provide Variable Frequency Drive”. Sheet 343, Drawing 900-EZ-01 – on the Sodium Hypochlorite Feed Pumps Wiring Schematic states “VFD by Pump Supplier”. Can you verify who is responsible for supplying the VFD’s for these Pumps?

Answer: VFDs for peristaltic metering pumps shall be provided by the pump supplier, through the General Contractor.

164. ***Question:*** Sheet 297, Drawing 840-ET-12 – Slide Gates No. 1 through 7 – The conduit tagged I-840-101 through I-840-107 is not listed on Drawing 840-ES-03 BCCT Conduit and Cable Schedule. There is a I-840-101 but it does not scheduled for the Slide Gates. Can the conduits be added to the Conduit and Cable Schedule or if not required can these conduits be eliminated on Drawing 840-ET-12?

Answer: Delete the conduits tagged 1-840-101 through 1-840-107 on Drawing 840-ET-12. These slide gates will be full open or full closed. There is no modulating, hence the analog conductors are not required.

165. ***Question:*** Sheet 297, Drawing 840-ET-12 – Dewatering Station Large Pumps – The conduit tagged C-840-109 through C-840-112 is either not listed or not listed to go to the Small and Large Pumps on Drawing 840-ES-03 BCCT Conduit and Cable Schedule. Can the conduits tags be corrected and added to the conduit and cable schedule?

Answer: The conduits referenced go from the small/large BCCT pumps to the BCCT Large/Small pumps control panel. See the BCCT Large PC and BCCT Small PC for the wiring from the BCCT Large/Small pumps control panel to DCS41/91-865.

166. ***Question:*** Reference specifications 40 61 13 through 40 69 00 (with the exception of 40 61 97): It has been clarified that the Electrical contractor is to include the scope of these specifications. Reference Division 43 specifications: If control panels are specified in any of these specifications, then the General (& Mechanical) contractor is to include them in their scope. Please confirm that if control panels are not specified in any of the Division 43 specifications, and required by ALCOSAN, that they would then be covered under the Division 40 control specifications by the Electrical contractor.

Answer: Refer to Question 69, Addendum No. 3.

167. ***Question:*** Reference specification 01 50 00 paragraph 1.11.B.1 : Please confirm that, as part of the temporary power and lighting, included in the Electrical package scope of work, all temporary lighting in the confined space of work inside the Primary Sedimentation Tanks is also included in the Electrical package scope of work.

Answer: Temporary lighting shall be provided by the Electrical Contractor for all locations, including confined spaces.

168. ***Question:*** Reference specification 01 61 03 paragraph 1.2.B Natural Frequency Analysis Firm: Which contract is this scope to be performed under and, can a more detailed description of what this is, be provided?

Answer: This applies to any contractor providing equipment as listed in Part 3.6 of this Specification.

169. ***Question:*** Reference specification 01 61 03 paragraph 1.2.D Infrared Thermography Testing Program : Which contract is this scope to be performed under and, can a more detailed description of what this is, be provided ?

Answer: This applies to any contractor providing equipment as listed in Part 3.6 of this Specification.

170. ***Question:*** Reference specification 01 75 00 paragraph 1.6 Cost of Start-Up : Please confirm that this cost is only what is related to new construction that is covered under our package scope of work and, that any additional plant-related costs, outside the limits of the new construction, will be covered by ALCOSAN.

Answer: Contractor required to pay for startup costs for all equipment provided under this contract.

171. ***Question:*** Reference specification 01 52 00 paragraph 1.2.I and paragraph 1.13.A.3.a.2 : The first paragraph states Owner will "partially drain" the process (Sedimentation) tanks and the second paragraph references states the Owner shall place the sedimentation tanks out of service "drained fully". Please clarify what our expectations should be for this area of work. If we are to be responsible for removing remaining "water, solids, and grit" as the first paragraph states, what is the acceptable method and place of removal of this remaining material?

Answer: Contractor shall remove remaining 2 to 3 feet of water, solids, grit, etc. for the purposes of taking field measurements specified in 1.13.A.3.a.2 in order for the tank to be fully drained. Water may be directed to the head of the plant. Solids and grit may be disposed of onsite, coordinate exact location with ALCOSAN and CM during construction.

172. ***Question:*** Reference specification 01 52 00 paragraph 1.6.B.6.a&b : These two paragraphs imply that a temporary replacement is required to keep this pipe in operation. However, since this pipe is being completely replaced and a new CSO Channel and new Flow Regulator Chambers are being constructed, it is not possible to keep a pipe (existing or temporary) in place during demolition and construction. Please confirm that this is understood and acceptable from a constructability perspective.

Answer: A temporary spool piece is optional based on the Contractor's schedule and means and methods of construction. It is not required if the Contractor can facilitate construction, including all schedule constraints, without the use of a spool piece.

173. ***Question:*** Addendum 4 changes 72" pipe from Schedule 10 to Schedule 40. Please provide wall thickness required for 72" pipe. My vendors say Schedule 40 is too vague.

Answer: Provide minimum pipe thickness of 1/2 inch on all SS primary effluent piping.

174. ***Question:*** Please reference Drawings 865-ET-011, 865-ESL-01 and Section 46 33 44. These two drawings show two Control Panels (PHF001-865-CP and PHF-005-865-CP) to house the six VFD's (two in PHF005-865-CP and four in PHF001-865-CP). We have not been able to locate these two control enclosures being supplied as part of Section 46 33 44. Please confirm that the Electrical Contractor is providing these enclosures and mounting/wiring these VFD's into the enclosures.

Answer: Control Panels PHF001-865-CP and PHF-005-865-CP are referring to the enclosures around the VFD's. The pumps are controlled by the VFD.

175. ***Question:*** Please reference Sections 46 33 44 and Section 40 61 98. Section 40 61 98, Item 20.2.A.3 and 4, Pages 55 and 56. Please confirm that the electrical contractor will be supplying all of the control operators that are referenced in these two items (E-stops PB's, L/R SS, lights, and PB's). We did not locate any of these operators in Section 46 33 44.

Answer: Field-mounted E-stops will be provided by the Electrical Contractor. Local/Remote selector switch, speed control, and lights shall be provided on the VFDs furnished by the pump manufacturer through the General Contractor.

176. ***Question:*** Please reference Sections 46 33 44 and Section 40 61 98. Section 40 61 98, Item 20.2.A.6.j.1.b Leak Alarm, Page 58. This item requires a signal to be sent to the DCS to alarm for a "Leak". We did not find this instrument in the Instrument List, Section 46 33 44 or on Drawing 865-I-02. Please clarify.

Answer: The lubricant leak detector is integral to the pump.

177. ***Question:*** 2 trips for the cast iron sluice gate manufacturer and 2 days for testing. The cast iron sluice gates need to be tested in 4 phases per section 01 52 00 and the MOPO Drawings. Please advise if the testing requirements set forth in 01 75 00 will be waived for the gates installed outside of the 2 days of testing allotted.

Answer: **Refer to spec changes above. Testing requirements will not be waived.**

178. ***Question:*** Section 01 52 00, 1.13 thru 1.21 indicates that the new primary clarifier mechanisms will need to be tested and commissioned after install. Paragraphs 1.27-1.30 of the same section indicate a second set of testing and commissioning activities. If two rounds of testing are required this does not align with the allotted trips in section 01 71 16. Please advise.

Answer: **Refer to spec changes above. The revised table on Page 10 of Specification 01 71 16 notes that two trips will be required for each tank. This corresponds to the two sets of testing (one being listed in 01 52 00 1.13- 1.21, and the second being listed in 01 52 00 1.27-1.30).**

179. ***Question:*** Section 09900, 3.1, A, 1, a. Calls to coat components of concrete tankage. Is the intent to coat the entire BCCT and outfall 1' below water level?

Answer: No coating is required on the BCCT and Outfall.

180. ***Question:*** Section 09900, 3.1, B, 6, a. Is the intent to coat the Primary Clarifier tank walls and existing ferrous metal components within 1' of the water level. Please confirm if the underside of the Primary Clarifier deck would be coated.

Answer: Underside of primary clarifier deck is not to be coated. However, ferrous components are to be coated.

181. ***Question:*** Drawing 842-ET-10 – Sodium Bisulfite Power Plane and Drawing 842-ES-02 Conduit and Cable Schedule - We are not able to find all of the Equipment listed on the Conduit and Cable Schedule on the Electric Power Plan. The Conduit Tags and Equipment that we are not able to find on the drawings is listed below.

a. C-842-009 1-1/2"-BLV004-842 VALVE
b. C-842-010 1-1/2"-BLV005-842 VALVE
c. C-842-011 1-1/2"-BLV014-842 VALVE
d. C-842-010 1-1/2"-BLV060-842 VALVE
e. C-842-011 1-1/2"-BLV061-842 VALVE
f. P-842-014 FIT842PBF001 – Sodium Bisulfate Feed Flow
g. I-842-006 FIT842PBF001 – Sodium Bisulfate Feed Flow
h. I-842-007 TT842BBS001
i. C-750-101 LIT750GBI001B INS. ENCLOSURE AND FLODAR UNIT @ BYPASS

Answer: Refer to updated drawings.

182. ***Question:*** Can you identify the existing Equipment that we will be running conduit and wire to on the Conduit and Cable Schedule? For instance is Existing Gas Monitor Station the same as the Gas Monitor Control Panel? Are the Emergency Showers and Electric Water Heater also existing?

Answer: "Existing Gas Monitor Station" = "Gas Monitoring Control Panel". Emergency showers and water heater are existing. There is no new cable for the existing water heater other than changing the power source from the existing panelboard to the new panelboard. Existing emergency showers will have flow switches wired to the control monitoring junction box.

183. ***Question:*** Along both sides of the road west of the existing Chlorine Contact Tank a substantial amount of material is stored. This material will need to be removed for the performance of the CSO project. A single wide trailer is set at the South East corner of the Aeration Basins that will need to be removed for the construction of the project. Please identify the responsible party to remove these items from the site.

Answer: The trailer will be relocated by the GC as noted on 000-CDM-11, items adjacent to the BCCT shall be moved by the GC as necessary and coordinated with ALCOSAN.

184. ***Question:*** This bidder has significant concerns with the project schedule. The owner may incur substantial costs due to required overtime to meet the schedule due to the last phase of the project not being available until December 2024. Would the owner consider a 6 month contract extension? Should a contract extension not be granted would the owner waive the overtime costs of the construction management firm as significant overtime may be required?

Answer: See revision to the contract duration. Additionally, the requirement to compensate the owner for the cost for the CM inspector during overtime will be waived. See changes in this addendum.

Attachments:

Specifications:

a. N/A

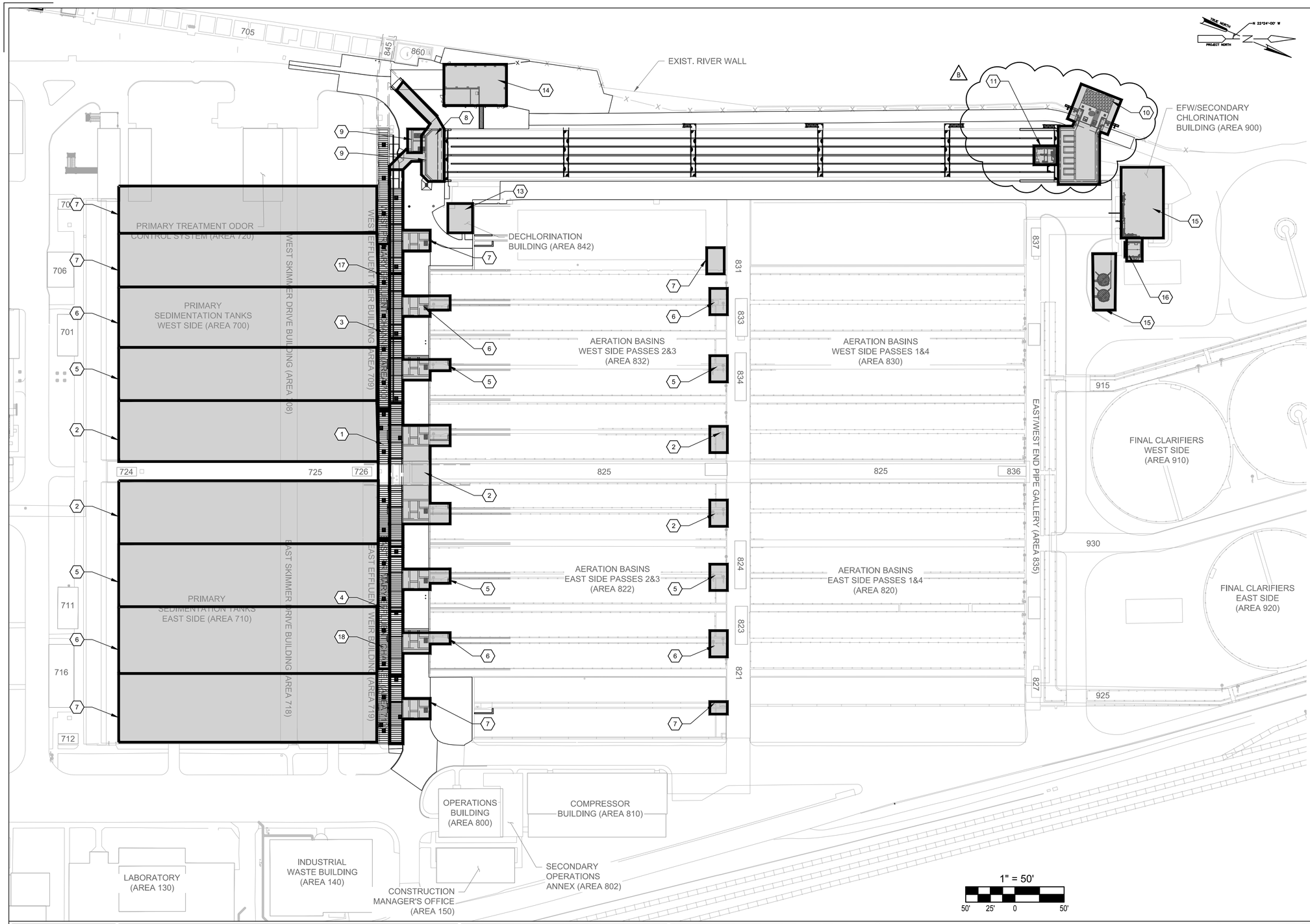
Drawings:

a. 000-G-12
b. 000-SD-64
c. 822-S-60
d. 842-ES-02
e. 842-ET-10
f. 842-I-01
g. 865-AD-62
h. 865-EZ-01

Other:

N/A

*** * * * END OF ADDENDUM NO. 5* * * ***



NOTES:

1. REFER TO SPECIFICATION SECTION 01 52 00 FOR INFORMATION REGARDING THESE WORK AREAS
2. WORK AREAS SHOWN ARE APPROXIMATE
3. CONTRACTOR SHALL PROVIDE STOP LOGS AND STOP PLATES IN PRIMARY EFFLUENT CHANNEL TO ISOLATE INDIVIDUAL PRIMARY SEDIMENTATION TANKS, FLOW REGULATOR CHAMBERS, AND AERATION BASINS.
4. AT ALL TIMES THROUGHOUT CONSTRUCTION, THE FOLLOWING MUST REMAIN IN SERVICE:
   a. MINIMUM OF FIVE PRIMARY SEDIMENTATION TANKS
   b. MINIMUM OF SIX AERATION BASINS AND FLOW REGULTOR CHAMBERS
   c. THESE NUMBERS MAY BE GREATER WHEN THE PLANT IS RECEIVING PEAK FLOWS
   d. OWNER HAS THE RIGHT TO MODIFY ALLOWABLE SHUTDOWNS AT ANY TIME.
5. NO WORK MAY COMMENCE IN THE BCCT (840), SODIUM BISULFITE AREA (842), OR EXISTING CCT SAMPLING BUILDING (841) UNTIL THE TANK IS ISOLATED FROM SERVICE WITH A NEW BULKHEAD TO BE INSTALLED BY OTHERS IN THE EXISTING SECONDARY EFFLUENT CHANNEL (ANTICIPATED DECEMBER 2024).
6. THE EFW & RAS SODIUM HYPOCHLORITE PUMPS WHICH ARE PART OF THE THE TEMPORARY HYPOCHLORITE FACILITIES (900) MODIFICATIONS SHALL BE OPERATIONAL AND BE CAPABLE OF PUMPING TO THE EFW SUCTION PIPE PRIOR TO INSTALLATION OF THE NEW BULKEAD (INSTALLED BY OTHERS -ANTICIPATED DECEMBER 2024) IN THE EXISTING SECONDARY EFFLUENT CHANNEL

KEYNOTES: ⬡

PHASE 1 (SHEET 000-G-13)
1. WORK AREA 700.1, 710.1
2. WORK AREA 700.3, 710.3, 750.1, 822.1, 832.1

PHASE 2 (SHEET 000-G-14)
3. WORK AREA 700.2
4. WORK AREA 710.1
5. WORK AREA 700.4, 710.4, 750.2, 822.2, 832.2, 750.2

PHASE 3 (SHEET 000-G-15)
6. WORK AREA 700.5, 710.5, 750.3, 822.3, 832.3

PHASE 4 (SHEET 000-G-16)
7. WORK AREA 700.6, 700.7, 710.6, 750.4, 822.4, 832.4

PHASE 5 (SHEET 000-G-17)
8. WORK AREA 840.1
9. WORK AREA 840.2
10. WORK AREA 840.3
11. WORK AREA 840.4
12. NOT INCLUDED
13. WORK AREA 842.1
14. WORK AREA 865.1
15. WORK AREA 900.1
16. WORK AREA 902.1
17. WORK AREA 700.8
18. WORK AREA 700.9
19. WORK AREA 710.7
20. WORK AREA 710.8

B

Designed by:	REVISION			
VDN	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	A	6/8/22	ISSUED FOR BIDS	JCH
RDC	B	8/22/22	ADDENDUM No. 5	JCH
Checked by:				
JCH				

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
CSO BYPASS AND DISINFECTION PROJECT

000-G-12
MAINTENANCE OF PLANT OPERATIONS WORK AREA LOCATION PLAN

Contract:	1760
CAD File Name:	000-G-12.dwg
Date:	06 / 08 / 2022
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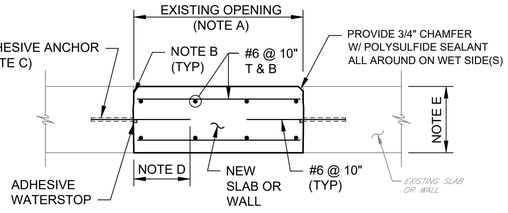


NOTES:

A. FOR OPENING DIMENSION OR DIAMETER GREATER THAN OR EQUAL TO 18", PLACE DOWELS AS SHOWN. IF OPENING DIMENSION OR DIAMETER IS LESS THAN 18", OMIT DOWELS.

B. INTENTIONALLY ROUGHEN SURFACE TO A FULL AMPLITUDE OF ¼", CLEAN AND COAT SURFACE WITH EPOXY BONDING ADHESIVE PRIOR TO PLACING NEW CONCRETE.

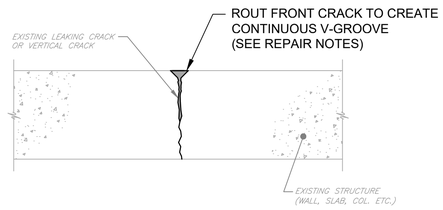
C. COORDINATE EMBEDMENT LENGTH WITH ADHESIVE ANCHOR MANUFACTURER'S REQUIREMENTS TO PROVIDE FULL YIELD STRENGTH OF REINFORCING BAR.

D. EXTEND DOWELS 2'-6" OR AS FAR AS POSSIBLE INTO NEW CONCRETE.

E. IF THICKNESS IS 8" OR LESS, ONLY USE A SINGLE LAYER OF REINFORCING.

OPENING RESTORATION DETAIL 1
NO SCALE -

B



NOTES:

A. CONCRETE SURFACE SHALL BE PRESSURE WASHED FOLLOWED BY ABRASIVE BLASTING PER SPECIFICATION SECTION 03271.

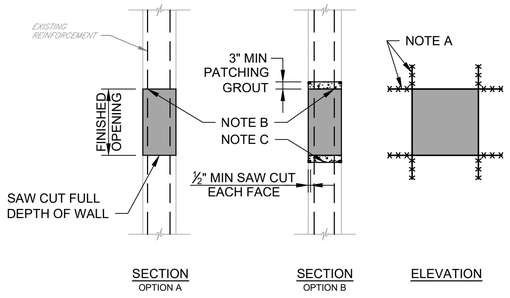
B. REMOVE LOOSE MATERIAL AND FORM V-GROOVE ALONG CRACK FRONT TO REACH SOUND CONCRETE.

C. PRESSURE CLEAN THE RESULTING V-GROOVE WITH AIR-BLAST FOR DRY CRACK OR WATER-BLAST FOR LEAKING CRACK.

D. PRESSURE INJECT EPOXY INTO DRY CRACK OR URETHANE GROUT INTO LEAKING CRACK PER SPECIFICATION SECTION 03732.

E. CRACKS WIDER THAN ½" SHALL BE TREATED AS SPALLS, EXCEPT LEAKING CRACKS SHALL BE PRESSURE-INJECTED IN ADDITION TO SPALL REPAIR.

CRACK REPAIR DETAIL 2
NO SCALE -



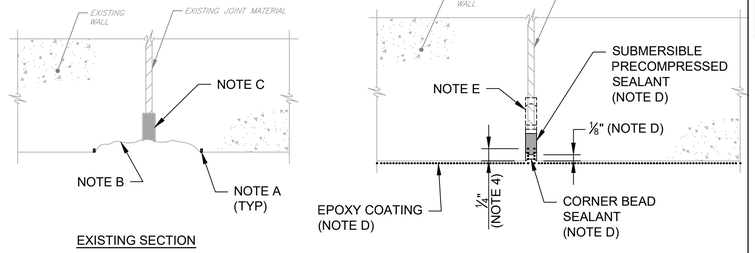
NOTES:

A. OVERCUTTING OF WALL OPENINGS IS NOT PERMITTED.

B. CUT REINFORCEMENT FLUSH AND COAT WITH ANTI-CORROSION PRIMER.

C. APPLY EPOXY BONDING ADHESIVE TO PREPARED SURFACE PRIOR TO PLACING PATCHING GROUT.

NEW WALL OPENING DETAIL 3
NO SCALE -



NOTES:

A. SAW CUT ⅛" DEEP (MINIMUM) AROUND REPAIR AREA.

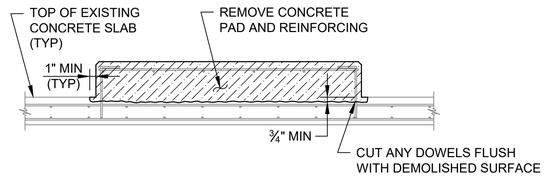
B. RESTORE CONCRETE TO IT'S ORIGINAL PROFILE IN ACCORDANCE WITH DETAIL 7 / S003. THIS WORK IS TO BE COMPLETED UNDER THE UNIT PRICE BID.

C. CLEAN EXISTING JOINT AND ROUT CONCRETE ¾" WIDE, FULL LENGTH OF THE JOINT REPAIR. COORDINATE DEPTH OF ROUT WITH SUBMERSIBLE PRECOMPRESSED SEALANT MANUFACTURER'S REQUIREMENTS.

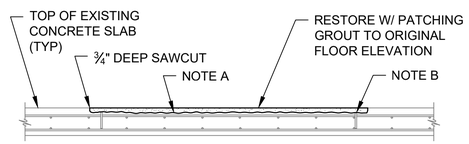
D. INSTALL EPOXY COATING AND RETURN ¼" INTO THE JOINT. NEXT, INSTALL SUBMERSIBLE PRECOMPRESSED SEALANT, RECESSED ⅛" INTO THE JOINT. FINALLY, INSTALL CORNER BEAD SEALNT. TERMINATE JOINT AT BOTTOM OF WALL PER MANUFACTURER'S INSTRUCTIONS.

E. WHERE ADJACENT TANK CELL CANNOT BE DEWATERED TO COMPLETE JOINT REPAIR, INSTALL DOUBLE-SIDED MATERIAL DESIGNED TO PREVENT WATER DRAINAGE TO THE BACK OF THE JOINT MATERIAL.

EXPANSION JOINT REPAIR DETAIL 4
NO SCALE -



DEMOLITION SECTION



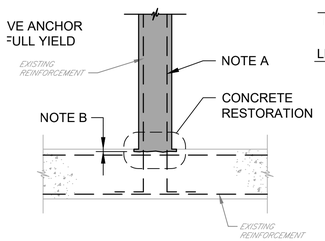
RESTORATION SECTION

NOTES:

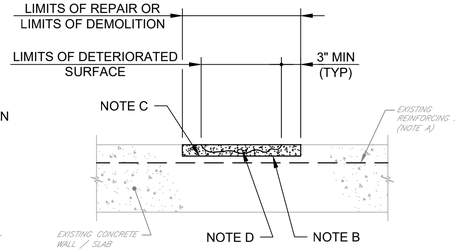
A. SANDBLAST OR MECHANICALLY REMOVE ALL LOOSE AND SPALLED MATERIALS. COAT EXPOSED CONCRETE WITH EPOXY BONDING ADHESIVE PRIOR TO PLACING PATCHING GROUT.

B. CUT REINFORCING FLUSH AND COAT WITH ANTI-CORROSION PRIMER.

EQUIPMENT PAD DEMOLITION / RESTORATION DETAIL 5
NO SCALE -



DEMOLITION PLAN / SECTION



RESTORATION
PLAN / SECTION

NOTES:

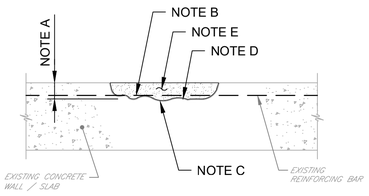
A. CUT REINFORCEMENT FLUSH AND COAT WITH ANTI-CORROSION PRIMER.

B. SAWCUT ½" DEEP MINIMUM, AROUND REPAIR OR DEMOLITION AREA. REMOVE EXISTING CONCRETE TO THE LIMITS OF SOUND CONCRETE. REMOVE ALL LOOSE AND SPALLED CONCRETE AND OTHER FOREIGN MATERIAL.

C. APPLY EPOXY BONDING ADHESIVE PER MANUFACTURER'S INSTRUCTIONS.

D. FILL PREPARED AREA WITH PATCHING GROUT TO MATCH ORIGINAL FINISHED SURFACE.

CONCRETE WALL DEMOLITION / RESTORATION DETAIL 6
NO SCALE -



NOTES:

A. REPAIR AREA SHALL NOT BE LESS THAN ⅛" IN DEPTH.

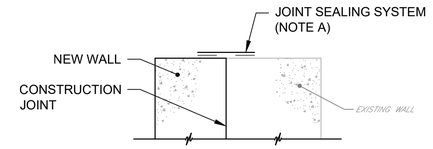
B. SANDBLAST EXPOSED STEEL AND COAT W/ 2 COATS OF ANTI-CORROSION PRIMER.

C. SUBSTRATE SHOULD BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER DURING APPLICATION.

D. APPLY SCRUB COAT TO THE SUBSTRATE, FILLING ALL PORES AND VOIDS.

E. WHILE SCRUB COAT IS STILL WET, APPLY PATCHING GROUT.

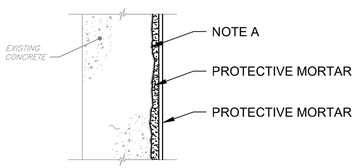
CONCRETE SPALL REPAIR DETAIL 7
NO SCALE -



NOTES:

A. PREPARE SURFACE AND INSTALL JOINT SEALING SYSTEM IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

JOINT SEALING SYSTEM DETAIL 8
NO SCALE -



NOTES:

A. REMOVE DUST, LAITANCE, GREASE, CURING COMPOUNDS, WAXES, IMPREGNATIONS, FOREIGN PARTICLES AND OTHER BOND-INHIBITING MATERIALS FROM THE SURFACE BY SPRAY PRESSURE WASH OR OTHER MECHANICAL METHODS AS APPROVED BY THE ENGINEER.

CONCRETE COATING DETAIL 9
NO SCALE -

NO SCALE
1 .5 0 1

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER MICHAEL S. DICKUN, P.E. No. PE077490 6/8/22

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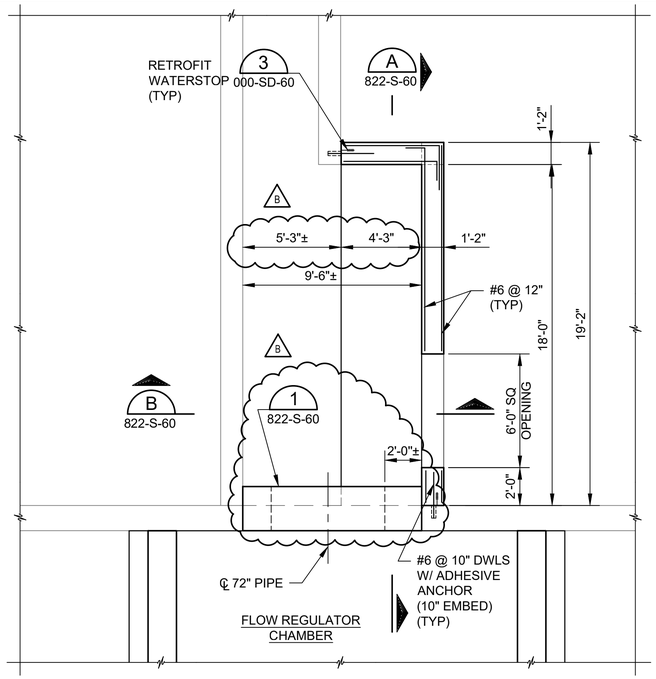
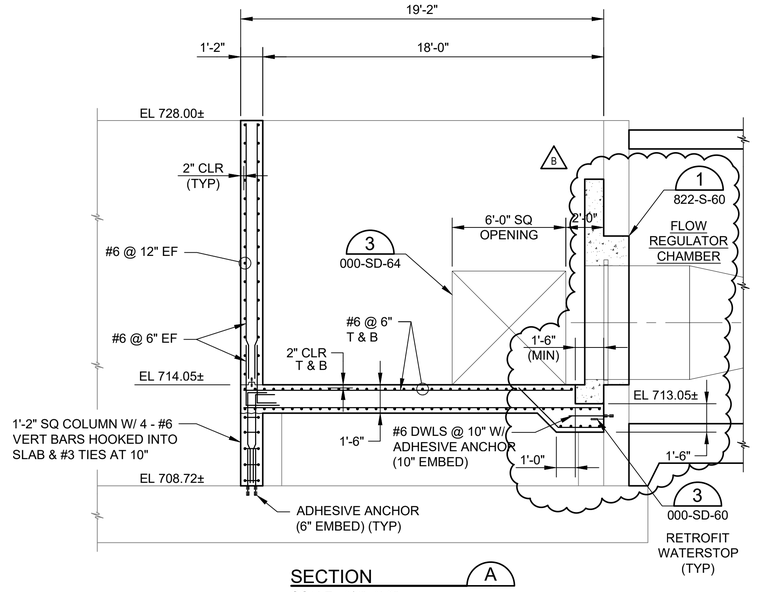
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
CSO BYPASS AND DISINFECTION PROJECT

000-SD-64
BCCT AND CSO BYPASS
CONC DEMO / RESTORATION DETAILS

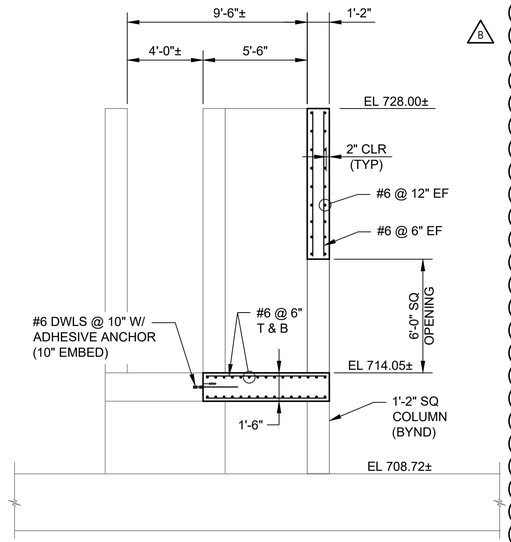
Contract: 1760
CAD File Name: 000-SD-64.dwg
Date: 06 / 08 / 2022
Sheet: 69 of 359



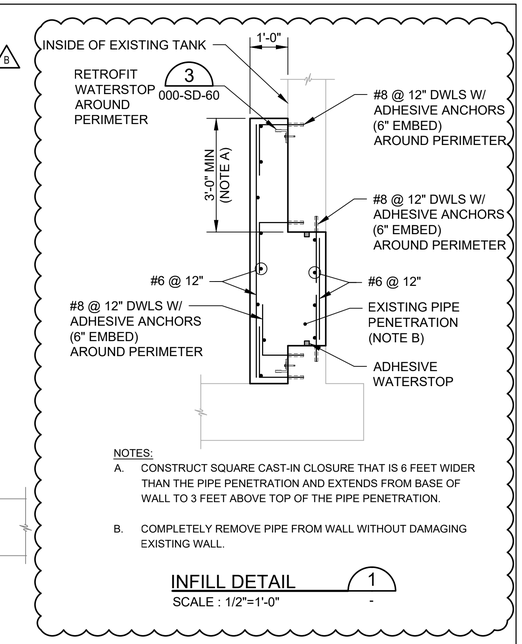
AERATION BASIN MODIFICATION - PLAN 1
SCALE : 1/4"=1'-0" 822-S-10



SECTION A
SCALE : 1/4"=1'-0" -

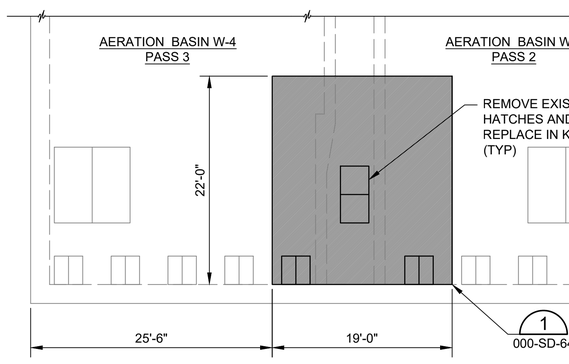


SECTION B
SCALE : 1/4"=1'-0" -

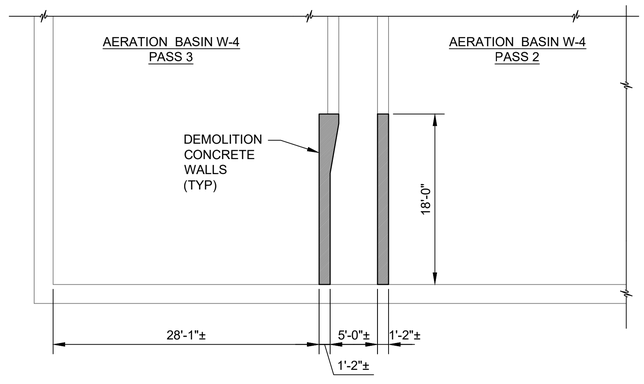


NOTES:
A. CONSTRUCT SQUARE CAST-IN CLOSURE THAT IS 6 FEET WIDER THAN THE PIPE PENETRATION AND EXTENDS FROM BASE OF WALL TO 3 FEET ABOVE TOP OF THE PIPE PENETRATION.
B. COMPLETELY REMOVE PIPE FROM WALL WITHOUT DAMAGING EXISTING WALL.

INFILL DETAIL 1
SCALE : 1/2"=1'-0" -

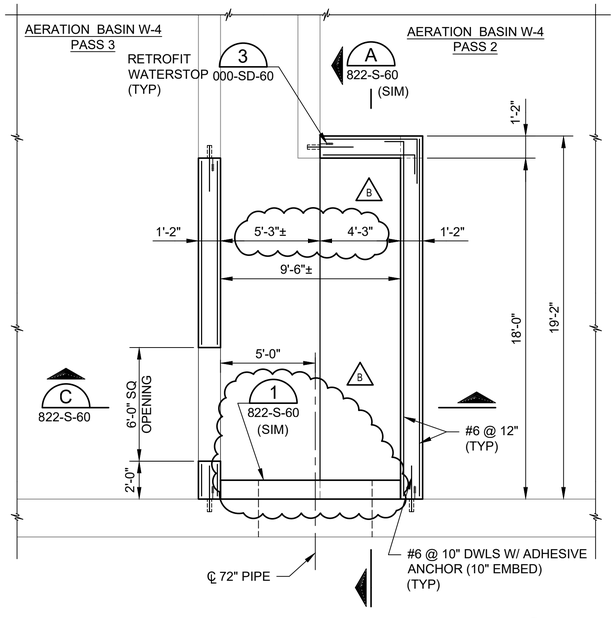


TOP PLAN

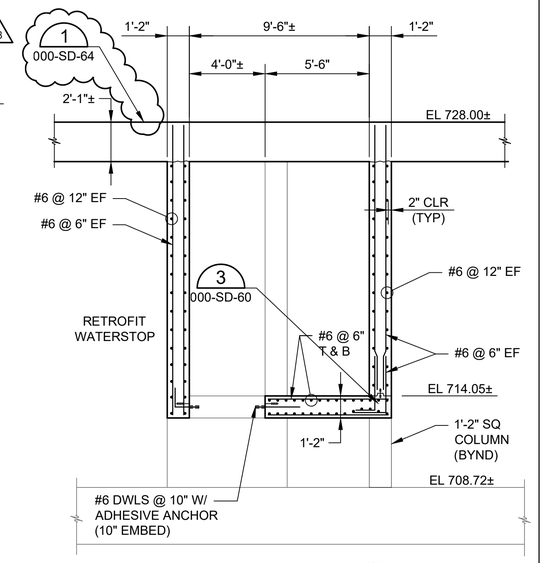


SECTIONAL PLAN

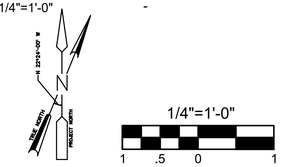
AERATION BASIN W-4 DEMO PLANS 1
SCALE : 1/8"=1'-0" 822-S-10



AERATION BASIN W-4 - PLAN 1
SCALE : 1/4"=1'-0" 822-S-10



SECTION C
SCALE : 1/4"=1'-0" -



NOTES:

1. REFER TO DRAWINGS 000-S-01 THROUGH 000-SD-62 FOR "CONCRETE NOTES" AND DETAILS.
2. COORDINATE PIPE AND EQUIPMENT LOCATIONS WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS AND DRAWINGS OF OTHER DISCIPLINES.
3. PROVIDE WALL/SLAB OPENING REINFORCEMENT IN ACCORDANCE WITH DETAIL 1 ON DRAWING 000-SD-60.
4. ALL EXISTING FIELD CONDITIONS AND ELEVATIONS TO BE VERIFIED PRIOR TO CONSTRUCTION.
5. ADDITIONAL HORIZONTAL WALL REINFORCEMENT DETAIL APPLIES TO ALL BUILDING AND TANK WALLS. REFER TO DETAIL 2 ON DRAWING 000-SD-61.

Designed by:	REVISION			
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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
CSO BYPASS AND DISINFECTION PROJECT

822-S-60
FLOW REGULATOR CHAMBER STRUCTURAL SECTIONS

Contract: 1760
CAD File Name: 822-S-60.dwg
Date: 06 / 08 / 2022
Sheet: 85 of 359

SODIUM BISULFITE BUILDING 842 CONDUIT AND CABLES SCHEDULE

CONDUIT SIZE	CONDUIT ID	CONDUCTORS	DESCRIPTION	SOURCE	DESTINATION
3/4"	P-842-001A	3#12's, 1#12G	EF001-842 EXHAUST FAN	PANEL PPB001-842	EF001-842-CP
3/4"	P-842-001B	3#12's, 1#12G	EF001-842 EXHAUST FAN	EF001-842-CP	EF001-842 FAN
3/4"	P-842-002A	3#12's, 1#12G	EF002-842 EXHAUST FAN	PANEL PPB001-842	EF002-842-CP
3/4"	P-842-002B	3#12's, 1#12G	EF002-842 EXHAUST FAN	EF002-842-CP	EF002-842 FAN
2"	P-842-003	3#4's, 1#8G	ROOFTOP AIR HANDLING UNIT AHU001-842	PANEL PPB001-842	AHU001-842
3/4"	C-842-001	12#14's	AHU001-842 CONTROLS	AHU001-842-CP	AHU001-842
3/4"	P-842-004A	3#12's, 1#12G	EUH001-842 NW ELECTRIC UNIT HEATER	PANEL PPB001-842	EUH001-842-DS
3/4"	P-842-004B	3#12's, 1#12G	EUH001-842 NW ELECTRIC UNIT HEATER	EUH001-842-DS	EUH001-842 ELECTRIC UNIT HEATER
3/4"	P-842-005A	3#12's, 1#12G	EUH002-842 NE ELECTRIC UNIT HEATER	PANEL PPB001-842	EUH002-842-DS
3/4"	P-842-005B	3#12's, 1#12G	EUH002-842 NE ELECTRIC UNIT HEATER	EUH002-842-DS	EUH002-842 ELECTRIC UNIT HEATER
3/4"	P-842-006A	3#12's, 1#12G	EUH003-842 SE ELECTRIC UNIT HEATER	PANEL PPB001-842	EUH003-842-DS
3/4"	P-842-006B	3#12's, 1#12G	EUH003-842 SE ELECTRIC UNIT HEATER	EUH003-842-DS	EUH003-842 ELECTRIC UNIT HEATER
3/4"	P-842-007	2#12's, 1#12G	LIT842TBS001, TANK #1 LEVEL TRANSMITTER	PANEL LPB001-842	LIT842TBS001
3/4"	I-842-001A	MANUFACTURER	LE842TBS001, TANK #1 LEVEL SENSOR	LE842TBS001	LIT842TBS001
3/4"	I-842-001B	1#18 TSP	LIT842TBS001, TANK #1 LEVEL TRANSMITTER	LIT842TBS001	TCP001-842 LOAD-IN CONTROL PANEL
3/4"	P-842-008	2#12's, 1#12G	LIT842TBS002, TANK #2 LEVEL TRANSMITTER	PANEL LPB001-842	LIT842TBS002
3/4"	I-842-002A	MANUFACTURER	LE842TBS002, TANK #2 LEVEL SENSOR	LE842TBS002	LIT842TBS002
3/4"	I-842-002B	1#18 TSP	LIT842TBS002, TANK #2 LEVEL TRANSMITTER	LIT842TBS002	TCP001-842 LOAD-IN CONTROL PANEL
3/4"	C-842-002	4#14's, 2#14G	TANK 1 FLOATS LSHH842TBS001, LSLL842TBS001	FLOAT SENSORS	TCP001-842 LOAD-IN CONTROL PANEL
3/4"	C-842-003	4#14's, 2#14G	TANK 2 FLOATS LSHH842TBS002, LSLL842TBS002	FLOAT SENSORS	TCP001-842 LOAD-IN CONTROL PANEL
3/4"	P-842-009	2#12's, 1#12G	TCP001-842 LOAD-IN CONTROL PANEL	PANEL LPB001-842	TCP001-842 LOAD-IN CONTROL PANEL
3/4"	I-842-003	2#18 TSP	TANK LEVELS LOAD-IN SIGNAL RELAY TO DPU43	TCP001-842 LOAD-IN CONTROL PANEL	SIGNAL JUNCTION BOX
3/4"	C-842-004	4#14's	TANK HIGH LEVELS RELAY TO DPU43	TCP001-842 LOAD-IN CONTROL PANEL	CONTROL JUNCTION BOX
3/4"	P-842-010A	3#12's, 1#12G	SODIUM BISULFITE FEED PUMP NO. 1 PBF001-842	FEED PUMP NO. 1 PBF001-842MO	DISCONNECT SWITCH
3/4"	P-842-010B	3#12's, 1#12G	SODIUM BISULFITE FEED PUMP NO. 1 PBF001-842	DISCONNECT SWITCH	FEED PUMP NO. 1 PBF001-842 VFD
3/4"	P-842-010C	3#12's, 1#12G	SODIUM BISULFITE FEED PUMP NO. 1 VFD PBF001-842VFD	PANEL PPB001-842	FEED PUMP NO. 1 PBF001-842 VFD
3/4"	C-842-005	4#14's	SODIUM BISULFITE FEED PUMP NO. 1 PBF001-842MO WINDINGS, E-STOP	PBF001-842MO	FEED PUMP NO. 1 PBF001-842 VFD
3/4"	C-842-006	16#14s	HS842PBF001 VFD CONTROLS	FEED PUMP NO. 1 PBF001-842 VFD	CONTROL JUNCTION BOX
3/4"	I-842-004	2#18 TSP	SODIUM BISULFITE FEED PUMP NO. 1 VFD PBF001-842VFD	FEED PUMP NO. 1 PBF001-842 VFD	SIGNAL JUNCTION BOX
3/4"	P-842-011A	3#12's, 1#12G	SODIUM BISULFITE FEED PUMP NO. 2 PBF002-842	FEED PUMP NO. 2 PBF002-842MO	DISCONNECT SWITCH
3/4"	P-842-011B	3#12's, 1#12G	SODIUM BISULFITE FEED PUMP NO. 2 PBF002-842	DISCONNECT SWITCH	FEED PUMP NO. 2 PBF002-842 VFD
3/4"	P-842-011C	3#12's, 1#12G	SODIUM BISULFITE FEED PUMP NO. 2 VFD PBF002-842VFD	PANEL PPB001-842	FEED PUMP NO. 2 PBF002-842 VFD
3/4"	C-842-007	4#14's	SODIUM BISULFITE FEED PUMP NO. 2 PBF002-842MO WINDINGS, E-STOP	PBF002-842MO	FEED PUMP NO. 2 PBF002-842 VFD
3/4"	C-842-008	16#14s	HS842PBF002 VFD CONTROLS	FEED PUMP NO. 2 PBF002-842 VFD	CONTROL JUNCTION BOX
3/4"	I-842-005	2#18 TSP	SODIUM BISULFITE FEED PUMP NO. 2 VFD PBF002-842VFD	FEED PUMP NO. 2 PBF002-842 VFD	SIGNAL JUNCTION BOX
3/4"	C-842-009	8#14's, 1#14G	1-1/2"-BLV004-842 FLUSH WATER VALVE	1-1/2"-BLV004-842 VALVE	VALVE CONTROL PANEL
3/4"	C-842-010	8#14's, 1#14G	1-1/2"-BLV005-842 FLUSH WATER VALVE	1-1/2"-BLV005-842 VALVE	VALVE CONTROL PANEL
3/4"	C-842-011	8#14's, 1#14G	1-1/2"-BLV014-842 FLUSH WATER VALVE	1-1/2"-BLV014-842 VALVE	VALVE CONTROL PANEL
3/4"	C-842-023	8#14's, 1#14G	1-1/2"-DIV060-842 PUMP 2 SELECT VALVE	1-1/2"-DIV060-842 VALVE	VALVE CONTROL PANEL
3/4"	C-842-024	8#14's, 1#14G	1-1/2"-DIV061-842 PUMP 2 SELECT VALVE	1-1/2"-DIV061-842 VALVE	VALVE CONTROL PANEL
3/4"	P-842-012	2#12's, 1#12G	VALVE POWER AT VALVE CONTROL PANEL	PANEL LPB001-842	VALVE CONTROL PANEL
3/4"	C-842-012	40#14's, 5#14G	VALVE CONTROL PANEL	VALVE CONTROL PANEL	CONTROL JUNCTION BOX

B

SODIUM BISULFITE BUILDING 842 CONDUIT AND CABLES SCHEDULE

CONDUIT SIZE	CONDUIT ID	CONDUCTORS	DESCRIPTION	SOURCE	DESTINATION
3/4"	P-842-013A	3#12's, 1#12G	SUMP PUMP SSP001-842	PANEL PPB001-841	SUMP PUMP CONTROL PANEL
3/4"	P-842-013B	3#12's, 1#12G	SUMP PUMP SPP001-842MO	SUMP PUMP CONTROL PANEL	SUMP PUMP SPP001-842MO
3/4"	C-842-013	6#14's, 3#14G	SUMP PUMP LEVEL FLOATS	3TRENCH FLOATS	SUMP PUMP CONTROL PANEL
3/4"	C-842-014	6#14's, 3#14G	SUMP PUMP STATUS	SUMP PUMP CONTROL PANEL	CONTROL JUNCTION BOX
3/4"	P-842-014	2#12's, 1#12G	SODIUM BISULFITE FEED FLOW FIT842PBF001	PANEL LPB001-842	FIT842PBF001
3/4"	I-842-006	1#18 TSP	SODIUM BISULFITE FEED FLOW FIT842PBF001	FIT842PBF001	SIGNAL JUNCTION BOX
3/4"	P-842-015A	3#12's, 1#12G	SODIUM BISUFITE SCRUBBER SSB001-842	PANEL LPB001-842	SCRUBBER SSB001-842 CONTROL PANEL
3/4"	P-842-015B	2#12's, 1#12G	SODIUM BISUFITE SCRUBBER SSB001-842MO	SCRUBBER SSB001-842 CONTROL PANEL	SCRUBBER SSB001-842MO
3/4"	C-842-015	4#14's, 2#14G	SODIUM BISUFITE SCRUBBER SSB001-842 CONTROLS	SCRUBBER SSB001-842 CONTROL PANEL	CONTROL JUNCTION BOX
3/4"	P-842-016	2#8's, 1#8G	LBP001-842 15kVA POWERZONE	PANEL PPB001-842	PANEL LPB001-842
3"	P-842-017	3#4/0's, 1#2G	PPB001-842 FEEDER	PANEL PPB001-842	POWER JUNCTION BOX
3"	P-842-018	3#4/0's, 1#2G	WATER HEATER EWH001-842 FEEDER	EWH001-842-DS DISCONNECT	POWER JUNCTION BOX
3/4"	C-842-016	6#14's, 3#14G	HAZARDOUS GAS MONITORING STATUS	GAS MONITOR CONTROL PANEL	CONTROL JUNCTION BOX
3/4"	P-750-101	2#12's, 1#12G	BYPASS CHANNEL WEST LEVEL/FLOW - FLODAR	PANEL LPB001-842	LIT750GBI001A
3/4"	I-750-101	2#18 TSP	BYPASS CHANNEL WEST LEVEL/FLOW - FLODAR	LIT750GBI001A	SIGNAL JUNCTION BOX
1"	C-750-101	MANU. CABLE	LIT750GBI001B INSTRUMENT SENSOR CABLE	LIT750GBI001B INSTR ENCLOSURE	FLODAR UNIT AT BYPASS
3/4"	C-842-017	2#14's, 1#14G	INTERIOR SAFETY SHOWER FLOW ALARM - FSH842SSH001	SAFETY SHOWER SSH001-842	CONTROL JUNCTION BOX
3/4"	C-842-018	2#14's, 1#14G	EXTERIOR SAFETY SHOWER FLOW ALARM - FSH842SSH002	SAFETY SHOWER SSH002-842	CONTROL JUNCTION BOX
3/4"	I-842-007	1#18 TSP	DECHLORINATION BUILDING TEMPERATURE	TT842BBS001	SIGNAL JUNCTION BOX
3/4"	C-842-019	4#14's	DECHLORINATION BUILDING HVAC ALARMS	AHU001-842-CP	CONTROL JUNCTION BOX
3/4"	P-842-019	3#12's, 1#12G	BYPASS CHANNEL WEST LEVEL/FLOW - FLODAR	PANEL LPB001-842	LIT750GBI001A
3/4"	P-832-404A	3#12's, 1#12G	SLIDE GATE GSL402-832 FEEDER	GATE ACTUATOR GSL402-832MO	GATE DISCONNECT
3/4"	P-832-404B	3#12's, 1#12G	SLIDE GATE FEEDER	GATE DISCONNECT	PANEL PPB001-842
3/4"	C-832-404A	12#14's	GATE CONTROL	GATE ACTUATOR GSL402-832MO	CONTROL JUNCTION BOX
3/4"	I-832-404A	1#18 TSP	GATE POSITION FEEDBACK	GATE ACTUATOR GSL402-832MO	SIGNAL JUNCTION BOX
3/4"	P-842-020A	3#12's, 1#12G	BISULFITE FEED LINE 1 POWER	PANEL PPB001-842	HEAT TRACE CONTROLLER
3/4"	P-842-020B	3#12's, 1#12G	BISULFITE FEED LINE 2 POWER	PANEL PPB001-842	HEAT TRACE CONTROLLER
3/4"	C-842-020	8#14's	BISULFITE FEED LINES HEAT TRACE ALARMS	HEAT TRACE CONTROLLER	CONTROL JUNCTION BOX
4"	P-842-021A	6#4/0's, 2#2G	POWER FEEDERS FROM MCC037-834	POWER JUNCTION BOX	EHH001-842
4"	P-842-021B	6#4/0's, 2#2G	POWER FEEDERS FROM MCC037-834	EHH001-842	831 TUNNEL POWER CABLE TRAY SYSTEM
4"	P-842-022A		SPARE	POWER JUNCTION BOX	EHH001-842
4"	P-842-022B		SPARE	EHH001-842	831 TUNNEL POWER CABLE TRAY SYSTEM
2"	C-842-021A	58#14's, 10#14G	CONTROL HOME RUNS TO DPU45-834	CONTROL JUNCTION BOX	EHH001-842
2"	C-842-021B	58#14's, 10#14G	CONTROL HOME RUNS TO DPU45-834	EHH001-842	831 TUNNEL CONTROL CABLE TRAY SYSTEM
2"	C-842-022A	62#14's, 5#14G	CONTROL HOME RUNS TO DPU45-834	CONTROL JUNCTION BOX	EHH001-842
2"	C-842-022B	62#14's, 5#14G	CONTROL HOME RUNS TO DPU45-834	EHH001-842	831 TUNNEL CONTROL CABLE TRAY SYSTEM
2"	I-842-008A	11#18 TSP	SIGNAL HOME RUNS TO DPU45-834	SIGNAL JUNCTION BOX	EHH001-842
2"	I-842-008B	11#18 TSP	SIGNAL HOME RUNS TO DPU45-834	EHH001-842	831 TUNNEL SIGNAL CABLE TRAY SYSTEM
2"	I-842-009A		SPARE	SIGNAL JUNCTION BOX	EHH001-842
2"	I-842-009B		SPARE	EHH001-842	831 TUNNEL SIGNAL CABLE TRAY SYSTEM

Designed by: TWD
Drawn by: EPP
Checked by: STJ

REVISION

REV No.	DATE	DESCRIPTION	APPV
A	06/08/22	ISSUED FOR BIDS	CPM
B	08/23/22	ADDENDA No. 5	CPM

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER NICHOLAS J. RYLATT No. PE041932E 6/21/22

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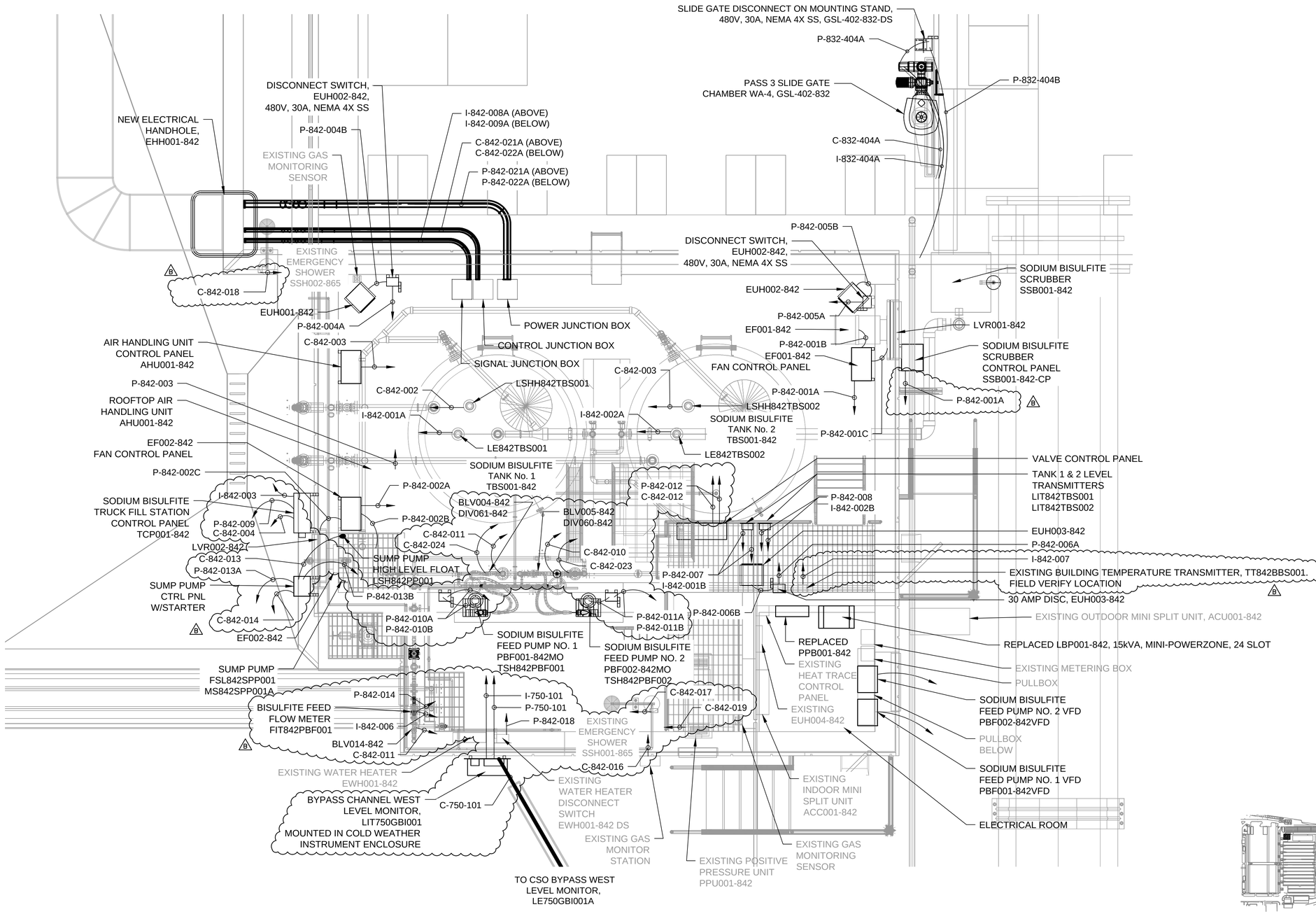
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
CSO BYPASS AND DISINFECTION PROJECT

842-ES-02
DECHLORINATION BUILDING 842
CONDUIT AND CABLE SCHEDULE

Contract: 1760
CAD File Name: 842-ES-02.dwg
Date: 06 / 08 / 2022
Sheet: 304 of 359



SODIUM BISULFITE BUILDING

SCALE : 3/8"=1'-0"

KEY PLAN

3/8"=1'-0"

1 .5 0 1

Designed by:	REVISION			
TWD	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	A	06/08/22	ISSUED FOR BIDS	CPM
GRM	B	08/23/22	ADDENDA No. 5	CPM
Checked by:				
TWD				

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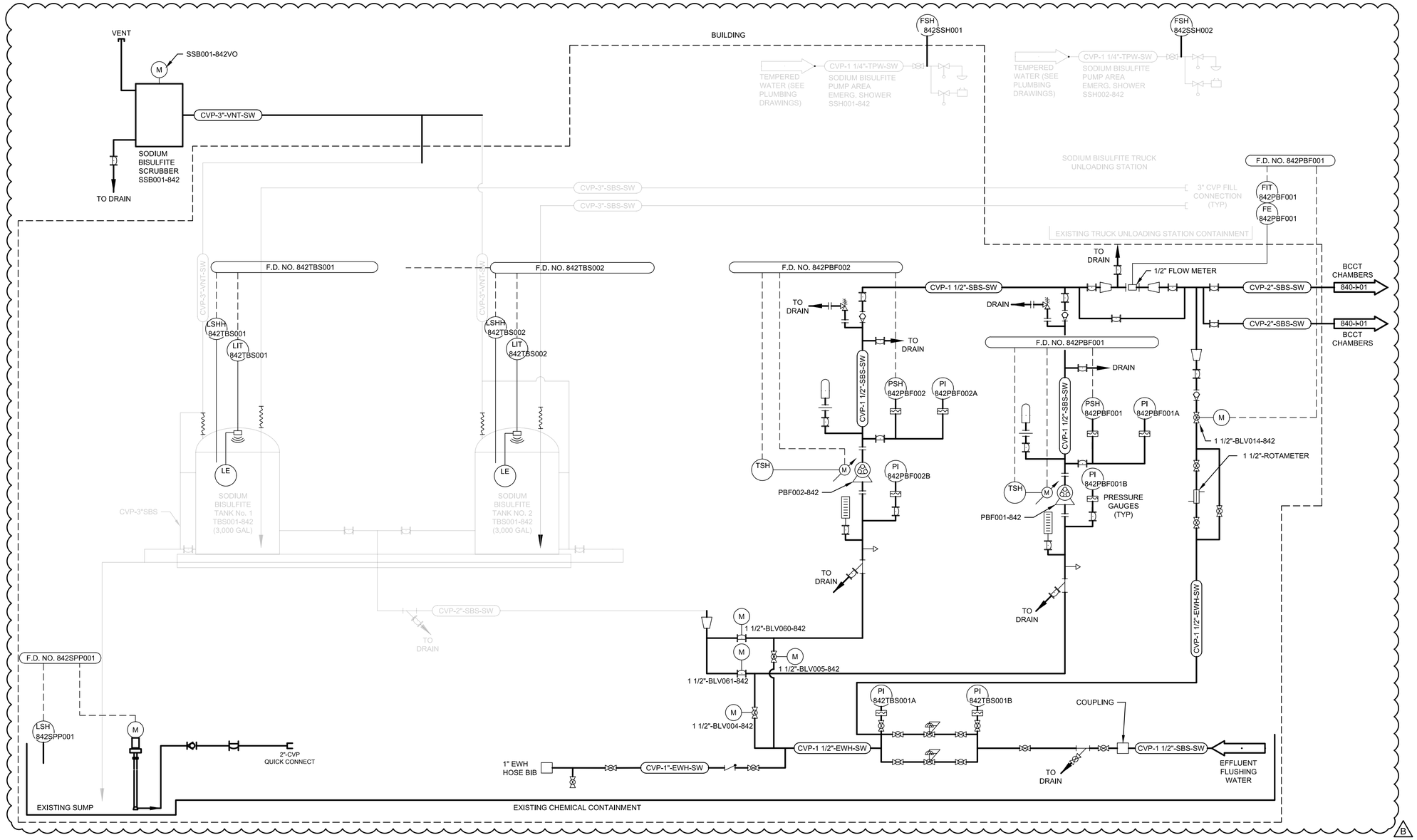
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
CSO BYPASS AND DISINFECTION PROJECT

842-ET-10
SODIUM BISULFITE BUILDING
ELECTRICAL POWER PLAN

Contract:	1760
CAD File Name:	842-ET-10.dwg
Date:	06 / 08 / 2022
Sheet:	305 of 359



NONE

1 .5 0 1

Designed by:	REVISION			
GCF	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	A	6/8/22	ISSUED FOR BIDS	RLC
JCR	B	8/23/22	ADDENDUM 5	CPM
Checked by:				
DPD				

Advanced Integration Group
Design Engineering and System Integration
1 McCormick Rd, Mckees Rocks, PA 15136 (412) 722-0065

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COMMONWEALTH OF PENNSYLVANIA
STEVEN R. MUSIAL, II
ENGINEER
Steven R. Musial

alcosan
allegheny county sanitary authority

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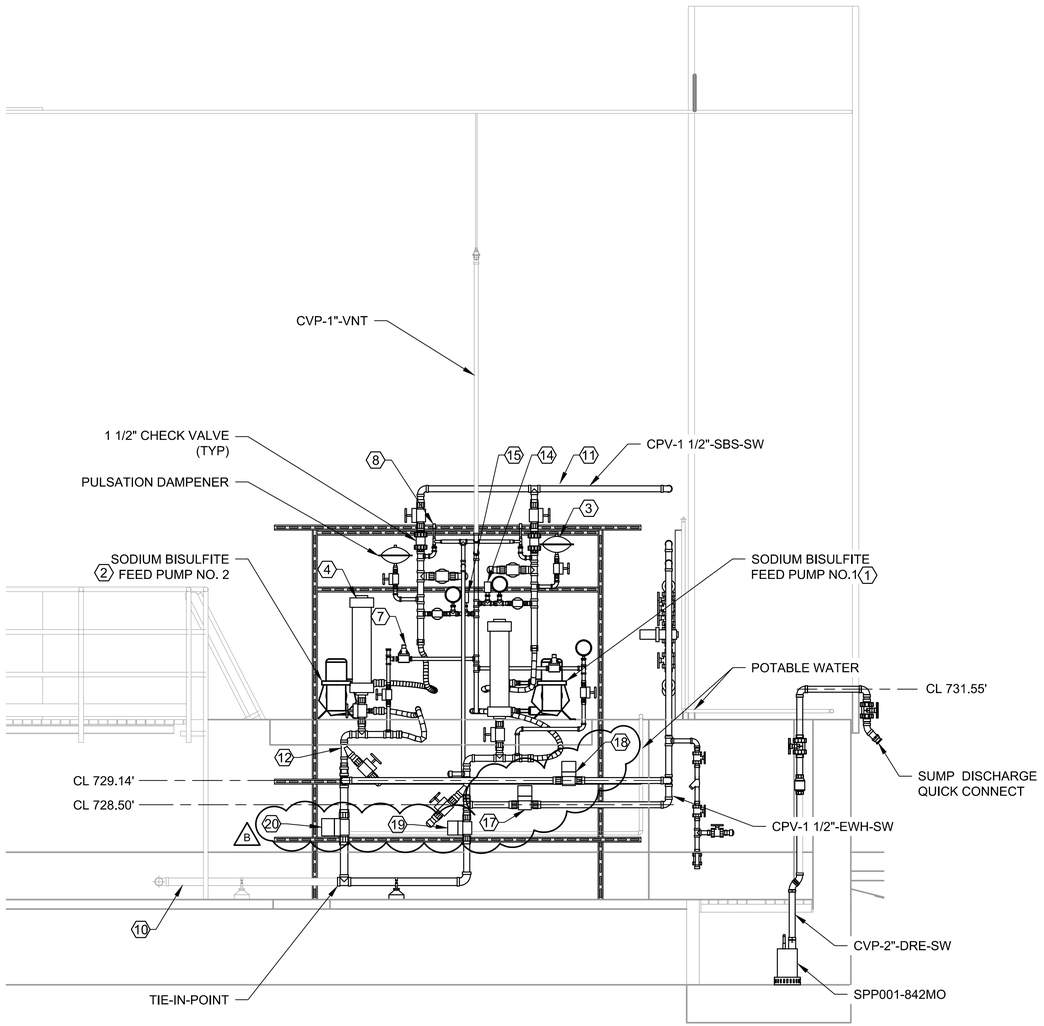
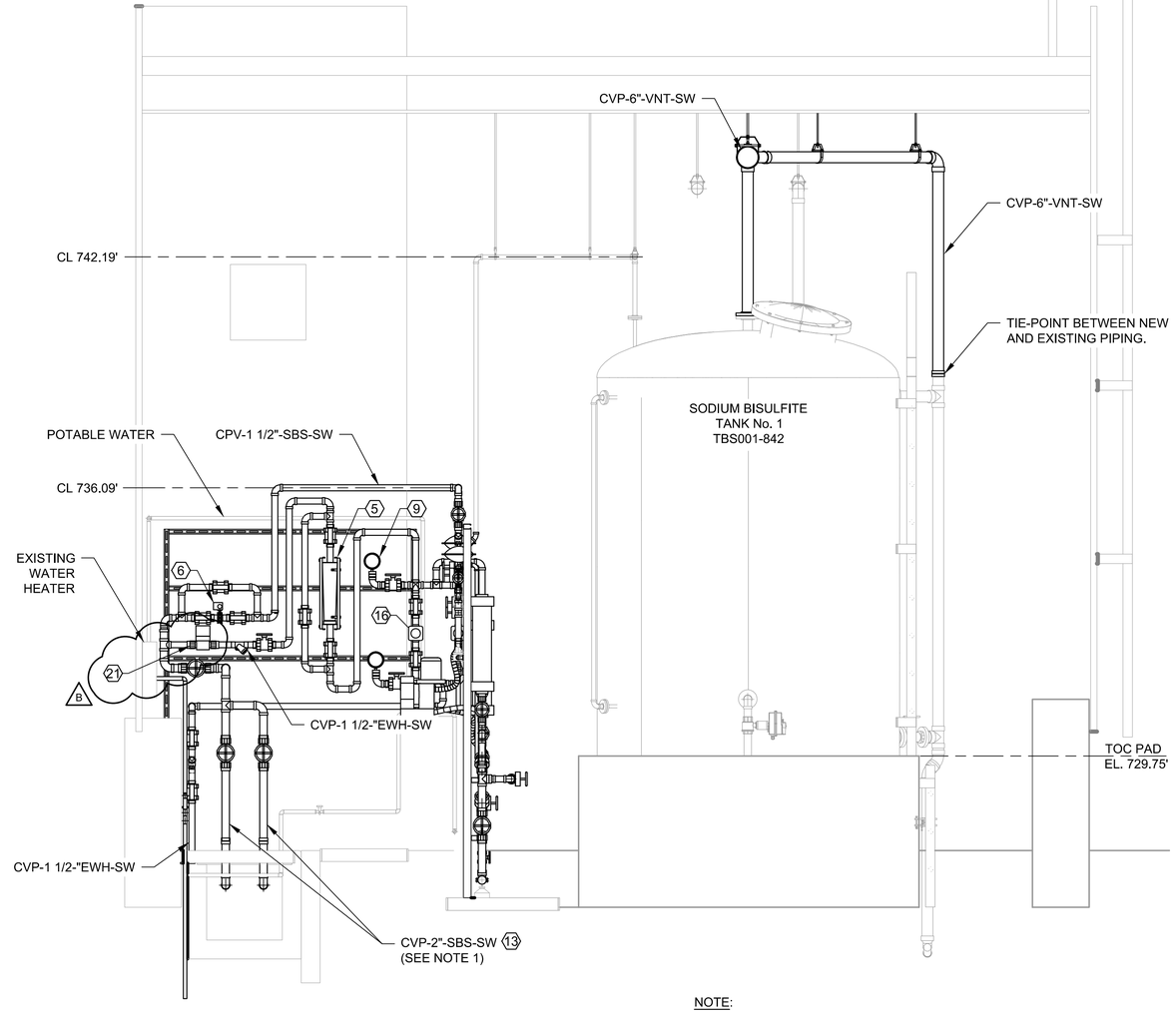
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
CSO BYPASS AND DISINFECTION PROJECT

842-I-01
SODIUM BISULFITE PIPING & INSTRUMENTATION DIAGRAM

Contract:	1760
CAD File Name:	842-I-01.dwg
Date:	06 / 08 / 2022
Sheet:	353 of 359



SECTION B
SCALE : 1/2"=1'-0" 842-M-10



SECTION C
SCALE : 1/2"=1'-0" 842-M-10

KEYNOTES

1. PBF001-842MO
2. PBF002-842MO
3. PULSATION DAMPENER (TYP)
4. CALIBRATION COLUMN (TYP)
5. ROTAMETER
6. FLOWMETER (FIT-842PBF001)
7. AIR RELEASE VALVE (TYP)
8. PRESSURE RELIEF VALVE (TYP)
9. PRESSURE GAUGE (TYP)
10. PUMP SUCTION LINE
11. PUMP DISCHARGE LINE
12. Y-STRAINER (TYP)
13. SODIUM BISULFITE FEED LINES TO BCCT
14. HIGH PRESSURE SWITCH (PSH-842PBF001)
15. HIGH PRESSURE SWITCH (PSH-842PBF002)
16. PRESSURE REDUCING VALVE (TYP)
17. MOTOR OPERATED BALL VALVE (1-1/2"-BLV-004-842)
18. MOTOR OPERATED BALL VALVE (1-1/2"-BLV-005-842)
19. MOTOR OPERATED DIAPHRAGM VALVE (1-1/2"-DIV-061-842)
20. MOTOR OPERATED DIAPHRAGM VALVE (1-1/2"-DIV-060-842)
21. MOTOR OPERATED BALL VALVE (1-1/2"-BLV-0014-842) B

NOTE:

1. HEAT TRACE AND INSULATE INDICATED PROCESS LINES ACCORDANCE WITH SPECIFICATION SECTION 404113.
2. SEE 00-MD-60 FOR PIPE PENETRATION DETAILS.
3. PROVIDE SUPPORTS FOR PROCESS PIPING IN ACCORDANCE WITH SPECIFICATION SECTION 400507. CONTRACTOR SHALL PROVIDE DESIGN AND LAYOUT WITH P.E. STAMP DURING SUBMITTAL PHASE.

1/2"=1'-0"
0 1' 2' 4'

Designed by:	REVISION			
KCK	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	A	6/8/22	ISSUED FOR BIDS	CPM
MRG	**B**	8/23/22	ADDENDUM No. 5	CPM
Checked by:				
JDS				

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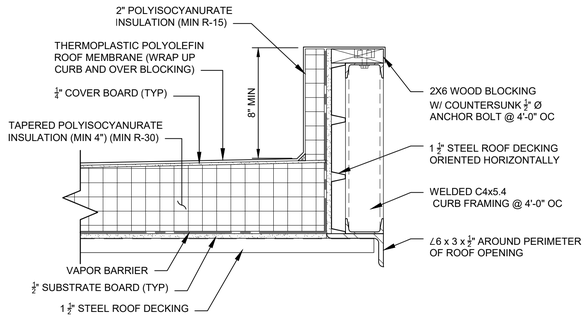
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
CSO BYPASS AND DISINFECTION PROJECT

842-M-41
DECHLORINATION BUILDING MECHANICAL SECTIONS

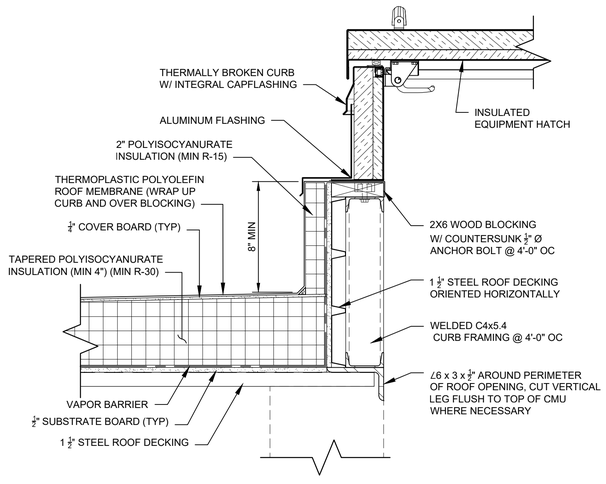
Contract: 1760
CAD File Name: 842-M-41.dwg
Date: 06 / 08 / 2022
Sheet: 189 of 359

NOTES:

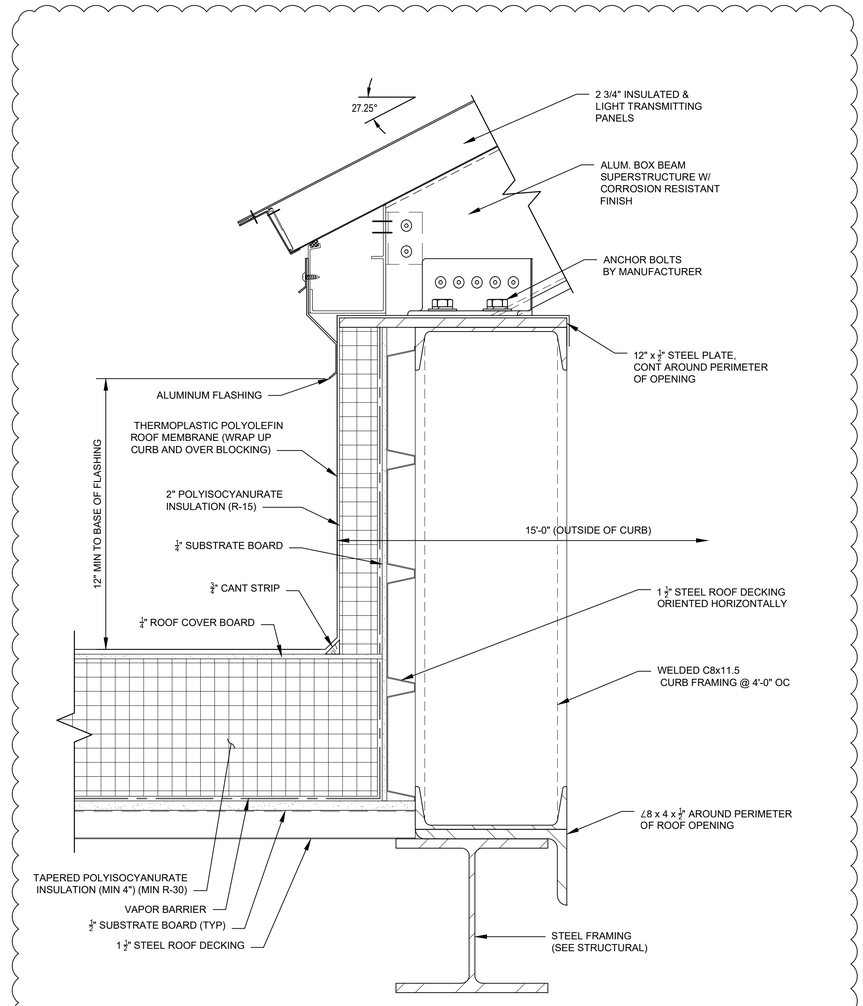
1. COORDINATE ALL ROOFING PENETRATIONS WITH ROOFING CONTRACTOR TO ENSURE ROOFING WARRANTY AND INTEGRITY ARE NOT VIOLATED.



ROOFTOP EQUIPMENT CURB DETAIL — 2 / 865-A-11
SCALE : 1 1/2"=1'-0"



ROOF HATCH CURB DETAIL — 1 / 865-A-11
SCALE : 1 1/2"=1'-0"



POLYGONAL SKYLIGHT CURB DETAIL — 3 / 865-A-11
SCALE : 3"=1'-0"

1 1/2"=1'-0"
1 .5 0 1

Designed by:	REVISION			
E. RUSTEN	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	A	5/6/22	ISSUED FOR BIDS	EVR
M. HEISLER	B	8/23/22	ADDENDUM NO. 5	EVR
Checked by:				
E. RUSTEN				

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REGISTERED ARCHITECT COMMONWEALTH OF PENNSYLVANIA VINCENT RUSTEN No. RA-035785 — 9.7.22

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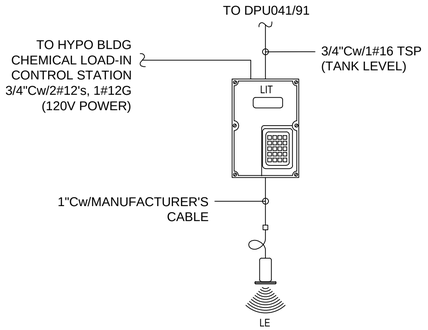
ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
CSO BYPASS AND DISINFECTION PROJECT

865-AD-62
BYPASS DISINFECTION CHEMICAL BUILDING
ARCHITECTURAL ROOF DETAILS

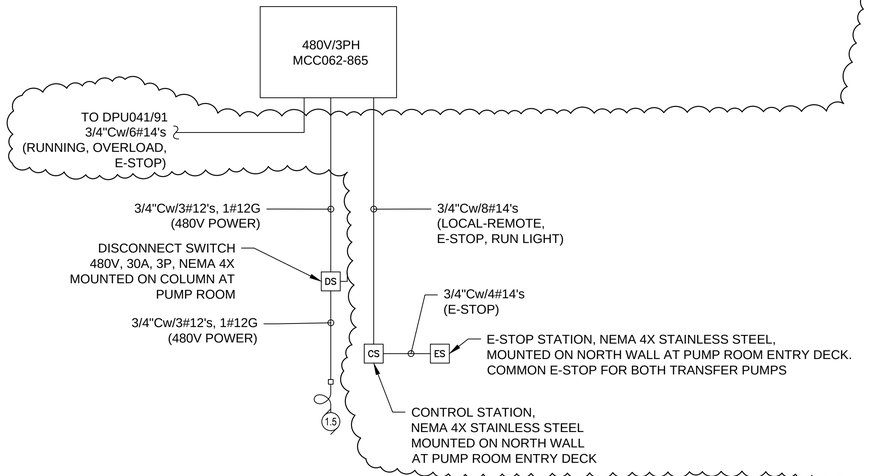
Contract: 1760
CAD File Name: 865-AD-62.dwg
Date: 06 / 08 / 2022
Sheet: 224 of 359



SODIUM HYPOCHLORITE LEVEL TRANSMITTER WIRING SCHEMATIC

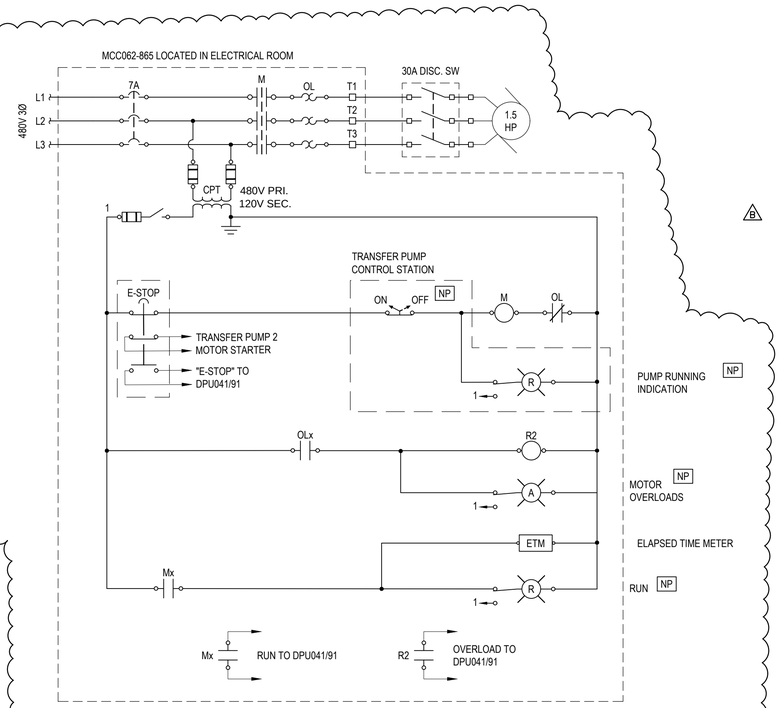
SCALE : NTS

TYPICAL DIAGRAM FOR LEVEL TRANSMITTERS
LIT865THS001, LIT865THS002, AND LIT865THS003



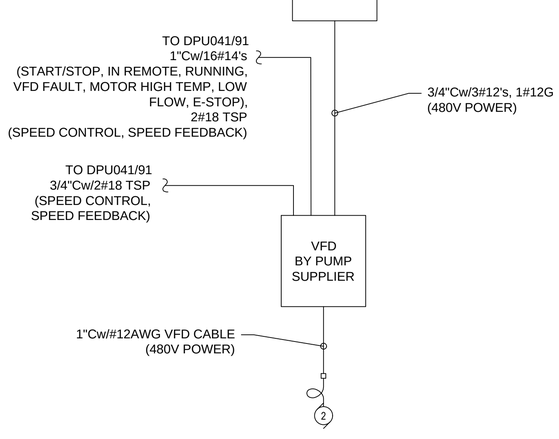
SODIUM HYPOCHLORITE TRANSFER PUMPS WIRING SCHEMATIC

SCALE : NTS



SODIUM HYPOCHLORITE TRANSFER PUMPS ELEMENTARY WIRING DIAGRAM

SCALE : NTS



SODIUM HYPOCHLORITE FEED PUMPS WIRING SCHEMATIC

SCALE : NTS

NOT TO SCALE

Designed by:	REVISION			
TWD	REV No.	DATE	DESCRIPTION	APPV
Drawn by:	A	06/08/22	ISSUED FOR BIDS	CPM
EPP	B	08/23/22	ADDENDA No. 5	CPM
Checked by:				
STJ				

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ALLEGHENY COUNTY SANITARY AUTHORITY
WASTEWATER TREATMENT PLANT
CSO BYPASS AND DISINFECTION PROJECT

865-EZ-01
SODIUM HYPOCHLORITE BUILDING
ELECTRICAL WIRING DIAGRAMS

Contract: 1760
CAD File Name: 865-EZ-01.dwg
Date: 06 / 08 / 2022
Sheet: 329 of 359