

# **CITY OF NEWBURGH GAC TREATMENT SYSTEM AT WASHINGTON LAKE FILTRATION PLANT**

**Newburgh, New York  
Site Number 336089**

**October 2016**

## **ADDENDUM No. 1**

**TO CONTRACT NOS. D010308, D010309, D010310, D010326**



**Department of  
Environmental  
Conservation**

**Prepared by:**

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**ADDENDUM No. 1  
OCTOBER 2016 CONTRACT DOCUMENTS  
CITY OF NEWBURGH GAC TREATMENT SYSTEM  
AT WASHINGTON LAKE FILTRATION PLANT  
NEWBURGH, NEW YORK  
CONTRACT NOS. D010308, D010309, D010310, D010326**

**TO ALL HOLDERS OF THE CONTRACT DOCUMENTS:**

Your attention is directed to the following changes and additions to the October 2016 Contract Documents for the City of Newburgh GAC Treatment System at Washington Lake Filtration Plant. This addendum has been prepared in accordance with the provisions of the Contract Documents.

## **PART A. Pre Bid Meeting Minutes**

The mandatory pre-bid meeting began at 11:05 am on November 1, 2016 at the Newburgh City Hall and was conducted by Benjamin Rung DEC Project Manager and Robert Ostapczuk Arcadis Project Manager. A site walkthrough followed the project overview at City Hall. The sign in sheet is attached to Addendum No. 1.

**Agenda:**

1. Introductions
2. Agenda
3. Project Description
4. Bid Requirements
5. Contract Requirements
6. Questions & Answers
7. Site Walkthrough

**Introductions:**

1. Ben Rung, DEC Project Manager
2. Gerard Burke, DEC Project Director
3. Rob Ostapczuk, Arcadis Project Manager
4. Dana Bryant, Arcadis Project Engineer
5. Jason Morris, City of Newburgh City Engineer (not present)
6. Chad Wade, City of Newburgh Assistant City Engineer
7. Wayne Vradenburgh, City of Newburgh Deputy Water Superintendent
8. Scott Alderman, NYS DOH (not present)

9. Keith Miller, OCHD (not present)

**Project Description:**

1. Project generally consists of the following Work:
  - a. Demolition of existing 1 MG buried concrete storage tank, existing yard piping, temporary piping and electrical conduit and cables provided by others and miscellaneous items.
  - b. Site work including yard piping, grading, erosion and sediment control, asphalt paving, retaining walls, curbing and miscellaneous items.
  - c. Construction of a GAC treatment building.
  - d. Construction of a backwash and stormwater tank.
  - e. Installation of GAC contactor equipment and carbon media furnished by the DEPARTMENT.
  - f. Construction of process piping and associated process equipment.
  - g. Construction of process water systems.
  - h. Construction of HVAC systems.
  - i. Construction of electrical systems, including a new electrical service and emergency generator.
  - j. Construction of plumbing systems.
  - k. Site restoration.
  - l. Facility commissioning.
2. Project will be constructed as multi-prime, with the following prime contracts:
  - a. General Construction Contract No. D010308
  - b. HVAC Construction Contract No. D010309
  - c. Electrical Construction Contract No. D010310
  - d. Plumbing Construction Contract No. D010326
3. Division of responsibility for construction is defined in Section XI, Specification 01 12 13, Summary of Work, Paragraph 1.3. Responsibilities are defined in the Project Manual, Section XI, division of responsibility is not on the drawings.
4. The Contract Times to be discussed in a few minutes are extremely important. This project is in response to the discovery of PFOS in the raw water supply of the City of Newburgh. This is a Governor's directive to complete the Project. All agencies DEC, DOH, Attorney General and the Comptroller's Office are working collaboratively to expedite approvals. Currently the City is utilizing backup water supplies from the Catskill Aqueduct, but that supply is scheduled to go off line for maintenance in October 2017. This project's contract times are critical as time is of the essence as the residence of the City of Newburgh will not have potable water after October 2017 without a fully operational GAC treatment system.
5. An addendum is expected to cover the following items:
  - a. DEC insurance and bonding updates.

- b. Limited Site Data with Contract OP10261.
- c. Hand excavation extents for chemical feed and HSW lines.
- d. Buried 1 MG storage tank sediment removal and disposal.
- e. Furnish shelf spare 6" flow control valve and 6" backflow preventer for backwash feed line.
- f. Provide a turbidimeter on the chemical monitoring panel, associated piping, electrical and SCADA integration.
- g. Provide temperature probe on low service water from the contact tank and associated electrical and SCADA integration.
- h. Tablet chlorination of piping will be prohibited.

### **Bid Requirements:**

1. Please sign in, all attendees are asked to sign in, as attendance is mandatory as a condition of bidding. Attendees of today's pre-bid meeting will receive the sign in sheet and meeting minutes by Addendum within a few days.
2. All contract or design questions should be submitted in writing to NYSDEC by 5 pm local time on Monday, November 7, 2016. Written comments must be received by mail or e-mail by the deadline. Questions may be e-mailed to Benjamin Rung at [benjamin.rung@dec.ny.gov](mailto:benjamin.rung@dec.ny.gov). Response to written questions and any alternations to the Bidding Documents resulting from those questions will be shared with the attendees of today's meeting by Addendum on or about Monday, November 14, 2016. An addendum is expected to be issued on or about Thursday, November 4, 2016 based on the Pre-Bid Meeting and known changes to the Bid Documents. Benjamin Rung's phone number is 518-402-9813.
3. Bids will be accepted until 1:00 pm local time on Thursday, November 17, 2016 at which time bids will be publicly opened and read aloud. Please note:
  - a. No late bids will be accepted. Late bids will be returned unopened.
  - b. Electronic bids will not be accepted.
  - c. Use only the provided envelopes to submit bids. These will be given out to attendees following today's tour and are available by request.
  - d. Submit bids to the address on the envelopes only. We are not responsible for bids sent to any other address. Despite when or how you send your bid, if Fed-Ex doesn't come through with overnight delivery the bid is late.
  - e. Alteration of the Bid forms, Bond or Insurance certifications will result in bid rejection.
  - f. Alternative Bid forms or Missing pages will result in bid rejection.
  - g. Qualifiers or Contingencies on any work element will result in bid rejection
  - h. Sign the bid form as indicated and in all required locations
  - i. Check all math – incorrect summations may result in bid rejection
  - j. Make sure you write in words the numerical bid amounts.

- k. If you are hand delivering or using a courier for the bid or wish to be present for the bid opening, you must contact Ben Rung ahead of time so that he can enter you in DEC's security system. No admittance without clearance will result in a late bid.
- l. Bids must be accompanied by a check or bid bond for 5% of total bid amount. Three (3) lowest bidders will be held until Contract award.
- m. Do not send your bids to Ben Rung, send them to the address indicated in Article 3 of Section III. Please use the envelopes provided and write the contract number or trade on the front of the envelope so DEC knows which contract the bid is for.
- n. Anything required for approving the Agreement must be submitted within 5 days after the apparent lower bidder is notified of the intent to award the contract. Refer to Section III, pages 4 and 5 for a full list of the required documents to be submitted with the Bid, 3 days after notice of award and 5 days after notice of award.
- o. Unstamped drawings are available on the DEC website; FTP site has stamped drawings.
- p. Bidders should complete the Vendors Questionnaire online if they are currently not in the State system.

### **Contract Requirements:**

1. Bid Documents are available through NYS DEC website and FTP site. Those links and our contact information are available on the table and are included in the Advertisement and Notice to Bidders. Bid Documents are being distributed as adobe .pdf format.
2. Limited site data is available on the website and contains historical construction contracts, GPR survey results and geotechnical investigations.
3. The overall M/WBE project goals are 30 percent. For questions related to M/WBE requirements of the contract the Bidders are directed to call (518) 402-9311. Bidders are highly encouraged to employ a minimum of 10 percent minority employees and 10 percent woman employees.
4. Payments will be made on a monthly basis. The schedule of values will allow for further breakdown of the bid items in accordance with Section VIII Article 13, Schedule of Values. Certified payroll is required and must be submitted with each Contractor's Application for payment, including subcontractors.
5. CAPs can only be submitted once per month.
6. Bidder shall note that the project is a prevailing wage rate project.
7. Award is anticipated to be January 2017.
8. There is a 40% limit on the value of subcontracts.
9. Vendor Responsibility Questionnaire (VRQ) is required for subcontracts exceeding \$10,000.
10. Insurance must be provided by a NYS Licensed Insurance Company.
11. The NYSDEC is exempt from sales tax and compensating use taxes for all materials, equipment, and supplies. The Contractor is responsible for contacting NYS Department of Taxation and Finance to secure tax exempt status for this project.

12. Work Hours are modified by the Section IV, Supplementary Conditions, Paragraph 5.3.1 to be 6 days per week, 16 hours per day starting at 6 AM.

13. Department Furnished Equipment:

- a. GAC Contactor Systems – manufactured by Calgon Corporation. Shop Drawings received by Arcadis October 28, 2016. We anticipate having approved shop drawings by the time the final addendum needs to be issued.
- b. GAC Media – manufacturer to be determined.
- c. Refer to Section XI, Specifications 01 64 00, Department Furnished Products and 46 61 22, GAC Contactors Installation for requirements.

14. Contract Times: Refer to Section VI, Agreement, Article 6, Contract Term

- a. Substantial Completion: 330 calendar days.
- b. Final Completion: 360 calendar day.
- c. Milestones – Refer to Section XI, Specification 01 13 13, Milestones for more information.
  - i. Milestone A: 135 days after March 13, 2017, for receipt of GAC Contactor Systems Nos. 1 through 3.
  - ii. Milestone B: 114 days after April 3, 2017, for receipt of GAC Contactor Systems Nos. 4 through 6.
  - iii. Milestone C: 93 days after April 24, 2017, for receipt of GAC Contactor Systems Nos. 7 through 9.
  - iv. Milestone D: 120 days after May 1, 2017, for receipt and installation of GAC media.
  - v. Milestone E: On or before September 15, 2017, for partial utilization of GAC Treatment System and New York State Department of Health approval inclusive of GAC Contactor Nos. 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B, 5A, 5B, 6A and 6B, as shown on the Drawings.

15. Liquidated damages are \$5,000 per day for substantial completion or milestones not achieved and \$1,000 per day for final completion not achieved.

- a. Special Damages could be substantial if the City of Newburgh is forced to continue purchasing water from the New York City or if New York City needs to delay planning improvements to the Catskill Aqueduct.

16. Coordination with City's Operations:

- a. Very detailed descriptions of what needs to be operational for each Stage, please refer to Section XI, Specification 01 14 16, Coordination with City Operations.
- b. The WTP is supplying drinking water to approximately 29,000 people and businesses in the City of Newburgh.
- c. Shut downs are limited to the times described and indicated.
- d. Stage I: Washington Lake Filtration Plant operating conditions: low service water supplied by existing High Lift Pump No. 3 through existing temporary LSW main to existing Contract Tank and high service water supplied by existing High Service Pump No. 1.

- e. Stage II: Washington Lake Filtration Plant operating conditions: New electric service providing power to Washington Lake Filtration Plant.
- f. Stage III: Washington Lake Filtration Plant operating conditions: New 20-inch HSW water connection to existing 20-inch HSW is available for operation to feed water to BF to DEPARTMENT furnished GAC Contactor Systems for flushing and testing. 8-inch BD is available for operation for DEPARTMENT furnished GAC Contactor Systems for flushing and testing.
- g. Stage IV: Washington Lake Filtration Plant operating conditions: GAC Feed Pump No. 1 installed and available for operation, all water supplied by existing High Lift Pumps No. 2 and 3 through existing temporary LSW main to existing Contract Tank and high service water supplied by new High Service Pumps, Backwash Tank supplied by HSW, DEPARTMENT furnished GAC Contactor Systems and GAC media installed, flushed, tested and approved for use by the NYS DOH per the requirements of Milestone E.
- h. Stage V: Washington Lake Filtration Plant operating conditions: GAC Feed Pump supplying filtered water (limited to 5.5 mgd) to GAC Contactor System for treatment and to Contact Tank, chemical feed system delivering chemicals for addition in GAC Treatment Building.
- i. Stage VI: Washington Lake Filtration Plant operating conditions: All GAC Feed Pump operations and supplying filtered water to GAC Contactor System for treatment and to Contact Tank. Washington Lake Filtration Plant fully operational for DEPARTMENT furnished GAC Contactor Systems and GAC media installed, flushed, tested and approved for use by the NYS DOH per the requirements of Milestone E.
- j. Stage VII: Washington Lake Filtration Plant operating conditions: Fully operational with raw water from Washington Lake.
- k. Stage VIII: All DEPARTMENT furnished GAC Contactor Systems and GAC media installed, flushed, tested and approved for use by the NYS DOH.

### **Questions & Answers**

Q: Is there a further breakdown of the 30% MWBE goal?

A: No, just the overall goal.

Q: Can you confirm the expected award and start date?

A: January 2017.

Q: What level of detail is required for the schedule that is to accompany the bid?

A: The schedule should have enough detail to demonstrate that the contractor has thought through the entire project and how the Work can be accomplished on time.

Q: How will the carbon media be delivered?

A: The media will be delivered dry by tanker truck. The General Contractor will assist the GAC vendor with installation, which means providing potable water needed to create a slurry of the

media in the delivery trucks so it can be transferred to the Contractors by air padding. The GAC vendor will provide compressed air needed to transfer the media.

Q: Can you describe the functionality required to meet Milestone E?

A: This is covered in detail in Specification Section 01 14 16, Coordination with City's Operations.

Q: What is required in terms of coordination between trades?

A: The General Contractor is responsible for preparation of weekly schedule updates with input from each of the other Prime Contractors. Refer to Specification Section 01 32 16.00.30, Progress Schedule.

Q: Is the 12" temporary water line part of the previous contact tank contract?

A: Yes.

Q: What is the Filtration Plant's street address?

A: 493 Little Britain Road, Newburgh, NY.

Q: The drawings are not clear as to how the plant operates during each of the various stages of the Work. Can you clarify?

A: Refer to Section 01 14 16, Coordination with City's Operations.

Q: Are there any allowances or unit pricing?

A: No allowances are permitted as part of the contract. There are some unit prices such as for rock removal. Refer to the bid form.

Q: Can there be an allowance for the required clearance testing?

A: No allowances are permitted as part of the contract. Arcadis will conduct some of the DOH-required water testing as described in the Bid Documents.

Q: Can there be an allowance for special inspections?

A: No allowances are permitted as part of the contract. Each Prime Contractor is required to provide inspection testing services as described in the Bid Documents.

Q: Will Victaulic couplings be considered in lieu of flanged joints?

A: Victaulic couplings will be considered if and an addendum issued if found acceptable.

Q: Do seismic design considerations apply to all of the work – piping, etc.?

A: Refer to Section 40 05 96, Vibration, Seismic and Wind Controls for requirements.

Q: What building code applies to the metal building?

A: Use the latest building code.

Q: Who is responsible for excavation?

A: Each discipline is responsible for its own excavation/trenching.

Q: Are all portions of the duct banks (concrete, rebar, etc.) the responsibility of the Electrical Contractor?

A: Yes.

Q: Is there a mechanism in place to deal with any potential delay in the Work being done as part of the existing contract at the site?

A: Bid as shown Section XI, Division 01 requirements for schedule and coordination are very detailed.

Q: Is the fire alarm system part of the General Contractor's Work?

A: No, this should be part of the Electrical Contractor's scope, an addendum will be issued to clarify.

Q: The Risk Category is shown as III, shouldn't it be IV?

A: No, the Risk Category is correct due to the classification of the existing facility.

Q: In there an internal lining system required for the metal building?

A: This will be clarified under a future addendum.

Q: Are roof walkways required?

A: No, there is no roof-mounted equipment, so there are no roof surface walkways.

Q: The elevations called out vs. what is scaled on the drawings for the backwash and stormwater tanks do not match. Can you confirm?

A: Arcadis will review, structural drawings will govern for dimensions of the Backwash and Stormwater Tanks.

Q: Who is responsible for the Instrumentation drawings?

A: There is one drawing set that applies to all four Prime Contracts. Parts of the Instrumentation drawings will apply to different Prime Contracts. For example, the General Contractor will be providing instruments while the Electrical Contractor will be providing conduit and cable to those instruments. Refer to Summary of Work.

Q: What is Calgon's scope relative to controls?

A: Calgon's scope is shown on Sheet I-02. Calgon is not providing any controls or control systems.

Q: Does the City have a preferred SCADA vendor?

A: No. There is no SCADA system currently installed at the filtration plant.

Q: Is a City of Newburgh plumbing license required to work on the project?

A: No, the project is not located within the City. However, any Orange County requirements must be adhered to.

Q: Can bidders be provided with an estimated budget broken down by Prime Contract?

A: No further breakdown by prime contract will be provided.

Q: Does the overall cost of the project given include the cost of the Department-provided GAC contactors?

A: Yes.

Q: Is there a wall missing from the loading dock design?

A: Arcadis reviewed this and the loading dock design is correct as shown.

Q: Is any bypass pumping required?

A: The sequence of Work has been laid out such that no bypass pumping is required. If, however, a contractor wishes to extend an equipment outage to give themselves more time to accomplish a task, they can propose bypass pumping in the interim. It is neither required nor forbidden.

Q: Is there a spec for wet taps and line stops?

A: Tapping Sleeves shall be JCM Model 412 or equal. Line Stops Fittings shall be JCM Model 440 Type 22 or 32 or equal. This will be noted on the drawings via an addendum.

Q: To where can the water from disinfection and hydrostatic testing be discharged?

A: The stormwater tank does not need to be disinfected, hydrostatic testing water can be discharged, slowly, to the sewer. Backwash tank water, if it passes testing, can be stored and used for backwashing the sand filters. Water from the contactors can be discharged to the site wastewater holding tanks for eventual discharge to the sewer. These discharges need to be coordinated with the City so as to not interfere with sand filter backwashes.

Q: Are the GAC contactors made of stainless steel?

A: No, they are lined carbon steel.

## **Site Walkthrough**

A site walkthrough was conducted following the formal pre-bid meeting discussion.

## **PART B. Changes to Contract Documents**

The following changes are to be made to the Contract Documents:

1. **a. Table of Contents: Page 1 of 2**; Bid Forms and Attachments; Article 1; a new article associated with the Iran Divestment Act has been included in this section as Article 1(g). Existing Articles 1(g), 1(h), and 1(i) have been renumbered 1(h), 1(i), and 1(j).

**b. Table of Contents: Page 2 of 2**; references to **Section IV, Article 2(a)** has been removed. Referenced to the remaining Articles 2(b), 2(c), and 2(d) have been renumbered 2(a), 2(b), and 2(c).

2. **Section I – Advertisements and Notice to Bidders**, Page I-1, 3<sup>rd</sup> Paragraph; References to the words, “only”, “Access”, and “biddable” have been removed from the first two sentences of the 3<sup>rd</sup> paragraph. The first two sentences of the 2<sup>nd</sup> paragraph have been revised to now read as follows, “***Contract Documents are available in electronic format at no charge. Electronic copies of Contract Documents, drawings, specifications, proposal forms, addenda, and a separate Limited Site Data.....***”.
- 3.

**Section II – Terms and Definitions**, Page II-3; An additional definition has been inserted for the term “Joint Venture” that reads as follows,

***“Joint Venture – An associated of two or more individuals or companies engaged in a solitary business enterprise for profit without actual partnership or incorporation.”***

4. **Section III – Article 3 Bid Instructions**, Page III-2; An additional paragraph has been inserted after the second paragraph that reads as follows,

***“Bids of a joint venture must be signed by an agent or attorney-in-fact for the joint venture and shall be evidence of his or her authority to act on behalf of all members of the joint venture.”***

5. **Section III – Article 5.a Required Bid Submittals, Page III-4**, An additional bullet has been inserted after bullet No. 7 that reads as follows,

***“In the case of a legally constituted joint venture, the bidders must submit a copy of the written joint venture agreement with their bid. Each member can only be part of one (1) joint venture. The agreement shall clearly define the relationship and services to be performed by each member, identify the authorized representative for each member, designate the lead principal participant, provide proof of insurance, identify percent equity share held by each member, and include any other relevant information.***

***The bidder must also submit a statement signed by the bidder’s authorized representative acknowledging that such entities will be required to provide evidence of joint and several liability for the bidder’s obligations under the Contract. If the entity is an LLC, a statement signed by the bidder’s authorized representative acknowledging that such entities will be required to provide guarantees of the bidder’s obligations under the Contract.***

***If the joint venture has not yet been legally formed, then the bidder must submit a description of the proposed legal structure and draft copies of the underlying documents, including: a) all significant terms of the joint venture or partnership, including the rules relative to the administration of the joint venture, limited liability company or partnership, including dealing with deadlock situations; b) description of how the joint venture, limited liability company or partnership will operate administratively and technically; and c) a teaming agreement or comparable document setting forth the equity member’s agreement to form the organization”***

6. **Section III – Article 5.b Bidding Information and Requirements, Page III-4:**

- a. 6<sup>th</sup> bullet; the first sentence has been revised to read as follows, ***“Proof of Availability of insurance or Certificate of insurance with endorsement, that name New York State and New York State Department of Environmental Conservation as additional insured with respect to all insurances except for workers compensation and disability, including written verification that the insurance carrier(s)…”***
- b. 5<sup>th</sup> bullet: has been revised to read as follows, ***“Certificates of Insurance (original and three copies), bound separately***
- c. 7<sup>th</sup> bullet; The following language has been inserted at the end of this article that reads as follows,

***“In the case of a joint venture, each member will be required to complete and submit a NYS Vendor Responsibility Questionnaire or an affidavit of no change (if appropriate).” (Must be bound separately if submitting a paper copy of the Vendor Responsibility Questionnaire)***

7. **Section III – Article 10, Experience and Financial Statements, Page III-6,** Additional paragraphs have been inserted after the fourth paragraph which read as follows,
- a. ***“In the case of a joint venture, each member must meet the experience requirements specified in Section 3, Article 17. A bid cannot be submitted by a bidder, including a joint venture, where the bidder or one of the members of a joint venture has less than three (3) years satisfactory experience in construction of the work to be performed, unless the bidder or member of a joint venture is a successor in interest to a pre-existing company which meets the required minimum of three (3) years satisfactory experience in construction of the work to be performed.”***
  - b. ***“All on-site personnel are required to have 40 hour OSHA training plus a current eight-hour refresher, baseline medical monitoring plus a current yearly physical and training and current fit testing for respirator use.***  
  
***Additionally, the successful Contractor must be compliant with Section X – Standard Specifications, SPEC 0003 – Minimum Requirements for Health and Safety and the Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Part 1910 and 1926 (20 CFR 1910 and 1926) and subsequent additions and/or modifications, the New York State Labor Law Section 876 (Right-to-Know Law), the Standard Operating Safety Guidelines by the United States Environmental Protection Agency (EPA), Office of Emergency and Remedial Response and the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (NIOSH, OSHA, USCG, and EPA) provide the basis for the safety and health program. Additional specifications within this section are in addition to OSHA regulations and reflect the positions of both the EPA and the National Institute for Occupational Safety and Health (NIOSH) regarding procedures required to ensure safe operations at abandoned hazardous waste disposal sites.”***
8. **Section III – Article 17, Bidding Information and Requirements, Page III-9,** The 3<sup>rd</sup> paragraph in this section has been revised to include the following text after the last sentence, ***“This experience must include, but not be limited to, the excavation, transportations, and handling of hazardous waste and contaminated soil/sediment. Experience must also include the handling and treatment of contaminated water generated from hazardous waste operations. For work to be deemed satisfactory, the work must have been performed with required oversight from USEPA, NYSDEC, or an equivalent environmental regulatory state agency (i.e., New Jersey DEP, Pennsylvania DER, etc.). Brownfield cleanup work qualifies for the experience requirement. The bidder cannot meet the minimum experience requirements through the use of subcontractor(s).”***
9. **Section V – Article 1;** Information pertaining to, and requirements of, the Iran Divestment Act are now included in Section VII, Appendix A.
10. **Section V – Article 2(a) Corporate Resolution and Certification;** This Article has been removed in its entirety from the Contract. Remaining Articles (2)b, 2(c), and 2(d) have been renumbered 2(a), 2(b), and 2(c).

11. **Section V – Article 2(c) M/WBE Directory on the Internet**

Telephone number at the end of the article has been changed to (518) 270-1130.

12. **Section V – Article 2(d) Corporate Resolution;** A new article has been inserted and read as follows:

***“The Contractor is required to submit a Corporate Resolution from the Contractor’s governing board stating that a certain individual has the authority to sign the Contract on behalf of the firm.”***

13. **Section V – Article 3(a) Instructions for Certificate of Insurance,** Entire article has been replaced with the following:

The Contractor agrees to procure and maintain at its own expense and without expense to the Department insurance of the kinds and amounts hereinafter provided by insurance companies licensed to do business in the State of New York, covering all operations under this Contract.

The Contractor shall furnish to the Department a certificate or certificates with the appropriate endorsements showing that it has complied with this Article. The insurance documentation shall provide that:

- Liability and protective liability insurance policies shall provide primary and non-contributory coverage to the NYS Department of Environmental Conservation for any claims arising from the Contractor’s Work under this contract, or as a result of the Contractor’s activities. Insurance policies will not be accepted that:
  - remove or restrict blanket contractual liability located in the “insured contract” definition (as stated in Section V, Number 9, Item f in the ISO CGL policy) so as to limit coverage against claims that arise out of work; or
  - remove or modify the “insured contract” exception to the employer’s liability exclusion; or
  - do not cover the additional insured for claims involving injury to employees of the named insured or subcontractors.
- All liability insurance certificate(s), endorsement(s) and supporting documentation shall list the State of New York, NYS Department of Environmental Conservation, its officers, agents and employees, Division of Environmental Remediation, Remedial Bureau E, 625 Broadway, Albany, NY 12233, as the additional insureds.
- The policies shall include a waiver of subrogation endorsement in favor of the Department as an additional insured. The endorsement shall be on ISO Form number CG 24 04 or a similar form with same modification to the policy.
- Policies shall not be changed or canceled until thirty (30) days prior written notice has been given to the Department; as evidenced by an endorsement or declarations page.

- Insurance documentation shall disclose any deductible, self-insured retention, aggregate limit or any exclusion to the policy that materially changes the coverage required by the Contract.
- Endorsements in writing must be added to and made part of the insurance contract for the purpose of changing the original terms to reflect the revisions and additions as described. A copy of these endorsements must be provided to the Department.
- Applicable insurance policy number(s) referenced on the ACORD form must be referenced in the supporting documentation requested by the Department and supplied by the insurance company (e.g. endorsement page, declarations page, etc.).
- Worker's Compensation and Disability Benefits certificates shall name the New York State Department of Environmental Conservation Division of Environmental Remediation, Remedial Bureau E, 625 Broadway, Albany, NY 12233, as certificate holder.
- This Contract shall be void and of no effect unless the Contractor procures the required insurance policies and maintains them until acceptance or completion of the work, whichever event is later.
- Contractor shall require that any subcontractors hired, carry insurance with the same limits and provisions as provided herein. The Contractor will maintain the certificate or certificates and endorsements for all subcontractors hired as part of the Contractor's records.

The following types and amounts of insurance are required for this Contract:

**1. Workers' Compensation:**

For work to be performed in New York State, the Contractor shall provide and maintain full New York State (NYS listed in item 3a of the policy's Information Page) coverage during the life of this contract for the benefit of such employees as are required to be covered by the New York State Workers' Compensation Law.

If the agreement involves work on or near a shoreline, a U.S. Longshore and Harbor Workers' Compensation Act and/or Jones Act policy as applicable must be provided. Any waiver of this requirement must be approved by the Agency and will only be granted in unique or unusual circumstances.

Evidence of Workers' Compensation and Employers Liability coverage must be provided on one of the following forms specified by the Chairman of the New York State Workers' Compensation Board:

<b>FORM #</b>	<b>FORM TITLE</b>
C-105.2	Certificate of Workers' Compensation Insurance (September 2007, or most current version)
U-26.3	State Insurance Fund Version of the C-105.2 form
SI-12/	Certificate of Workers' Compensation Self-Insurance

GSI-105.2	
CE-200	Certificate of Attestation of Exemption (when Contractor meets the requirements.)

All forms are valid for one year from the date the form is signed/stamped, or until policy expiration, whichever is earlier.

**Please note that ACORD forms are NOT acceptable proof of New York State Workers' Compensation Insurance coverage.**

Additional information can be obtained at the Workers' Compensation website:  
<http://www.wcb.ny.gov/content/main/Employers/Employers.jsp>

## **2. Disability Benefits:**

For work to be performed in New York State, the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the New York State Disability Benefits Law. Any waiver of this requirement must be approved by the Department of Environmental Conservation and will only be granted in unique or unusual circumstances.

Evidence of Disability Benefits coverage must be provided on one of the following forms specified by the Chairman of the New York State Workers' Compensation Board:

<b>FORM #</b>	<b>FORM TITLE</b>
DB-120.1	Certificate of Insurance Coverage under the New York State Disability Benefits Law
DB-155	Certificate of Disability Self-Insurance
CE-200	Certificate of Attestation of Exemption (when Contractor meets the requirements.)

All forms are valid for one year from the date the form is signed/stamped, or until policy expiration, whichever is earlier.

**Please note that ACORD forms are NOT acceptable proof of New York State Disability Benefits Insurance coverage.**

Additional information can be obtained at the Workers' Compensation website:  
<http://www.wcb.ny.gov/content/main/Employers/Employers.jsp>

## **3. Commercial General Liability Insurance:**

Contractor shall provide and maintain Commercial General Liability Insurance (CGL) covering the liability of the Contractor for bodily injury, property damage, and personal/advertising injury arising from all work and operations under this contract. The limits under such policy shall not be less than the following:

- Each Occurrence limit – \$3,000,000
- General Aggregate – \$5,000,000
- Products/Completed Operations – \$5,000,000

- Personal & Advertising Injury - \$1,000,000
- Damage to Rented Premises - \$50,000
- Medical Expense - \$5,000

Coverage shall include, but not be limited to, the following:

- Premises liability
- Independent contractors
- Blanket contractual liability, including tort liability of another assumed in a contract
- Defense and/or indemnification obligations, including obligations assumed under this contract
- Cross liability for additional insureds
- Products/completed operations for a term of no less than 3 years, commencing upon acceptance of the work, as required by the contract
- Explosion, collapse, and underground hazards
- Contractor means and methods
- Liability resulting from Section 240 or Section 241 of the New York State Labor Law

The following ISO forms must be endorsed to the policy:

- a. CG 00 01 01 96 or an equivalent – Commercial General Liability Coverage Form
- b. CG 20 10 11 85, or, an equivalent – Additional Insured-Owner, Lessees or Contractors (Form B)
- c. CG 25 03 11 85 or, an equivalent – Designated Construction Project(s) general aggregate limit (only required for construction contracts).

**The Contractor shall provide fully-completed ACORD 855 New York Construction Certificate of Liability Insurance Addendum along with specified General Liability certificate and accompanying endorsements.**

Limits may be provided through a combination of primary and umbrella/excess liability policies. The CGL aggregate shall be endorsed to apply on a per project basis for construction contracts.

#### **4. Business Automobile Liability:**

Contractor shall provide and maintain Commercial Auto Liability insurance covering liability arising out of the use of any motor vehicle in connection with the work, including owned, leased, hired and non-owned vehicles. Such policy shall have a combined single limit for Bodily Injury and Property Damage of at least \$1,000,000.

If the Contractor does not own, rent or lease any registered vehicles and will not be using any vehicles on State Land proof of Comprehensive Business Automobile Liability Insurance shall not be required for this Contract. The Contractor shall assume full responsibility and liability that owners and operators of any registered vehicles entering State Land to conduct work under this contract carry the same Automobile Liability Insurance of the kinds and amounts listed above. NYS Department of Environmental Conservation reserves the right to request proof of the same.

#### **5. Contractor's Equipment:**

The Contractor shall secure, pay for, and maintain Property Insurance necessary for protection against the loss of owned, borrowed or rented capital equipment and tools, including any tools owned by employees, and any tools or equipment, staging towers, and forms owned, borrowed or rented by the Contractor. The requirement to secure and maintain such insurance is solely for the benefit of the Contractor. Failure of the Contractor to secure such insurance or to maintain adequate levels of coverage shall not render the Department or their agents and employees responsible for any losses; and the Department, their agents and employees shall have no such Liability.

## **6. Builders' Risk**

The Contractor shall provide a Builders' Risk Insurance policy covering all risks in completed value form. Such policy shall cover the total value of the Work performed in accordance with this contract, as well as the value of any equipment, supplies and/or material to be installed in the project that may be in storage (on or off the Site) or in transit. The policy shall cover the cost of removing debris, including demolition as may be legally necessary by the operation of any law, ordinance or regulation, and property of the State held in their care, custody and/or control. The Builders' Risk policy shall contain endorsements that provide for the following:

- The State of New York and the Contractor shall be named as loss payees for the work in order of precedence, as their interest may appear; and
- In the event the loss occurs at an occupied facility; the policy shall permit occupancy without the consent of the insurance company; and
- In the event that insurance policy has been issued by a mutual insurance company, the following language shall be included: "the Department of Environmental Conservation is not liable for any premium or assessment under this policy of insurance. The First Named Insured is solely liable therefore."

## **7. Owners and Contractors Protective Liability:** The Contractor shall obtain a separate Owners/Contractors Protective Liability (OCP) Policy as follows:

- For work related to street, road, highway, and/or bridge work – Form CG 00 14, Special Protective and Highway Liability Policy – New York Department of Transportation
- For projects not related to street, road, highway, and/or bridge work – Form CG 00 09, Owners and Contractors Protective Liability Coverage form – Coverage for Operations of the Designated Contractor

The policy shall be written on a project basis for the benefit of the Department and the People of the State of New York, its officers, agents, and employees, with respect to all operations under this contract by the Contractor or its subcontractors, including in such coverage any omissions and supervisory acts of the Department, its officers, agents, and employees.

The State of New York and the NYS Department of Environmental Conservation, New York State Department of Environmental Conservation Division of Environmental Remediation, Remedial Bureau E, 625 Broadway, Albany, NY 12233, shall be the Named Insured in the OCP Policy, which shall be promptly furnished to the Department. OCP policy limits shall be no less than \$1 Million (Each Occurrence) / \$2 Million (General Aggregate).

## **8. Umbrella and Excess Liability:**

When the limits of the CGL, Auto, and/or Employers' Liability policies procured are insufficient to meet the limits specified, the Contractor shall procure and maintain Commercial Umbrella and/or Excess Liability policies with limits in excess of the primary; provided, however, that the total amount of insurance coverage is at least equal to the requirements set forth above. Such policies shall follow the same form as the primary.

14. **Section V – Article 3(b) Certificate of Insurance**, This article and requirements have been removed from the Contract.
15. **Section V – Article 3(c) – Instructions for Performance Bond and Labor and Materials Payment Bond, Page V-19**; new language has been added after Subpart 3) to read as follows,
- “4) Performance Bond and Labor and Materials Payment Bond must be secured by the surety and notarized within three (3) days of the date the Contractor signs the agreement.***

16. **Section VIII – Article 4.2. has been replaced with the following:**

The Contractor agrees to procure and maintain at its own expense and without expense to the Department insurance of the kinds and amounts hereinafter provided by insurance companies licensed to do business in the State of New York, covering all operations under this Contract.

The Contractor shall furnish to the Department a certificate or certificates with the appropriate endorsements showing that it has complied with this Article. The insurance documentation shall provide that:

- Liability and protective liability insurance policies shall provide primary and non-contributory coverage to the NYS Department of Environmental Conservation for any claims arising from the Contractor's Work under this contract, or as a result of the Contractor's activities. Insurance policies will not be accepted that:
  - remove or restrict blanket contractual liability located in the “insured contract” definition (as stated in Section V, Number 9, Item f in the ISO CGL policy) so as to limit coverage against claims that arise out of work; or
  - remove or modify the “insured contract” exception to the employer's liability exclusion; or
  - do not cover the additional insured for claims involving injury to employees of the named insured or subcontractors.
- All liability insurance certificate(s), endorsement(s) and supporting documentation shall list the State of New York, NYS Department of Environmental Conservation, its officers, agents and employees, Division of Environmental Remediation, Remedial Bureau E, 625 Broadway, Albany, NY 12233, as the additional insureds.

- The policies shall include a waiver of subrogation endorsement in favor of the Department as an additional insured. The endorsement shall be on ISO Form number CG 24 04 or a similar form with same modification to the policy.
- Policies shall not be changed or canceled until thirty (30) days prior written notice has been given to the Department; as evidenced by an endorsement or declarations page.
- Insurance documentation shall disclose any deductible, self-insured retention, aggregate limit or any exclusion to the policy that materially changes the coverage required by the Contract.
- Endorsements in writing must be added to and made part of the insurance contract for the purpose of changing the original terms to reflect the revisions and additions as described. A copy of these endorsements must be provided to the Department.
- Applicable insurance policy number(s) referenced on the ACORD form must be referenced in the supporting documentation requested by the Department and supplied by the insurance company (e.g. endorsement page, declarations page, etc.).
- Worker's Compensation and Disability Benefits certificates shall name the New York State Department of Environmental Conservation Division of Environmental Remediation, Remedial Bureau E, 625 Broadway, Albany, NY 12233, as certificate holder.
- This Contract shall be void and of no effect unless the Contractor procures the required insurance policies and maintains them until acceptance or completion of the work, whichever event is later.
- Contractor shall require that any subcontractors hired, carry insurance with the same limits and provisions as provided herein. The Contractor will maintain the certificate or certificates and endorsements for all subcontractors hired as part of the Contractor's records.

The following types and amounts of insurance are required for this Contract:

**4.2.1 Workers' Compensation:**

For work to be performed in New York State, the Contractor shall provide and maintain full New York State (NYS listed in item 3a of the policy's Information Page) coverage during the life of this contract for the benefit of such employees as are required to be covered by the New York State Workers' Compensation Law.

If the agreement involves work on or near a shoreline, a U.S. Longshore and Harbor Workers' Compensation Act and/or Jones Act policy as applicable must be provided. Any waiver of this requirement must be approved by the Agency and will only be granted in unique or unusual circumstances.

Evidence of Workers' Compensation and Employers Liability coverage must be provided on one of the following forms specified by the Chairman of the New York

State Workers' Compensation Board:

FORM #	FORM TITLE
C-105.2	Certificate of Workers' Compensation Insurance (September 2007, or most current version)
U-26.3	State Insurance Fund Version of the C-105.2 form
SI-12/ GSI-105.2	Certificate of Workers' Compensation Self-Insurance
CE-200	Certificate of Attestation of Exemption (when Contractor meets the requirements.)

All forms are valid for one year from the date the form is signed/ stamped, or until policy expiration, whichever is earlier.

**Please note that ACORD forms are NOT acceptable proof of New York State Workers' Compensation Insurance coverage.**

Additional information can be obtained at the Workers' Compensation website:

<http://www.wcb.ny.gov/content/main/Employers/Employers.jsp>

**4.2.2 Disability Benefits:**

For work to be performed in New York State, the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the New York State Disability Benefits Law. Any waiver of this requirement must be approved by the Department of Environmental Conservation and will only be granted in unique or unusual circumstances.

Evidence of Disability Benefits coverage must be provided on one of the following forms specified by the Chairman of the New York State Workers' Compensation Board:

FORM #	FORM TITLE
DB-120.1	Certificate of Insurance Coverage under the New York State Disability Benefits Law
DB-155	Certificate of Disability Self-Insurance
CE-200	Certificate of Attestation of Exemption (when Contractor meets the requirements.)

All forms are valid for one year from the date the form is signed/stamped, or until policy expiration, whichever is earlier.

**Please note that ACORD forms are NOT acceptable proof of New York State Disability Benefits Insurance coverage.**

Additional information can be obtained at the Workers' Compensation website:

<http://www.wcb.ny.gov/content/main/Employers/Employers.jsp>

**4.2.3 Commercial General Liability Insurance:**

Contractor shall provide and maintain Commercial General Liability Insurance (CGL) covering the liability of the Contractor for bodily injury, property damage, and personal/advertising injury arising from all work and operations under this contract. The limits under such policy shall not be less than the following:

- Each Occurrence limit – \$3,000,000
- General Aggregate – \$5,000,000
- Products/Completed Operations – \$5,000,000
- Personal & Advertising Injury - \$1,000,000
- Damage to Rented Premises - \$50,000
- Medical Expense - \$5,000

Coverage shall include, but not be limited to, the following:

- Premises liability
- Independent contractors
- Blanket contractual liability, including tort liability of another assumed in a contract
- Defense and/or indemnification obligations, including obligations assumed under this contract
- Cross liability for additional insureds
- Products/completed operations for a term of no less than 3 years, commencing upon acceptance of the work, as required by the contract
- Explosion, collapse, and underground hazards
- Contractor means and methods
- Liability resulting from Section 240 or Section 241 of the New York State Labor Law

The following ISO forms must be endorsed to the policy:

CG 00 01 01 96 or an equivalent – Commercial General Liability Coverage Form

CG 20 10 11 85, or, an equivalent – Additional Insured-Owner, Lessees or Contractors (Form B)

CG 25 03 11 85 or, an equivalent – Designated Construction Project(s) general aggregate limit (only required for construction contracts).

**The Contractor shall provide fully-completed ACORD 855 New York Construction Certificate of Liability Insurance Addendum along with specified General Liability certificate and accompanying endorsements.**

Limits may be provided through a combination of primary and umbrella/excess liability policies. The CGL aggregate shall be endorsed to apply on a per project basis for construction contracts.

#### **4.2.4 Business Automobile Liability:**

Contractor shall provide and maintain Commercial Auto Liability insurance covering liability arising out of the use of any motor vehicle in connection with the work, including owned, leased, hired and non-owned vehicles. Such policy shall have a

combined single limit for Bodily Injury and Property Damage of at least \$1,000,000.

If the Contractor does not own, rent or lease any registered vehicles and will not be using any vehicles on State Land proof of Comprehensive Business Automobile Liability Insurance shall not be required for this Contract. The Contractor shall assume full responsibility and liability that owners and operators of any registered vehicles entering State Land to conduct work under this contract carry the same Automobile Liability Insurance of the kinds and amounts listed above. NYS Department of Environmental Conservation reserves the right to request proof of the same.

#### **4.2.5 Contractor's Equipment:**

The Contractor shall secure, pay for, and maintain Property Insurance necessary for protection against the loss of owned, borrowed or rented capital equipment and tools, including any tools owned by employees, and any tools or equipment, staging towers, and forms owned, borrowed or rented by the Contractor. The requirement to secure and maintain such insurance is solely for the benefit of the Contractor. Failure of the Contractor to secure such insurance or to maintain adequate levels of coverage shall not render the Department or their agents and employees responsible for any losses; and the Department, their agents and employees shall have no such Liability.

#### **4.2.6 Builders' Risk**

The Contractor shall provide a Builders' Risk Insurance policy covering all risks in completed value form. Such policy shall cover the total value of the Work performed in accordance with this contract, as well as the value of any equipment, supplies and/or material to be installed in the project that may be in storage (on or off the Site) or in transit. The policy shall cover the cost of removing debris, including demolition as may be legally necessary by the operation of any law, ordinance or regulation, and property of the State held in their care, custody and/or control. The Builders' Risk policy shall contain endorsements that provide for the following:

- The State of New York and the Contractor shall be named as loss payees for the work in order of precedence, as their interest may appear; and
- In the event the loss occurs at an occupied facility; the policy shall permit occupancy without the consent of the insurance company; and
- In the event that insurance policy has been issued by a mutual insurance company, the following language shall be included: "the Department of Environmental Conservation is not liable for any premium or assessment under this policy of insurance. The First Named Insured is solely liable therefore."

#### **4.2.7 Owners and Contractors Protective Liability:** The Contractor shall obtain a separate Owners/Contractors Protective Liability (OCP) Policy as follows:

- For work related to street, road, highway, and/or bridge work – Form CG 00 14, Special Protective and Highway Liability Policy – New York Department of Transportation

- For projects not related to street, road, highway, and/or bridge work – Form CG 00 09, Owners and Contractors Protective Liability Coverage form – Coverage for Operations of the Designated Contractor

The policy shall be written on a project basis for the benefit of the Department and the People of the State of New York, its officers, agents, and employees, with respect to all operations under this contract by the Contractor or its subcontractors, including in such coverage any omissions and supervisory acts of the Department, its officers, agents, and employees.

The State of New York and the NYS Department of Environmental Conservation, New York State Department of Environmental Conservation Division of Environmental Remediation, Remedial Bureau E, 625 Broadway, Albany, NY 12233, shall be the Named Insured in the OCP Policy, which shall be promptly furnished to the Department. OCP policy limits shall be no less than \$1 Million (Each Occurrence) / \$2 Million (General Aggregate).

#### **4.2.8 Umbrella and Excess Liability:**

When the limits of the CGL, Auto, and/or Employers' Liability policies procured are insufficient to meet the limits specified, the Contractor shall procure and maintain Commercial Umbrella and/or Excess Liability policies with limits in excess of the primary; provided, however, that the total amount of insurance coverage is at least equal to the requirements set forth above. Such policies shall follow the same form as the primary.

17. **Section IX – Supplemental Conditions;** Add the following condition:

***“Bid Protest Guidelines:***

***The intent and purpose of these guidelines is to set forth the procedure to be utilized when an interested party challenges a contract bid award solicited by the Division of Environmental Remediation and routed to the Office of the State Comptroller (OSC) for approval pursuant to the provisions of Section 112 of the State Finance Law.***

***The protestor is responsible for complying with the restrictions on “contacts” under the Procurement Lobbying Law (State Finance Law, Section 139-j). All protests must be submitted to the Designated Department Contact listed in the Contract Documents (See Section I, Section II, Section III, Article 3 and 21)***

- 1. The bid protest must be submitted within ten (10) Business days of the Department’s Notification of Intent to Award letter being sent to the apparent low bidder.***
- 2. The bid protest must be submitted in writing and must contain specific factual and/or legal allegations setting forth the basis on which the protesting party challenges the contract award. The notice of protest must be filed by the signatory of the bid or by an attorney representing the bidder. Any filing deadlines may be waived by the Department at its own discretion.***

3. ***The Designated Department Contact will promptly submit the notice of protest, a bid protest summary and relevant bid documents to the Division of Management and Budget Services and the Office of General Counsel (OGC).***
4. ***Once the formal notice of protest is filed, the Department, at its sole discretion, may continue or suspend the contract award process until the protest is resolved and a final Department determination is made.***
5. ***As set forth in Section 3, Article 17, of the Contract Documents, the Department reserves the right to reject any and all bids, to waive any and all informalities or irregularities, to disregard all nonconforming, nonresponsive, or conditional Bids, or to re-advertise for bids.”***

18. **Section XI Specification 01 12 13:** Add Paragraph 1.3.A.3.g to read as follows:

“Section 40 66 33, Fiber Optic Cabling and Appurtenances.”

19. **Section XI Specification 01 12 13:** Add Paragraph 1.3.A.3.h to read as follows:

“Section 28 31 00, Fire Detection and Alarm System.”

20. **Section XI Specification 01 51 23:** Revise Paragraph 1.1.B.1.a.7 to read as follows:

“Supplement areas not illuminated by current site lighting to allow safe passage of City’s personnel from treatment facilities to areas within work area that may need to be accessed for routine and emergency operations.”

21. **Section XI Specification 01 51 36:** Revise Paragraph 1.1.A.2.a to read as follows:

“City shall provide water for first test of all hydraulic structures and incidental water used for construction related activities (i.e. dust control, concrete washout, incidental construction, field offices, etc.). Contractor shall be responsible for all costs to convey water to work areas and for water used in subsequent testing of hydraulic structures, etc.”

22. **Section XI Specification 40 05 53:** Add Paragraph 2.14.D to read as follows:

“Furnish a shelf spare duplicate of flow control valve FCV—042 and backflow preventer DCV for Backwash Feed Vault.”

23. **Section XI Specification 33 05 05:** Add Paragraph 3.6.B.2.c to read as follows:

“Tablet chlorination is prohibited.”

24. **Section XI Specification 40 05 05:** Add Paragraph 3.7.B.2.c to read as follows:

“Tablet chlorination is prohibited.”

25. **Section XI Specification 01 14 16:** Revise Paragraph 1.4.F to read as follows:

“Stage V: Washington Lake Filtration Plant operating conditions: GAC Feed Pump supplying filtered water (limited to 4.4 mgd) to GAC Contactor System for treatment and to

Contact Tank, chemical feed system delivering chemicals for addition in GAC Treatment Building.”

26. **Section XI Specification 26 29 23:** Revise as follows:

Add Paragraph 1.4.A.1.f to read as follows:

“Certification of VFD IEEE 519 compliance.”

Replace Paragraph 2.2.A.3 with the following:

“ABB.”

Replace Paragraph 2.4.A.1.a with the following:

“Switched Insulated Gate Bi-Polar Transistor (IGBT) bridge converter input section (Active Front End).”

Replace Paragraph 2.4.A.3 with the following:

“Equip controller with a three-percent DC bus reactor and input line reactor.”

27. **Drawing I-05:** Add revisions as shown on Figure SK1-I05-ADD1 as attached.
28. **Drawing I-03:** Replace Sheet I-03 with the attached.
29. **Drawing I-04:** Replace Sheet I-04 with the attached.
30. **Drawing I-06:** Replace Sheet I-06 with the attached.
31. **Drawing I-09:** Replace Sheet I-09 with the attached.
32. **Drawing G-04:** Add revisions as shown on Figure SK1-G04-ADD1 as attached.
33. **Drawing G-04:** Add revisions as shown on Figure SK2-G04-ADD1 as attached.
34. **Drawing G-04:** Add revisions as shown on Figure SK3-G04-ADD1 as attached.
35. **Drawing C-05:** Add revisions as shown on Figure SK1-C05-ADD1 as attached.
36. **Drawing C-06:** Add revision as shown on Figure SK1-C06-ADD1 as attached.
37. **Drawing C-06:** Add revision as shown on Figure SK2-C06-ADD1 as attached.
38. **Drawing C-08:** Add revision as shown on Figure SK1-C08-ADD1 as attached.
39. **Drawing C-09:** Add revision as shown on Figure SK1-C09-ADD1 as attached.
40. **Drawing C-09:** Add revision as shown on Figure SK2-C09-ADD1 as attached.

41. **Drawing C-09:** Add revision as shown on Figure SK3-C09-ADD1 as attached.
42. **Drawing C-09:** Add revision as shown on Figure SK4-C09-ADD1 as attached.
43. **Drawing C-10:** Add revision as shown on Figure SK1-C10-ADD1 as attached.
44. **Drawing C-10:** Add revision as shown on Figure SK2-C10-ADD1 as attached.
45. **Drawing C-10:** Add revision as shown on Figure SK3-C10-ADD1 as attached.
46. **Drawing C-15:** Add revision as shown on Figure SK1-C15-ADD1 as attached.
47. **Drawing C-15:** Add revision as shown on Figure SK2-C15-ADD1 as attached.
48. **Drawing C-15:** Add revision as shown on Figure SK3-C15-ADD1 as attached.
49. **Drawing C-17:** Add revision as shown on Figure SK1-C17-ADD1 as attached.
50. **Drawing C-17:** Add revision as shown on Figure SK2-C17-ADD1 as attached.
51. **Drawing C-18:** Add revision as shown on Figure SK1-C18-ADD1 as attached.
52. **Drawing C-18:** Add revision as shown on Figure SK2-C18-ADD1 as attached.
53. **Drawing C-18:** Add revision as shown on Figure SK3-C18-ADD1 as attached.
54. **Drawing M-02:** Add revision as shown on Figure SK1-M02-ADD1 as attached.
55. **Drawing M-03:** Add revision as shown on Figure SK1-M03-ADD1 as attached.
56. **Drawing M-03:** Add revision as shown on Figure SK2-M03-ADD1 as attached.
57. **Drawing M-03:** Add revision as shown on Figure SK3-M03-ADD1 as attached.
58. **Drawing M-04:** Add revision as shown on Figure SK1-M04-ADD1 as attached.
59. **Drawing M-04:** Add revision as shown on Figure SK2-M04-ADD1 as attached.
60. **Drawing M-05:** Add revision as shown on Figure SK1-M05-ADD1 as attached.
61. **Drawing M-05:** Add revision as shown on Figure SK2-M05-ADD1 as attached.
62. **Drawing H-02:** Add revision as shown on Figure SK1-H02-ADD1 as attached.
63. **Drawing H-03:** Add revision as shown on Figure SK1-H03-ADD1 as attached.
64. **Drawing H-03:** Add revision as shown on Figure SK2-H03-ADD1 as attached.
65. **Drawing E-01:** Replace Sheet E-01 with the attached.
66. **Drawing E-03:** Replace Sheet E-03 with the attached.

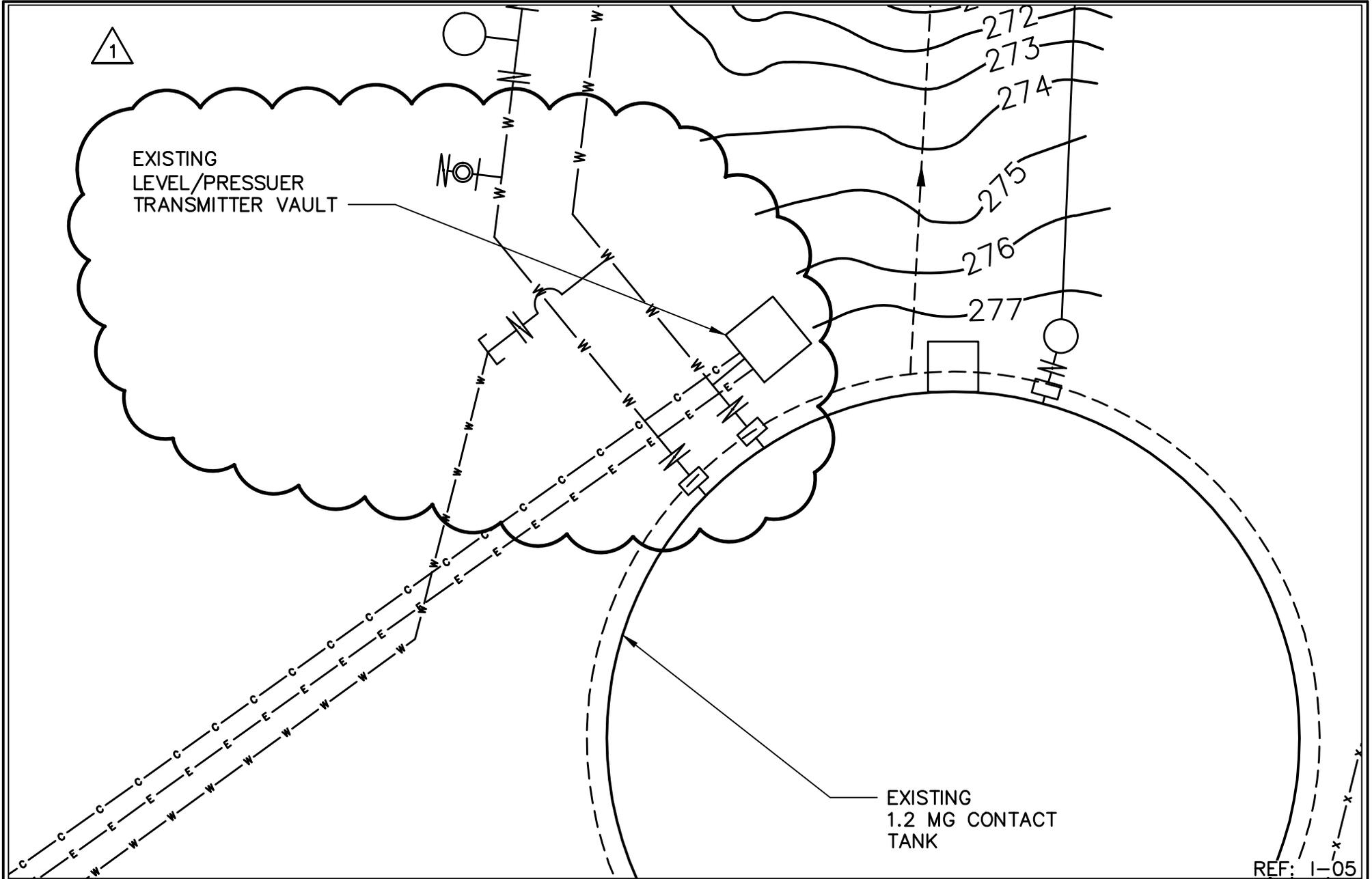
- 67. **Drawing E-04:** Replace Sheet E-04 with the attached.
- 68. **Drawing E-05:** Replace Sheet E-05 with the attached.
- 69. **Drawing E-06:** Replace Sheet E-06 with the attached.
- 70. **Drawing E-07:** Replace Sheet E-07 with the attached.
- 71. **Drawing E-08:** Replace Sheet E-08 with the attached.
- 73. **Drawing E-09:** Replace Sheet E-09 with the attached.
- 74. **Drawing E-10:** Replace Sheet E-10 with the attached.
- 75. **Drawing E-11:** Replace Sheet E-11 with the attached.
- 76. **Drawing E-12:** Replace Sheet E-12 with the attached.
- 77. **Drawing E-15:** Replace Sheet E-15 with the attached.
- 78. **Drawing E-16:** Replace Sheet E-16 with the attached.
- 79. **Drawing E-17:** Replace Sheet E-17 with the attached.
- 80. **Drawing E-19:** Replace Sheet E-19 with the attached.

This ADDENDUM No. 1, including Attachments A and B, becomes part of the Contract Documents.



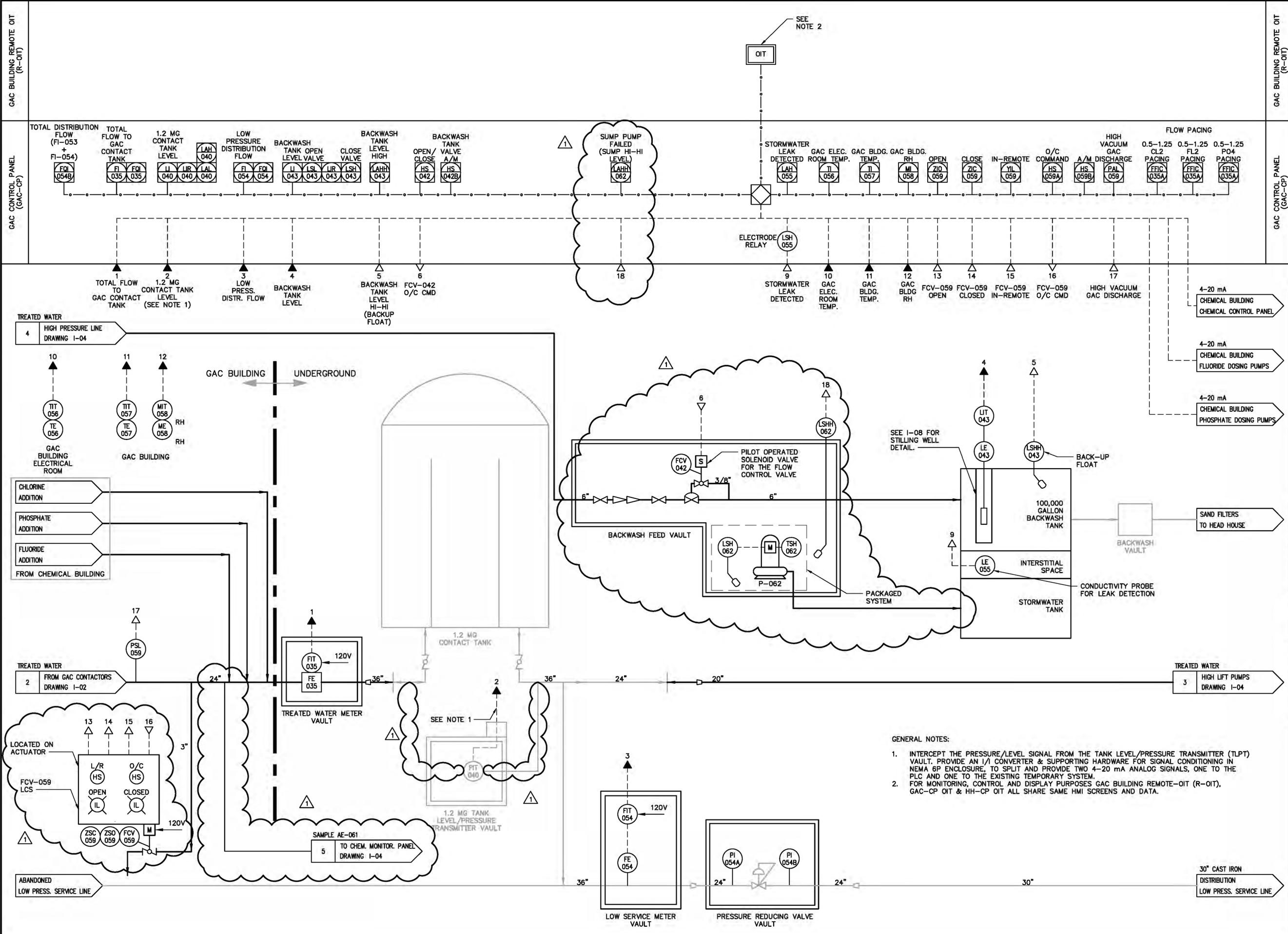
Daniel J. Loewenstein, P.E., BCEE

Dated: November 4, 2016



 <b>ARCADIS</b> Design & Consultancy for natural and built assets	CITY OF NEWBURGH		DISCIPLINE	NOVEMBER 2016
	GAC TREATMENT SYSTEM AT WASHINGTON LAKE FILTRATION PLANT		1.2 MG CONTACT TANK 4-20 mA SIGNAL INTERCEPT DETAIL	SK1-I05-ADD1
SCALE:				

User:ZAMR, Space:AUS-NCSHGD File: \\V\026F01\OFFICE\DATA\WHITEP\AUS-N\WHIL\_CAD\VOL2\ACAD\PROJ\0266443\0000\GAC\_BUILDING\INSTRUMENTATION\0266443A-103.DWG - Scale:1:1 Saved Date: 11/03/2016 Time:02:54 Plot Date: Amrth, Zeebhor, 11/03/2016 Time:02:54 Plot Date: Amrth, Zeebhor, 11/03/2016 Time:02:54



- GENERAL NOTES:**
- INTERCEPT THE PRESSURE/LEVEL SIGNAL FROM THE TANK LEVEL/PRESSURE TRANSMITTER (TLPT) VAULT. PROVIDE AN I/I CONVERTER & SUPPORTING HARDWARE FOR SIGNAL CONDITIONING IN NEMA 6P ENCLOSURE, TO SPLIT AND PROVIDE TWO 4-20 mA ANALOG SIGNALS, ONE TO THE PLC AND ONE TO THE EXISTING TEMPORARY SYSTEM.
  - FOR MONITORING, CONTROL AND DISPLAY PURPOSES GAC BUILDING REMOTE-OIT (R-OIT), GAC-CP OIT & HH-CP OIT ALL SHARE SAME HMI SCREENS AND DATA.



LEGAL ENTITY:  
ARCADIS CE, INC.

CONSULTANTS





**CITY OF NEWBURGH**  
**GAC TREATMENT SYSTEM**  
**AT WASHINGTON LAKE**  
**FILTRATION PLANT**

NO.	DATE	ADDENDUM #1 ISSUED FOR	BY
1	11/16	ADDENDUM #1	RH

COPYRIGHT: ARCADIS CE, INC. 2016

DATE: OCTOBER 2016

PROJECT NO.: 00266443.0000

FILE NAME: 0266443A-103

DESIGNED BY: R. HARTMANN

DRAWN BY: Z. AMIN

CHECKED BY: E. KOWALSKI

INSTRUMENTATION

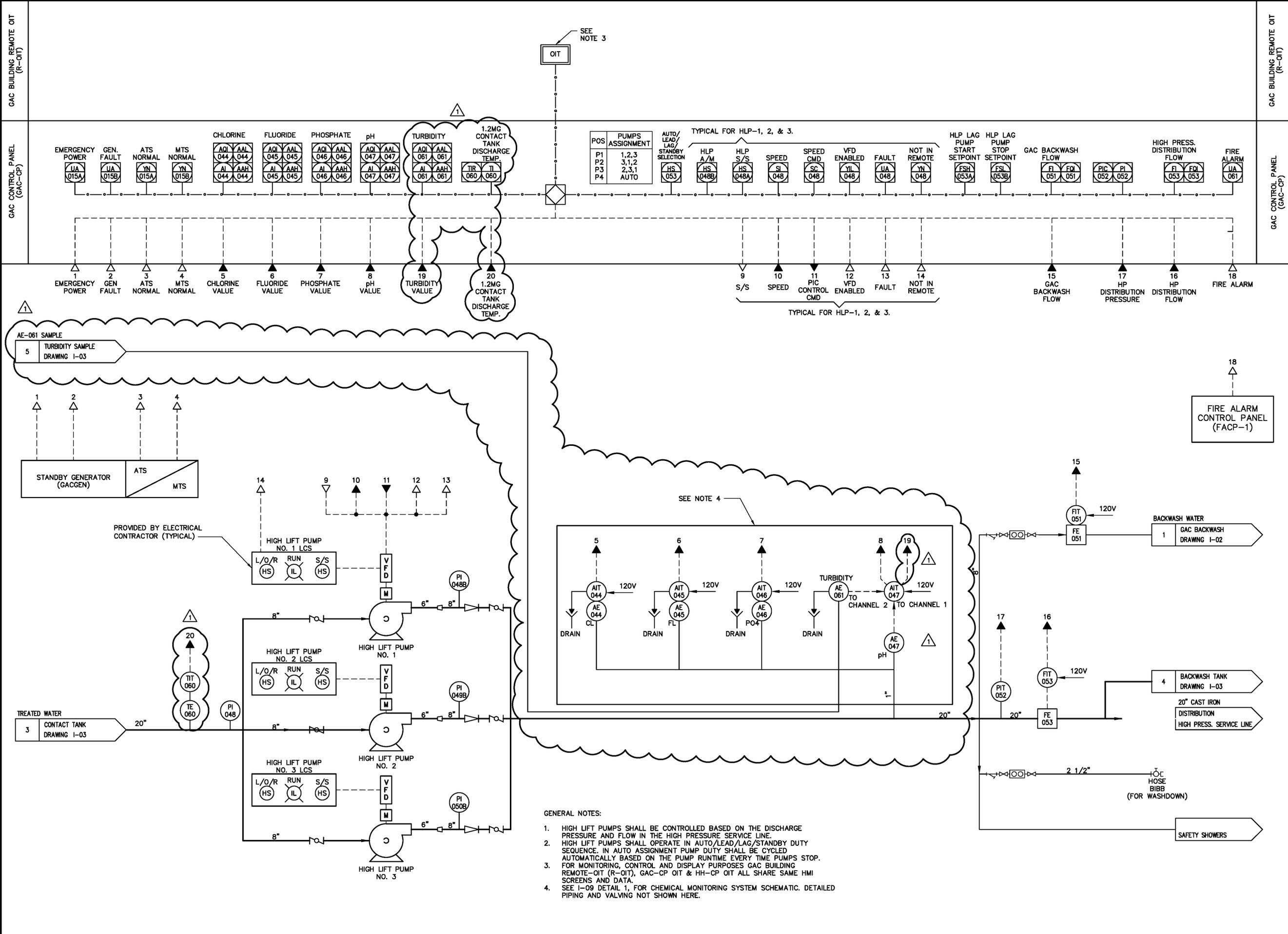
P&ID SHEET  
2 OF 3

SCALE: AS SHOWN

I-03

SHEET 7 OF 103

User: ZAMIA, Spec: AUS-NGS300D, File: \\NY050901\OFFICE\DATA\WHITEP\PLANS-NY\WHI\_CAS\VOL2\ACAD\PROJ\0266443\0000\GAC\_BUILDING\SHEETS\INSTRUMENTATION\0266443A-104.DWG, Scale: 1:1, SavedDate: 11/3/2016, Time: 09:09, Plot Date: Amin, Zeebhor, 11/3/2016, 20:54, Layout: L-04



- GENERAL NOTES:**
- HIGH LIFT PUMPS SHALL BE CONTROLLED BASED ON THE DISCHARGE PRESSURE AND FLOW IN THE HIGH PRESSURE SERVICE LINE.
  - HIGH LIFT PUMPS SHALL OPERATE IN AUTO/LEAD/LAG/STANDBY DUTY SEQUENCE. IN AUTO ASSIGNMENT PUMP DUTY SHALL BE CYCLED AUTOMATICALLY BASED ON THE PUMP RUNTIME EVERY TIME PUMPS STOP.
  - FOR MONITORING, CONTROL AND DISPLAY PURPOSES GAC BUILDING REMOTE-OIT (R-OIT), GAC-CP OIT & HH-CP OIT ALL SHARE SAME HMI SCREENS AND DATA.
  - SEE I-09 DETAIL 1, FOR CHEMICAL MONITORING SYSTEM SCHEMATIC. DETAILED PIPING AND VALVING NOT SHOWN HERE.



LEGAL ENTITY:  
ARCADIS CE, INC.

CONSULTANTS

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**CITY OF NEWBURGH**  
**GAC TREATMENT SYSTEM**  
**AT WASHINGTON LAKE**  
**FILTRATION PLANT**

---

NO.	DATE	ADDENDUM #1	ISSUED FOR
1	11/16	ADDENDUM #1	RH

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DATE: OCTOBER 2016

PROJECT NO.: 00266443.0000

FILE NAME: 0266443A-104

DESIGNED BY: R. HARTMANN

DRAWN BY: Z. AMIN

CHECKED BY: E. KOWALSKI

---

**INSTRUMENTATION**

**P&ID SHEET**  
**3 OF 3**

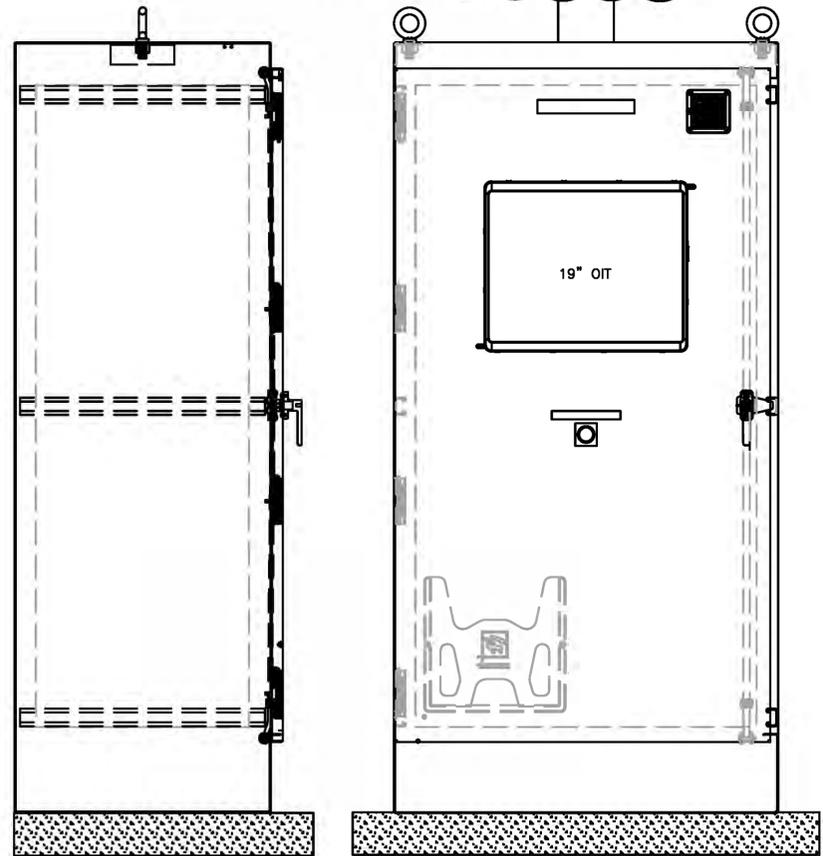
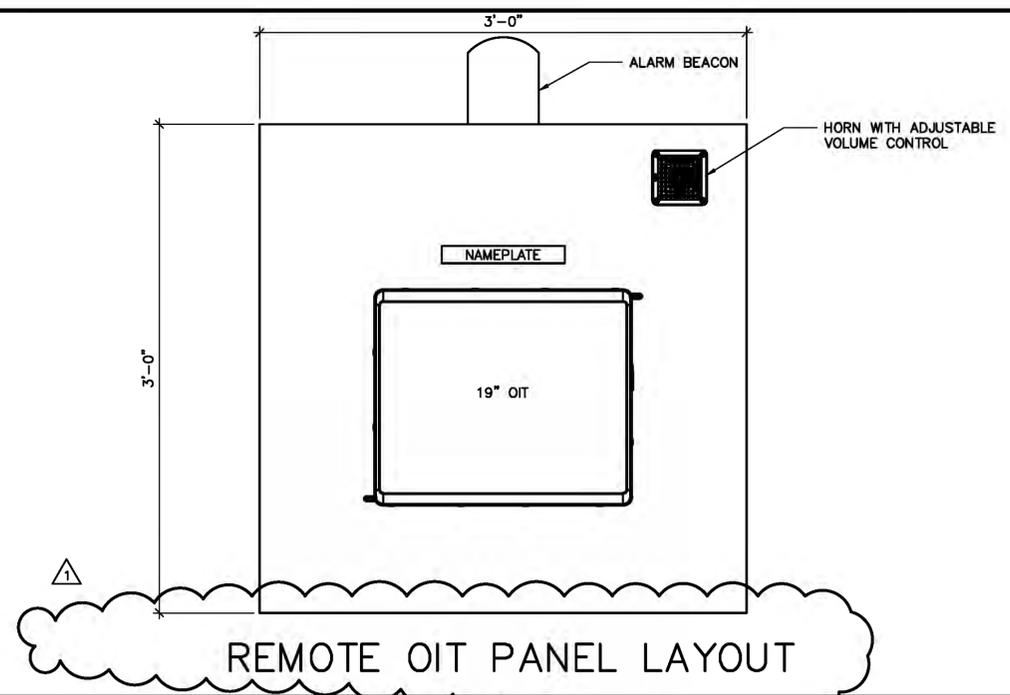
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SCALE: AS SHOWN

**I-04**

SHEET 8 OF 103

I:\proj\ZAMIN\_Spec\AUS-NC51000\_Files\110505\F01\OFFICE\DATA\WHITEP\ANS-HV\WHL\_CAD\VOL2\ACAD\PROJ\0266443\0000\GAC\_BUILDING\SHETS\INSTRUMENTATION\0266443A-106.DWG, Scale: 1:1, Saved Date: 11/03/2016, Time: 09:13, Plot Date: Amin, Zeebator, 11/03/2016, Time: 20:55, Layout: I-06

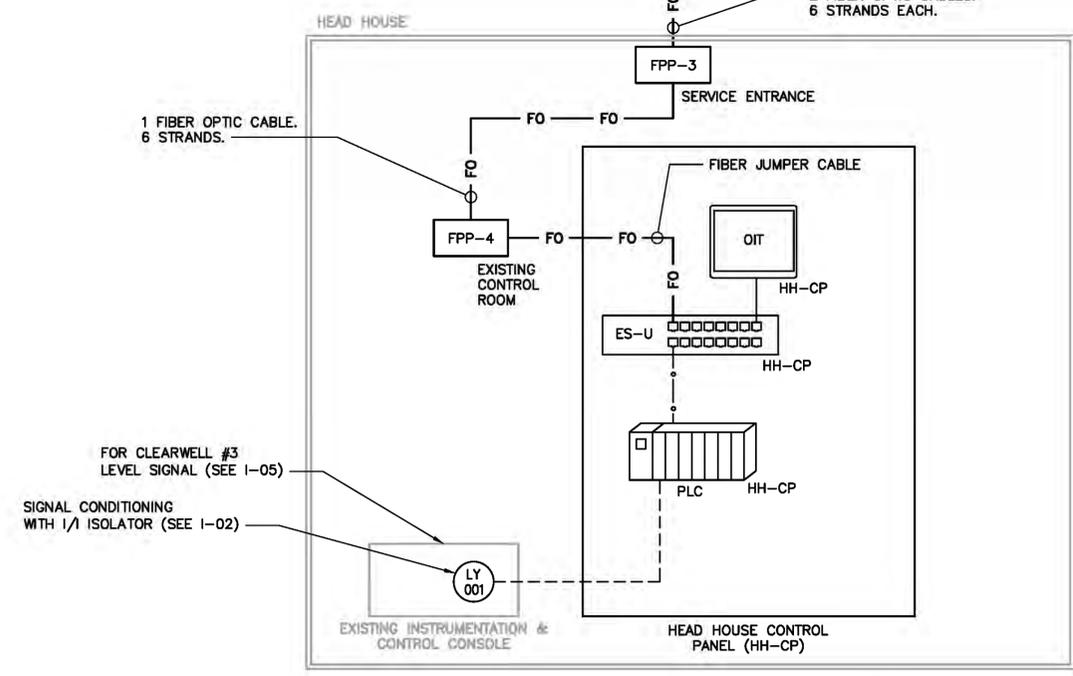
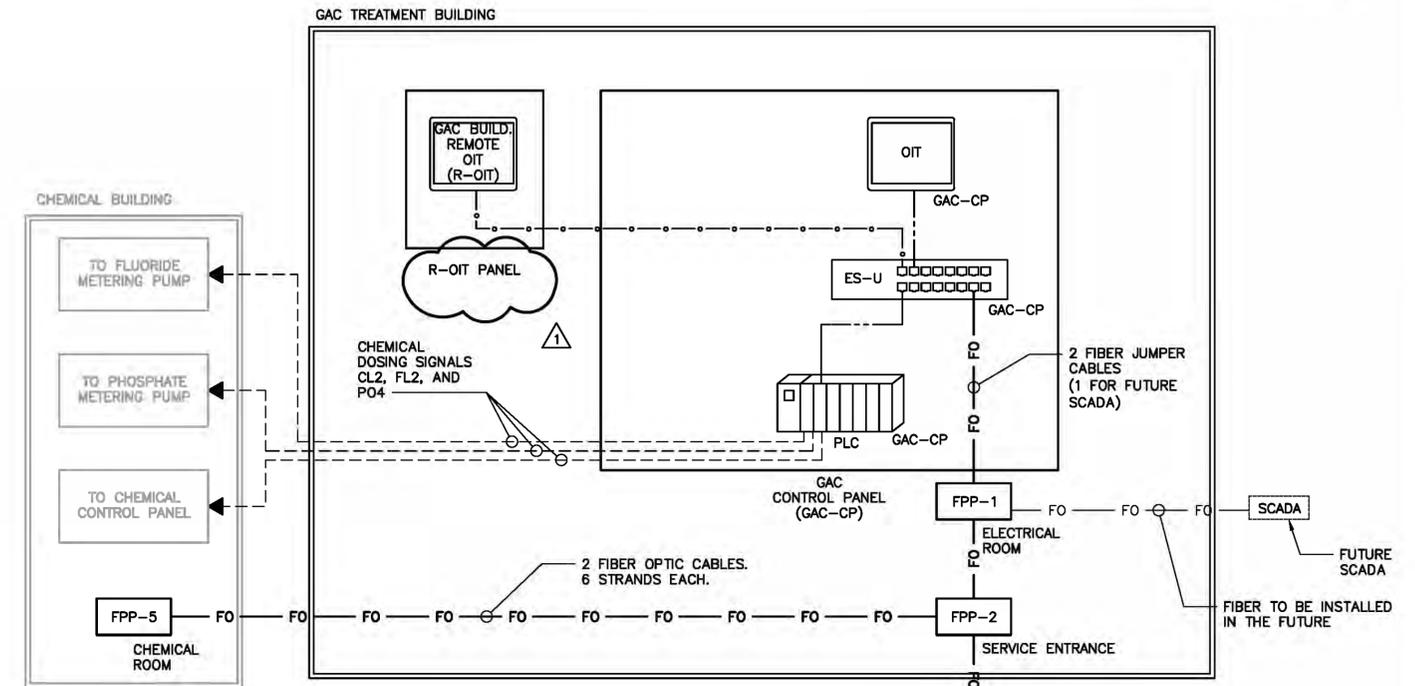


TYPICAL PANEL LAYOUT: HEAD HOUSE CONTROL PANEL (HH-CP) AND GAC CONTROL PANEL (GAC-CP)

- NOTES:
1. PROVIDE MINIMUM 2" BETWEEN TERMINAL BLOCKS AND WIRE TRAY.
  2. PROVIDE MINIMUM 2" BETWEEN PLC CHASSIS AND WIRE TRAY.
  3. CONTRACTOR IS RESPONSIBLE TO FIT ALL THE COMPONENTS IN ACCORDANCE WITH UL508A.
  4. ALL TRAY WIRING SHALL ADHERE TO ELECTRICAL CODE.
  5. ONLY MAIN COMPONENTS ARE SHOWN.
  6. CONCRETE HOUSEKEEPING PAD IS PROVIDED BY OTHERS.
  7. PROVIDE MINIMUM 6" SEPARATION BETWEEN ANALOG AND DIGITAL WIRE TRAYS.
  8. ANY ACTIVE ALARM IN THE MAIN CONTROL PANEL SHALL ENERGIZE THE BEACON AND THE BUZZER. IF THE ALARM HAS BEEN ACKNOWLEDGED BUT NOT YET CLEARED BUZZER SHALL TURN OFF AND BEACON SHALL REMAIN ENERGIZED. ONCE THE ALARM HAS BEEN CLEARED AND ACKNOWLEDGED THE BEACON AND BUZZER SHALL DE-ENERGIZE.
  9. ALL FIELD ANALOG AND DIGITAL SIGNALS SHALL BE PROVIDED WITH TERMINAL BLOCK SURGE PROTECTION DEVICES.

LEGEND

— FO —	FIBER OPTIC
— — — — —	ETHERNET
-----	ELECTRICAL HARDWIRED
GAC	GRANULAR ACTIVATED CARBON
ES-*	ETHERNET SWITCH
	* = M FOR MANAGED
	* = U FOR UNMANAGED
FPP	FIBER PATCH PANEL
PLC	PROGRAMMABLE LOGIC CONTROLLER
OIT	OPERATOR INTERFACE TERMINAL



SYSTEM ARCHITECTURE



LEGAL ENTITY:  
ARCADIS CE, INC.

CONSULTANTS

SEALS



CITY OF NEWBURGH  
GAC TREATMENT SYSTEM  
AT WASHINGTON LAKE  
FILTRATION PLANT

NO.	DATE	ADDENDUM #1 ISSUED FOR	RH BY
1	11/16	ADDENDUM #1	RH

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DATE: OCTOBER 2016  
PROJECT NO.: 00266443.0000  
FILE NAME: 0266443A-106  
DESIGNED BY: R. HARTMANN  
DRAWN BY: Z. AMIN  
CHECKED BY: E. KOWALSKI

SHEET TITLE  
INSTRUMENTATION

PANEL LAYOUT AND SYSTEM ARCHITECTURE

SCALE: AS SHOWN

I-06  
SHEET 10 OF 103



**CITY OF NEWBURGH  
GAC TREATMENT SYSTEM  
AT WASHINGTON LAKE  
FILTRATION PLANT**

1	11/16	ADDENDUM #1	RH
NO.	DATE	ISSUED FOR	BY

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DATE: OCTOBER 2016  
PROJECT NO.: 00266443.0000  
FILE NAME: 0266443A-I09  
DESIGNED BY: R. HARTMANN  
DRAWN BY: Z. AMIN  
CHECKED BY: E. KOWALSKI

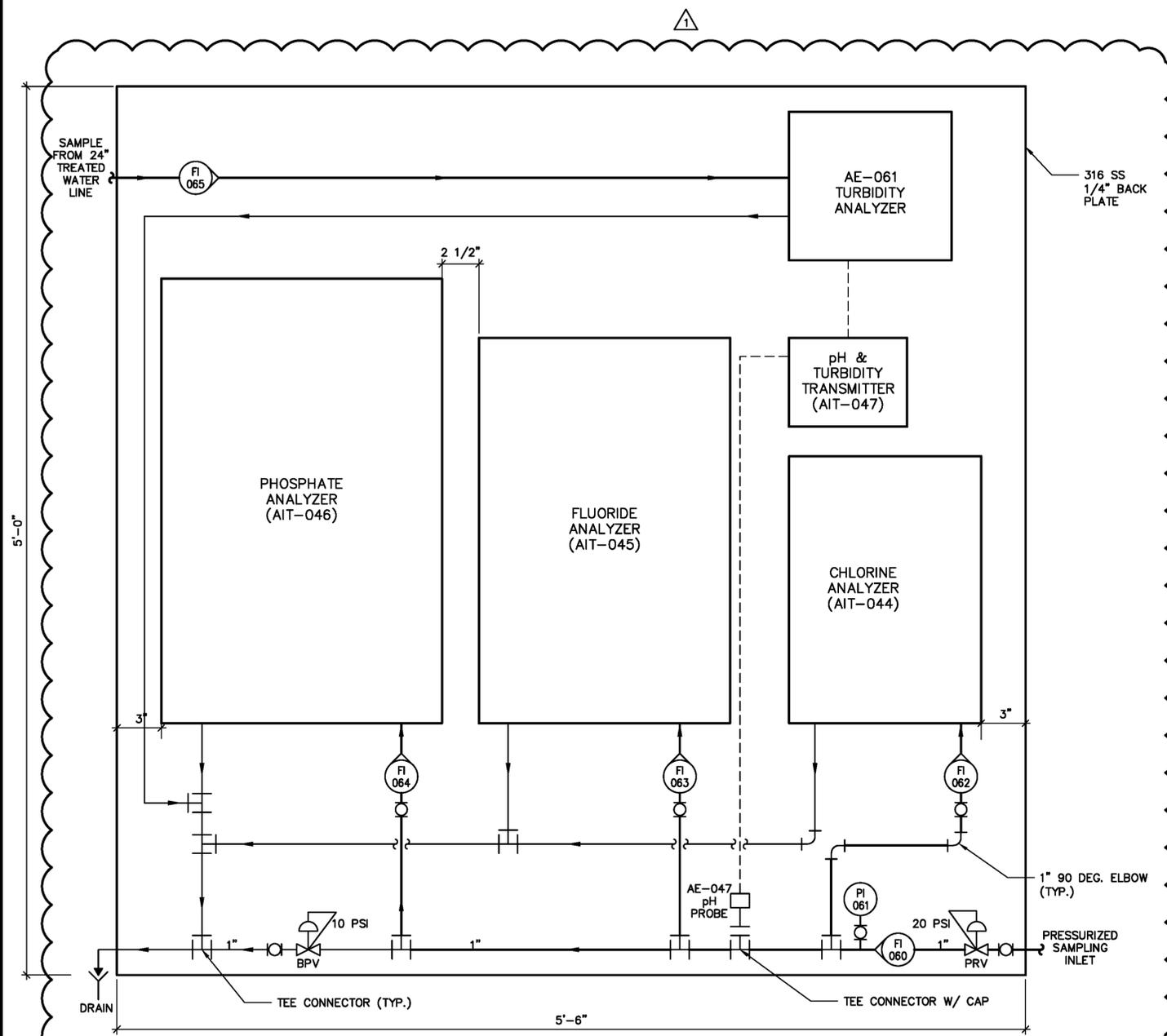
SHEET TITLE

INSTRUMENTATION

**INSTRUMENTS  
MOUNTING DETAIL  
SHEET 3 OF 3**

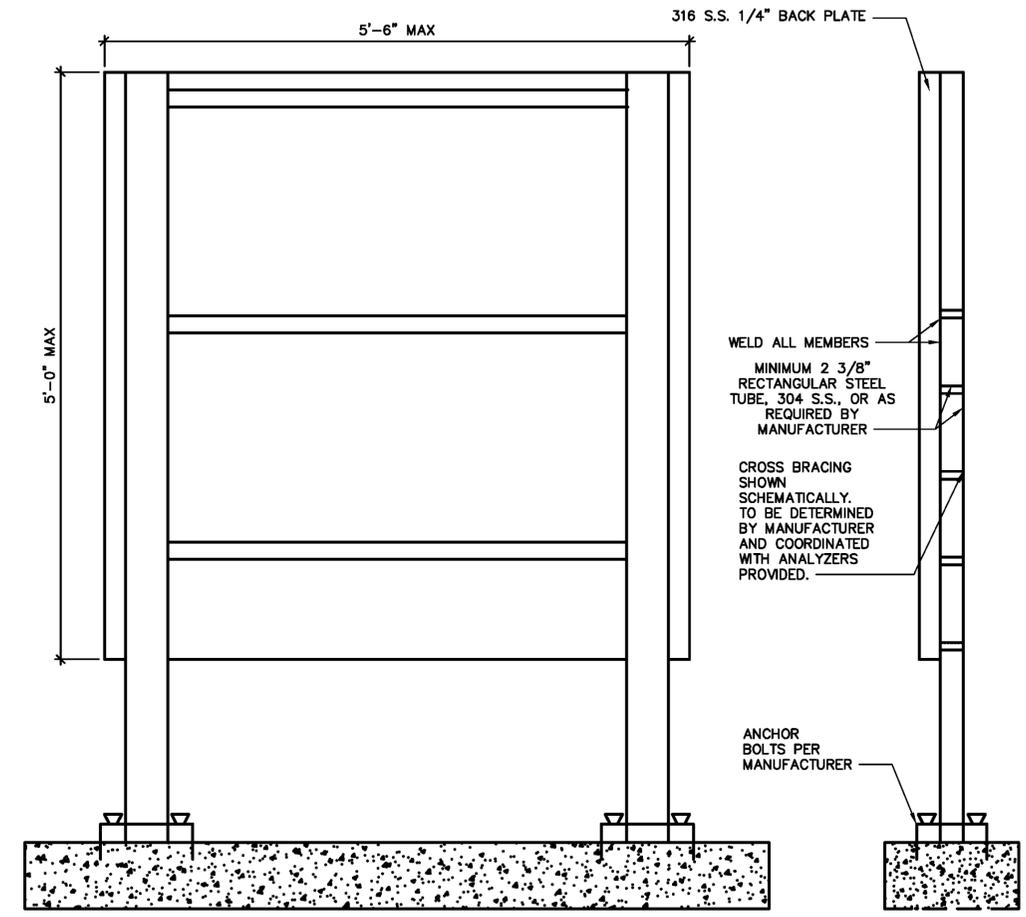
SCALE:  
AS SHOWN

**I-09**  
SHEET 13 OF 103



- NOTES:
- SHOP DRAWINGS FOR COMPLETE CHEMICAL MONITORING SYSTEM BASED ON THE SCHEMATIC ABOVE SHALL BE SUBMITTED FOR ENGINEER APPROVAL.
  - PROVIDE ADEQUATE PIPE FASTENING AS SPECIFIED IN THE APPROPRIATE PIPING SPECIFICATION SECTION 3.
  - TURBIDITY ANALYZER SAMPLE INLET AND OUTLET: 1/4" O.D. TUBING

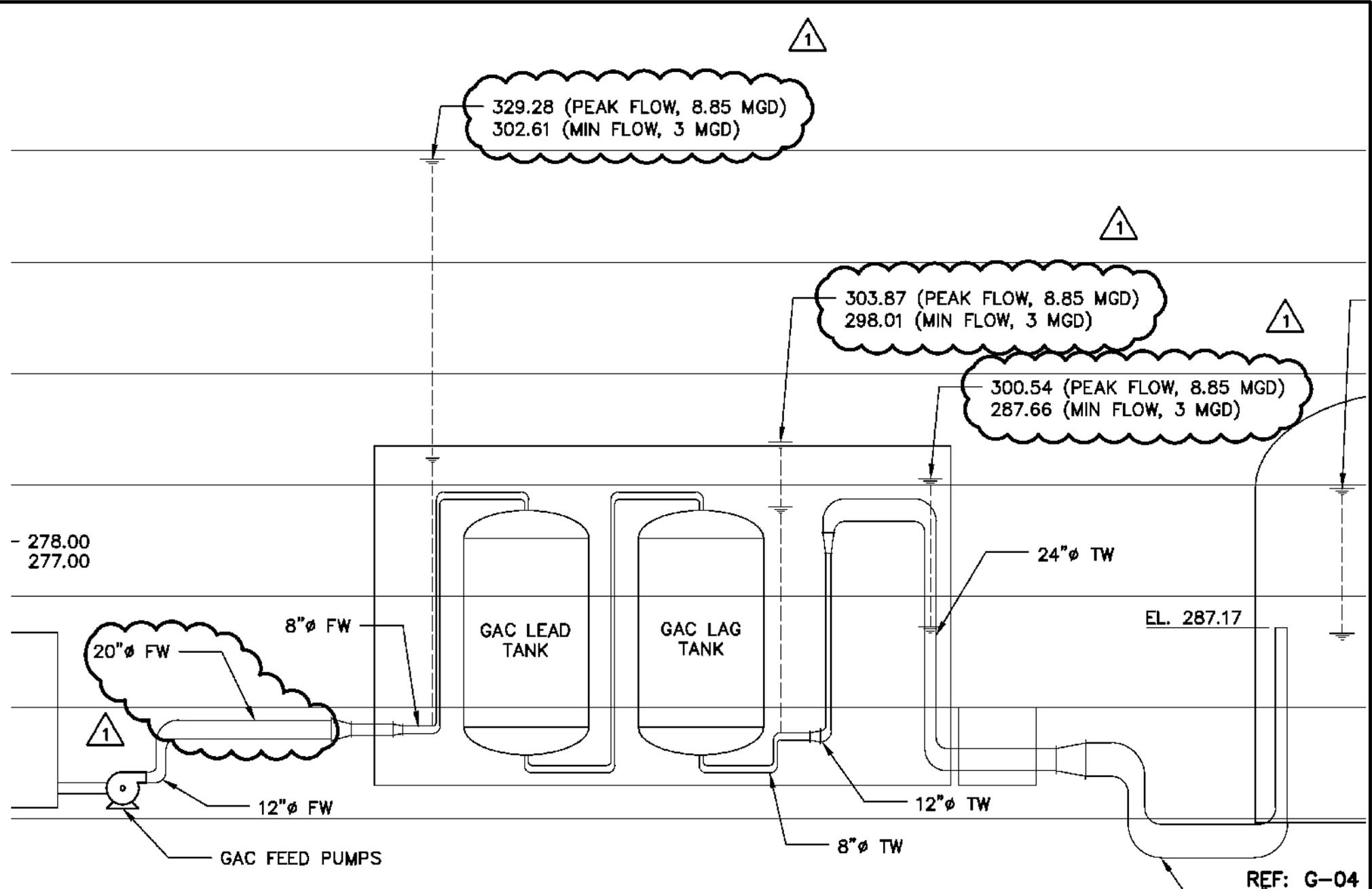
**1 CHEMICAL MONITORING SYSTEM SCHEMATIC**  
NOT TO SCALE



- NOTES:
- CONTRACTOR SHALL PROVIDE A FULLY PRE-ASSEMBLED PANEL AND INSTALL ON MEZZANINE AS SHOWN ON CONTRACT DRAWINGS.
  - CONTRACTOR SHALL MOUNT PANEL TO FLOOR SUCH AS THAT PANEL IS FREE STANDING AND NOT SUPPORTED OFF BUILDING WALL.

**2 CHEMICAL MONITORING SYSTEM MOUNTING DETAIL**  
NOT TO SCALE

User: ZAMIN, Spec: AUS-NCSMOD, File: \\NY05EP001\OFFICE\DATA\WHITEPAINES\NY\_VHL\_CAD\VOL2\CAD\PROJ\00266443\0000\GAC\_BUILDING\SHEETS\INSTRUMENTATION\0266443A-I09.DWG, Scale: 1:1, SavedDate: 11/03/2016, Time: 21:11, Plot Date: Amin, Zeeshan, 11/03/2016, 21:32, Layout: I-09



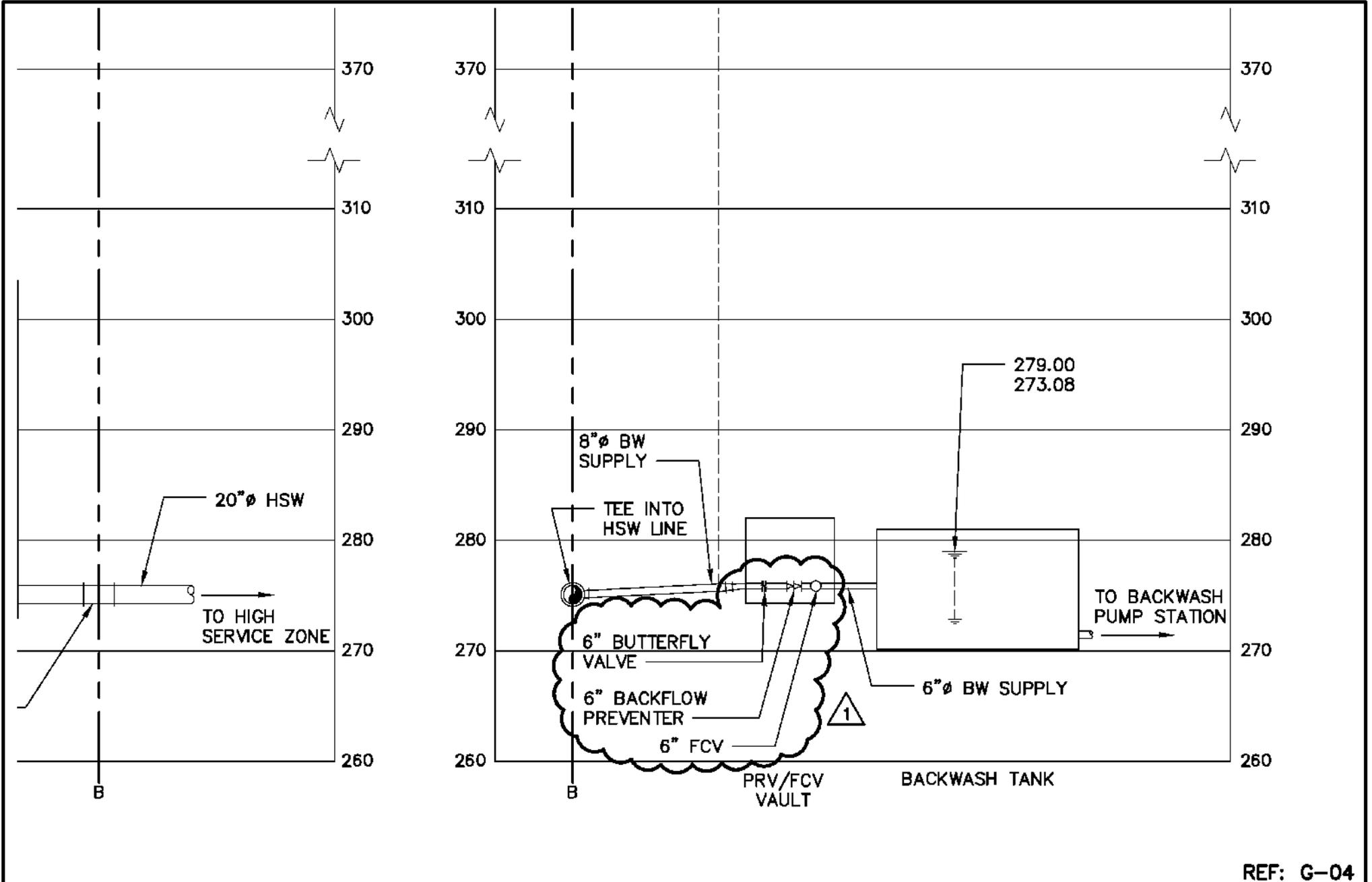
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CITY OF NEWBURGH  
**GAC TREATMENT SYSTEM AT  
 WASHINGTON LAKE FILTRATION PLANT**

**GENERAL  
 HYDRAULIC PROFILE**  
 NOT TO SCALE

NOVEMBER 2016  
**SK1-G04-ADD1**



REF: G-04



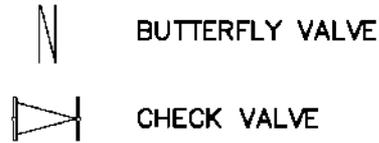
CITY OF NEWBURGH  
**GAC TREATMENT SYSTEM AT  
 WASHINGTON LAKE FILTRATION PLANT**

GENERAL  
**HYDRAULIC PROFILE**

NOT TO SCALE

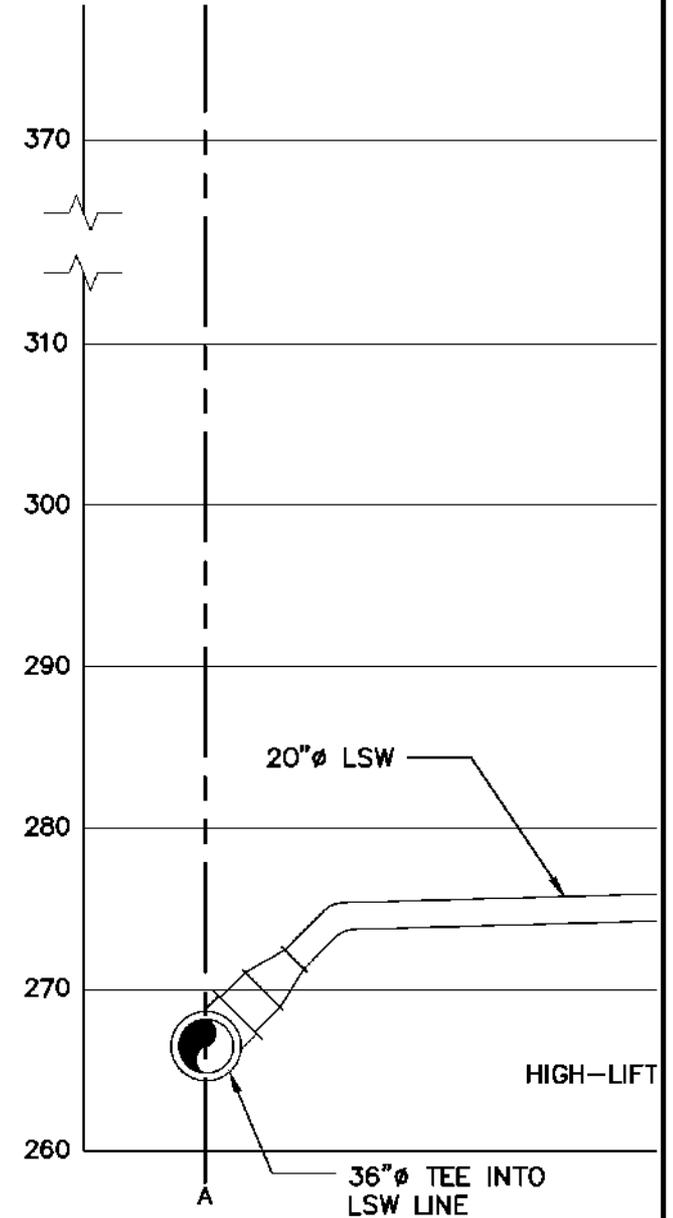
NOVEMBER 2016

**SK2-G04-ADD1**

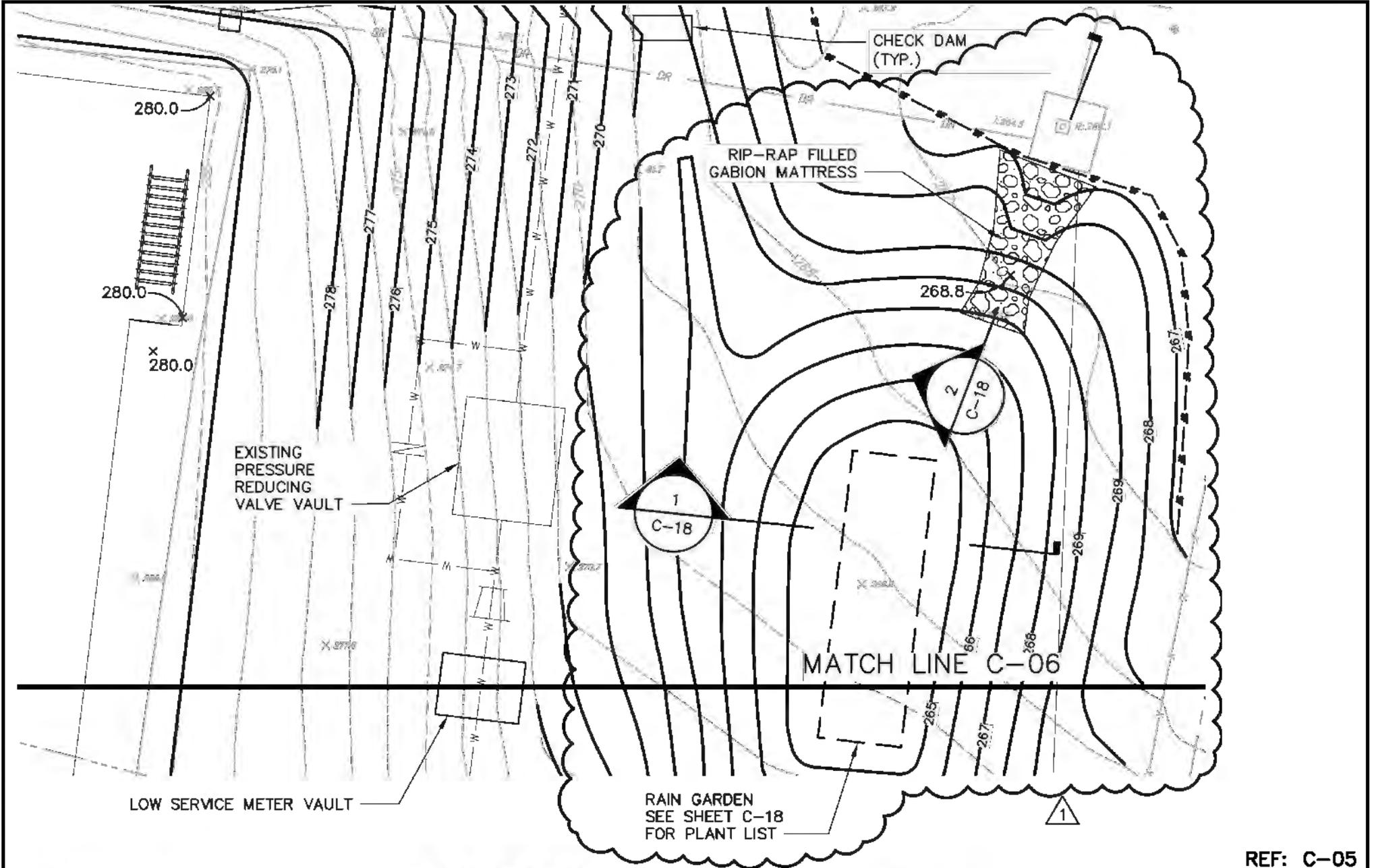


**NOTES:**

1. MAXIMUM FLOWS ARE SHOWN BASED ON MAXIMUM 10 STATES RECOMMENDED SAND FILTER PRODUCTION RATE AND ARE BASED ON ONE GAC FEED PUMP, ONE GAC CONTACTOR SYSTEM AND ONE HIGH LIFT PUMP OUT OF SERVICE.



REF: G-04



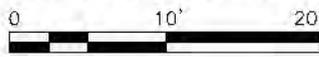
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NOVEMBER 2016

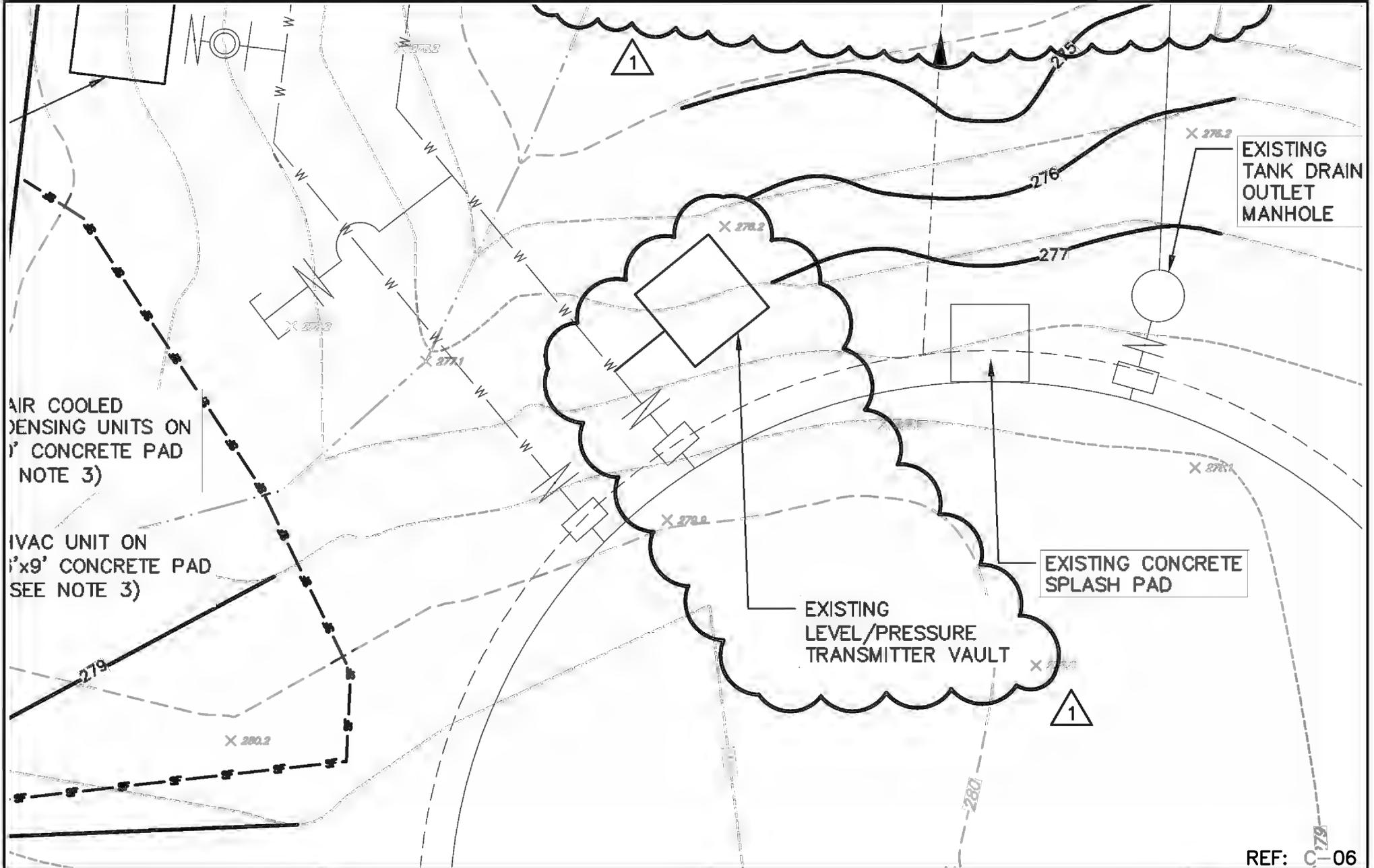


CITY OF NEWBURGH  
**GAC TREATMENT SYSTEM AT  
 WASHINGTON LAKE FILTRATION PLANT**

CIVIL  
**SITE PLAN III**



SK1-C05-ADD1



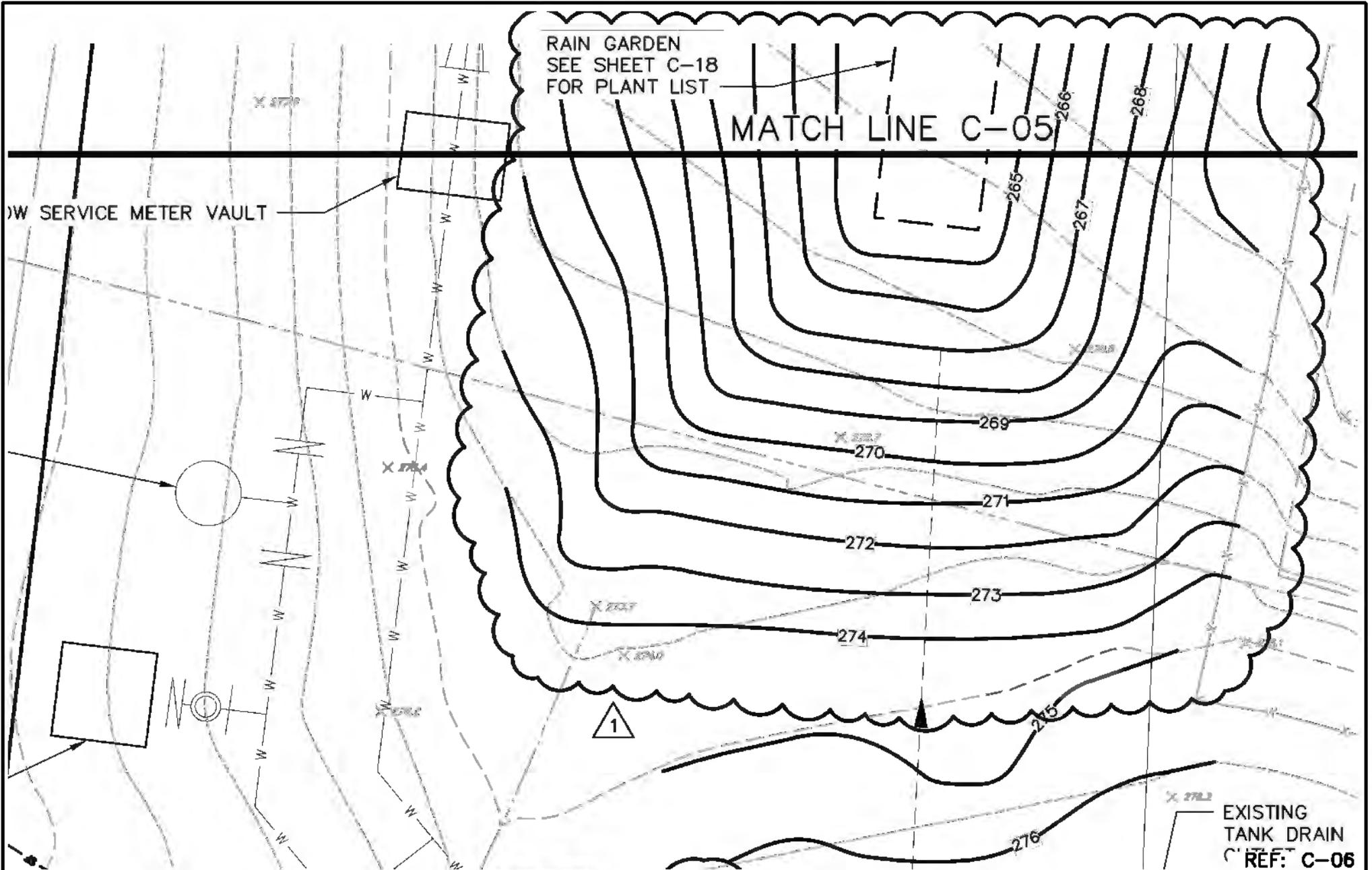
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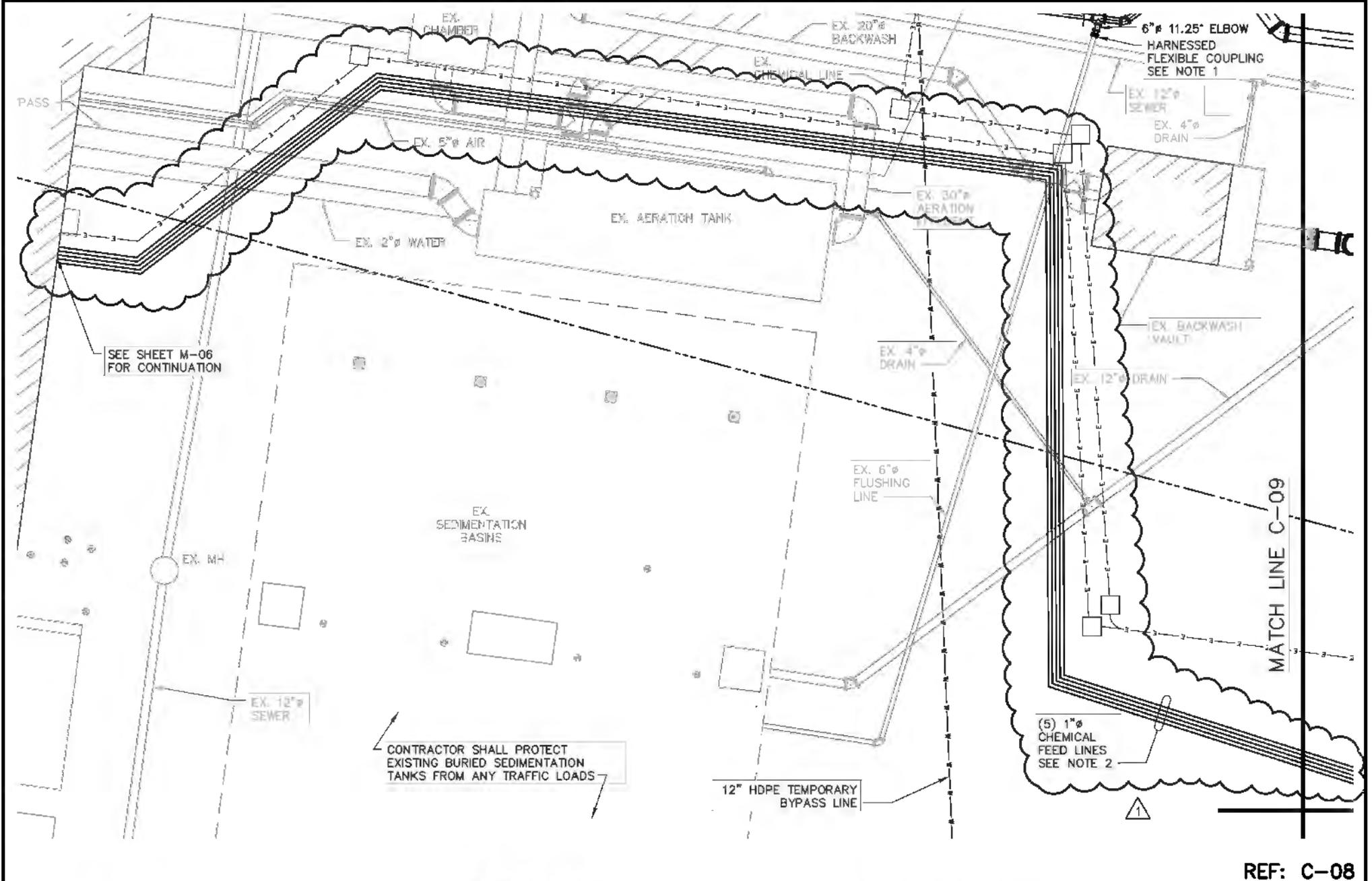


CITY OF NEWBURGH  
**GAC TREATMENT SYSTEM AT  
 WASHINGTON LAKE FILTRATION PLANT**



NOVEMBER 2016  
**SK1-C06-ADD1**





REF: C-08

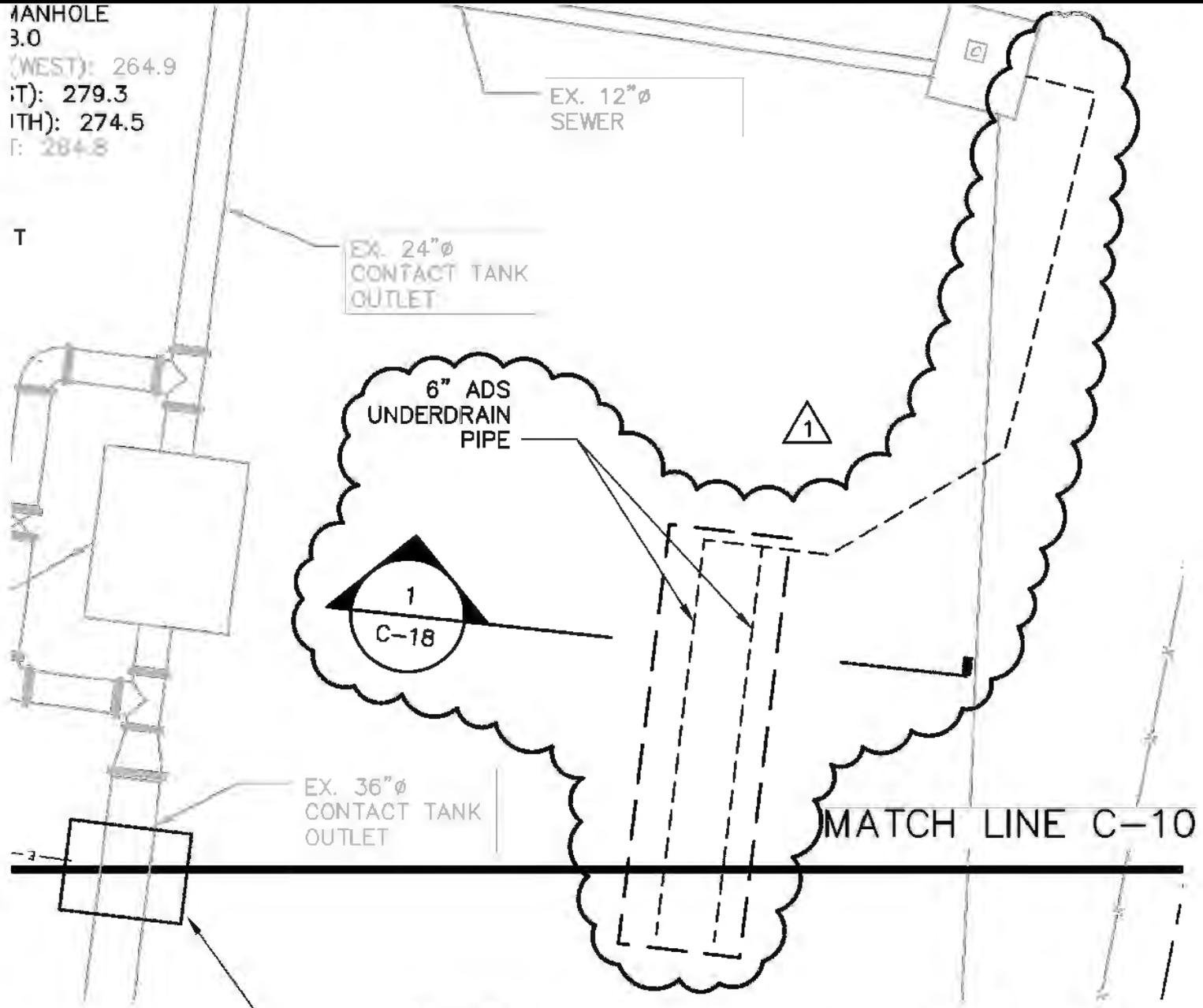
NOVEMBER 2016



CITY OF NEWBURGH  
**GAC TREATMENT SYSTEM AT  
 WASHINGTON LAKE FILTRATION PLANT**

CIVIL  
**YARD PIPING II**  
 0 10' 20'

SK1-C08-ADD1



REF: C-09

NOVEMBER 2016

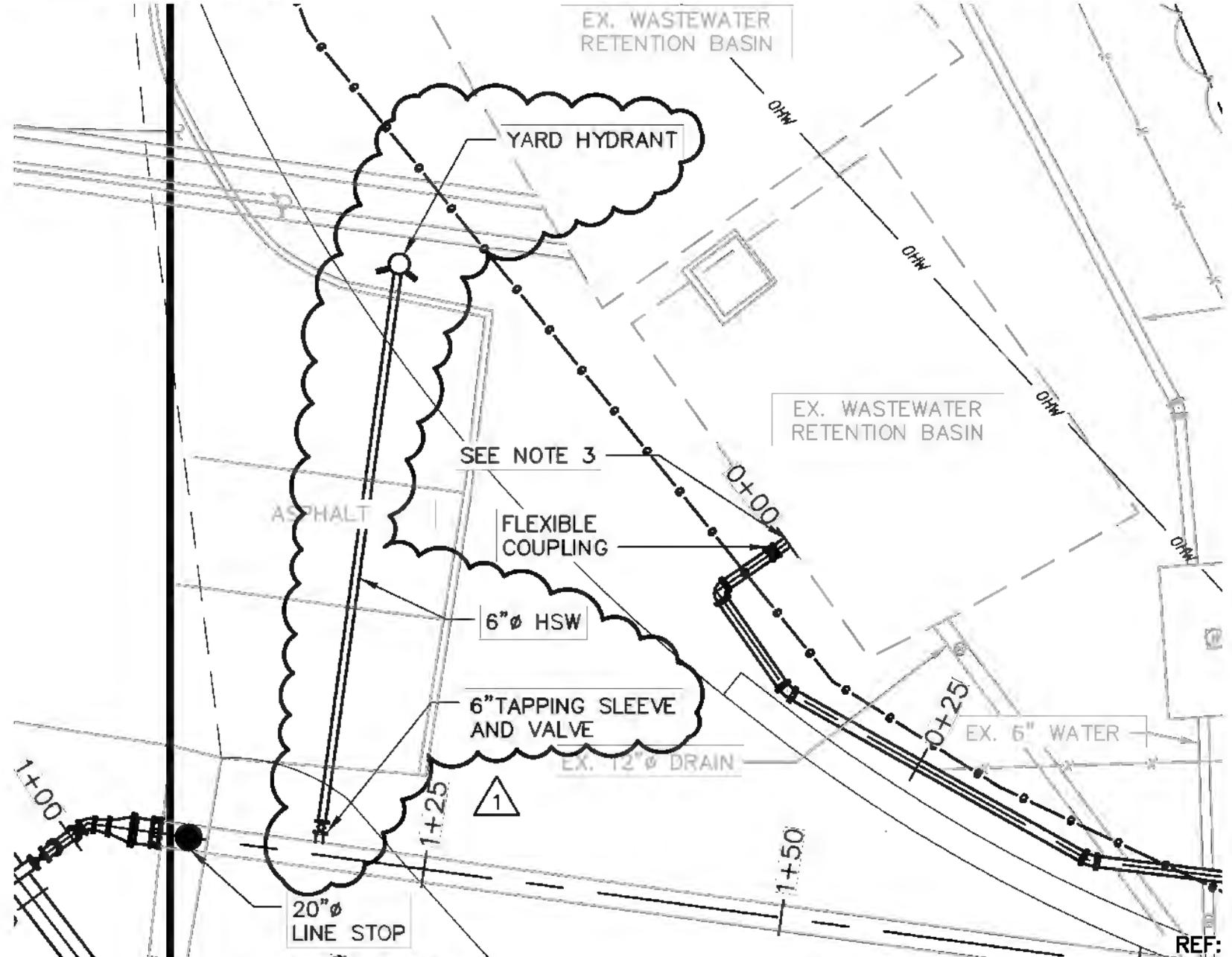


CITY OF NEWBURGH  
GAC TREATMENT SYSTEM AT  
WASHINGTON LAKE FILTRATION PLANT

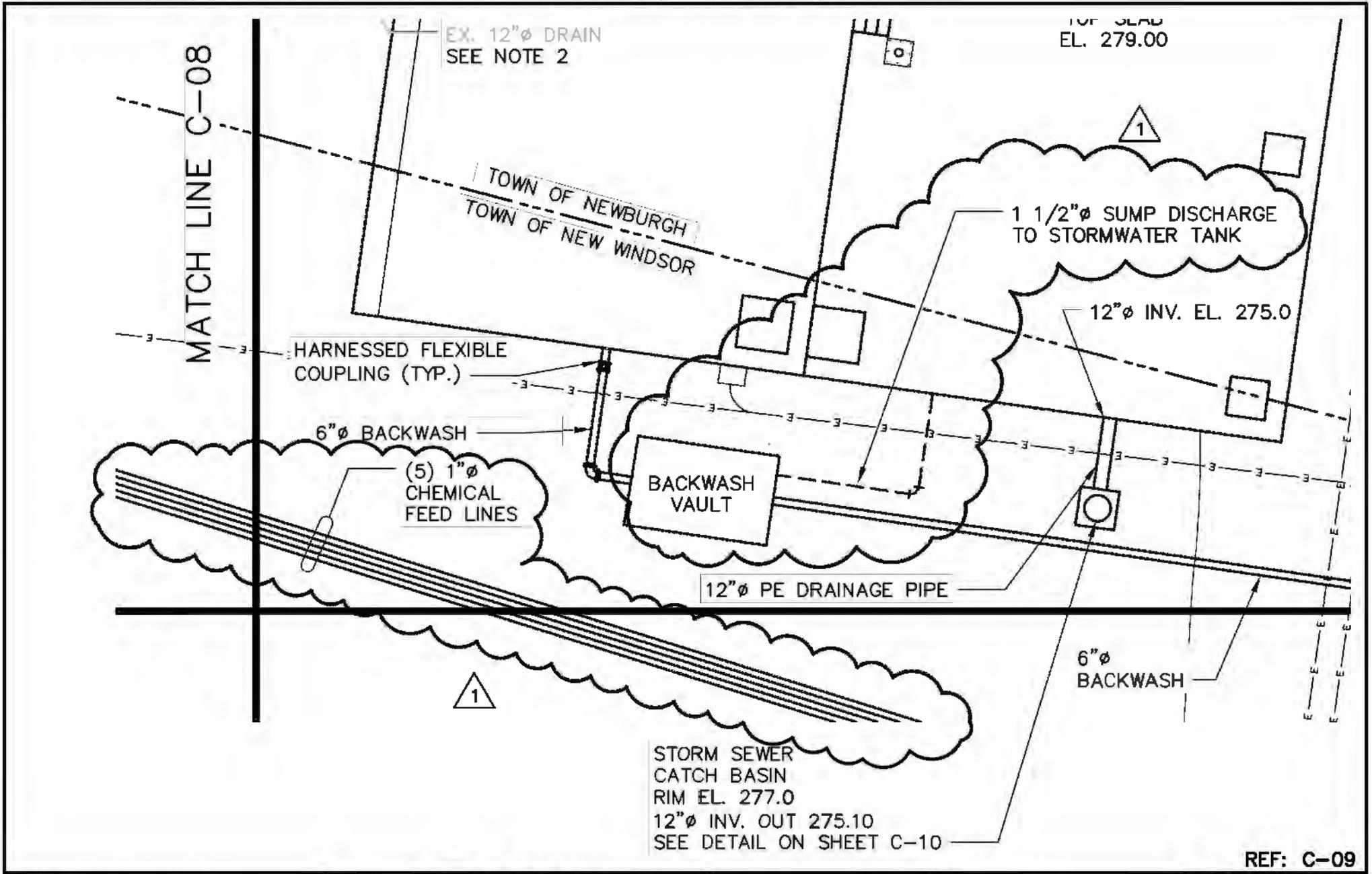
CIVIL  
YARD PIPING III

0 10' 20'

SK1-C09-ADD1



REF: C-09

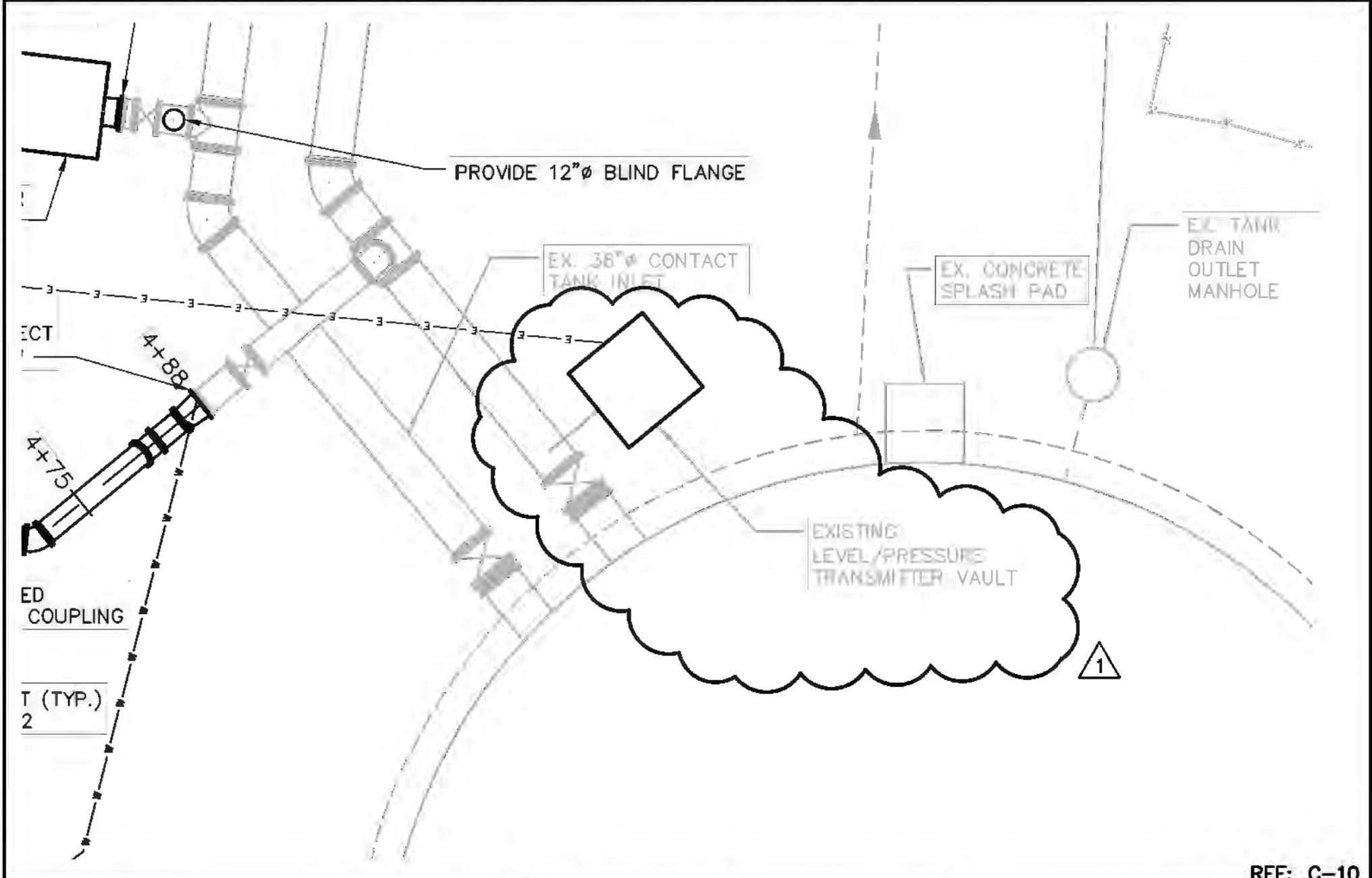


REF: C-09

## NOTES:

1. PERIMETER FOUNDATION DRAIN NOT SHOWN FOR CLARITY. SEE DETAILS ON SHEETS C-14 AND C-18 FOUNDATION DRAIN TO BE INSTALLED AT ALL FOUR SIDES OF BUILDING AND PIPED TO EXISTING STORM SEWER.
2. CONTRACTOR SHALL PROTECT EXISTING DRAIN FROM SEDIMENTATION BASINS. CONTRACTOR SHALL RE-ROUTE PIPE AS NECESSARY TO AVOID NEW BACKWASH TANK.
3. CONTRACTOR SHALL CORE EXISTING STRUCTURE AND PROVIDE NON-SHRINK GROUT TO PROVIDE A WATERTIGHT CONNECTION. PIPE SHALL PROJECT INTO TANK AND BE FILLED WITH A TIDEFLEX TF-2 CHECK VALVE OR EQUAL.
4. CONTRACTOR SHALL HAND EXCAVATE FOR CHEMICAL FEED LINES AND 8"Ø HSW.
5. REFER TO LIMITED SITE USE DATA FOR ADDITIONAL UTILITIES THAT MAY BE PRESENT IN THE VICINITY OF THE WORK.

1



REF: C-10

NOVEMBER 2016



CITY OF NEWBURGH  
GAC TREATMENT SYSTEM AT  
WASHINGTON LAKE FILTRATION PLANT

CIVIL  
YARD PIPING IV  
0 10' 20'

SK1-C10-ADD1

NOTES:

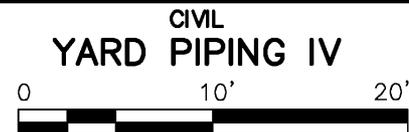
1. PERIMETER FOUNDATION DRAIN SHALL BE SET AT MINIMUM DEPTH OF 4'-0" TO TOP OF PIPE AND SLOPE AT 0.5%.
2. DOWNSPOUTS SHALL BE TIED INTO PERIMETER FOUNDATION DRAIN.
3. CONTRACTOR SHALL HAND EXCAVATE FOR CHEMICAL FEED LINES AND 8"Ø HSW.
4. REFER TO LIMITED SITE USE DATA FOR ADDITIONAL UTILITIES THAT MAY BE PRESENT IN THE VICINITY OF THE WORK.



REF: C-10

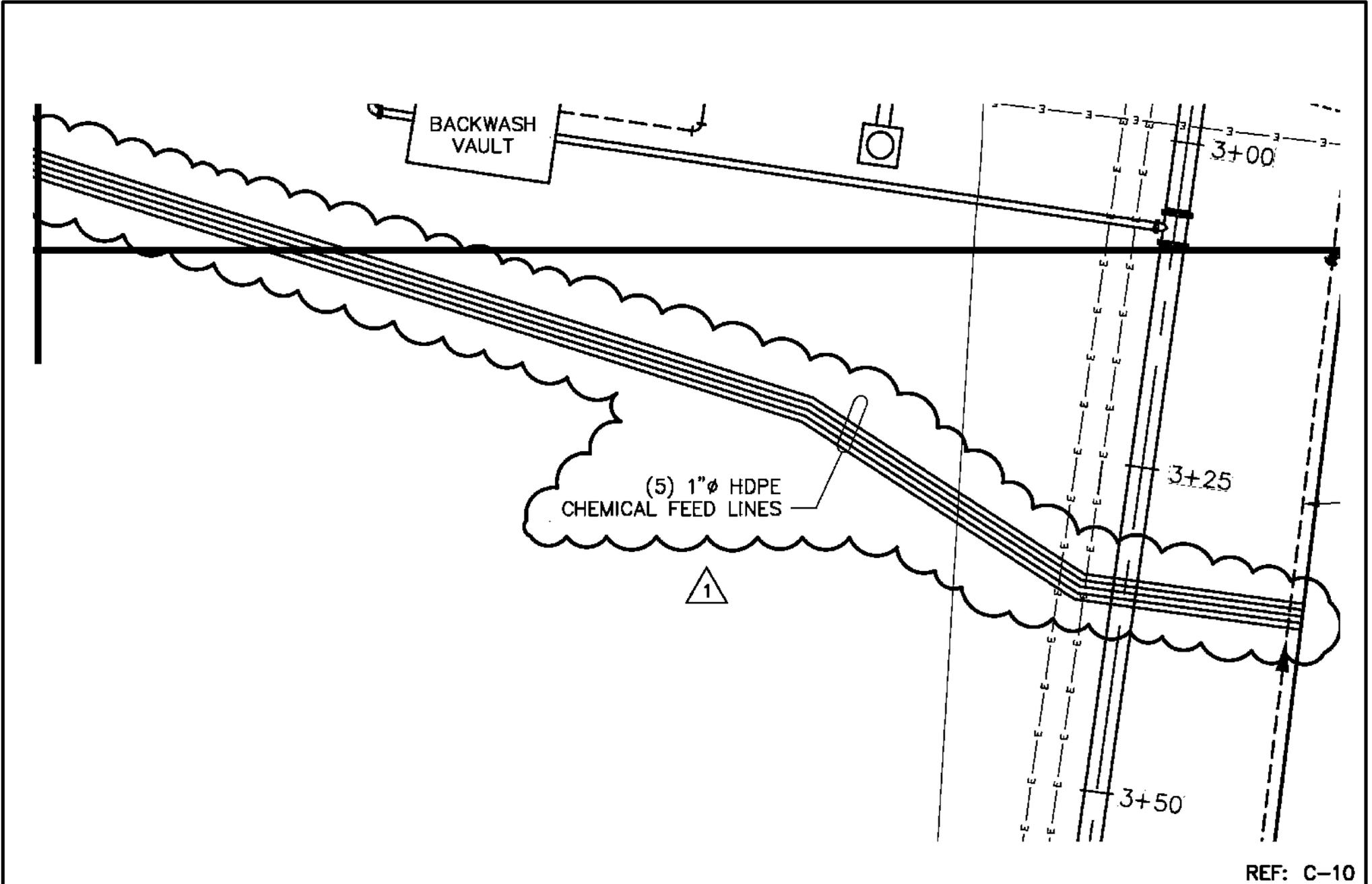


CITY OF NEWBURGH  
GAC TREATMENT SYSTEM AT  
WASHINGTON LAKE FILTRATION PLANT



NOVEMBER 2016

SK2-C10-ADD1



REF: C-10



CITY OF NEWBURGH  
GAC TREATMENT SYSTEM AT  
WASHINGTON LAKE FILTRATION PLANT

CIVIL  
YARD PIPING IV  
0 10' 20'

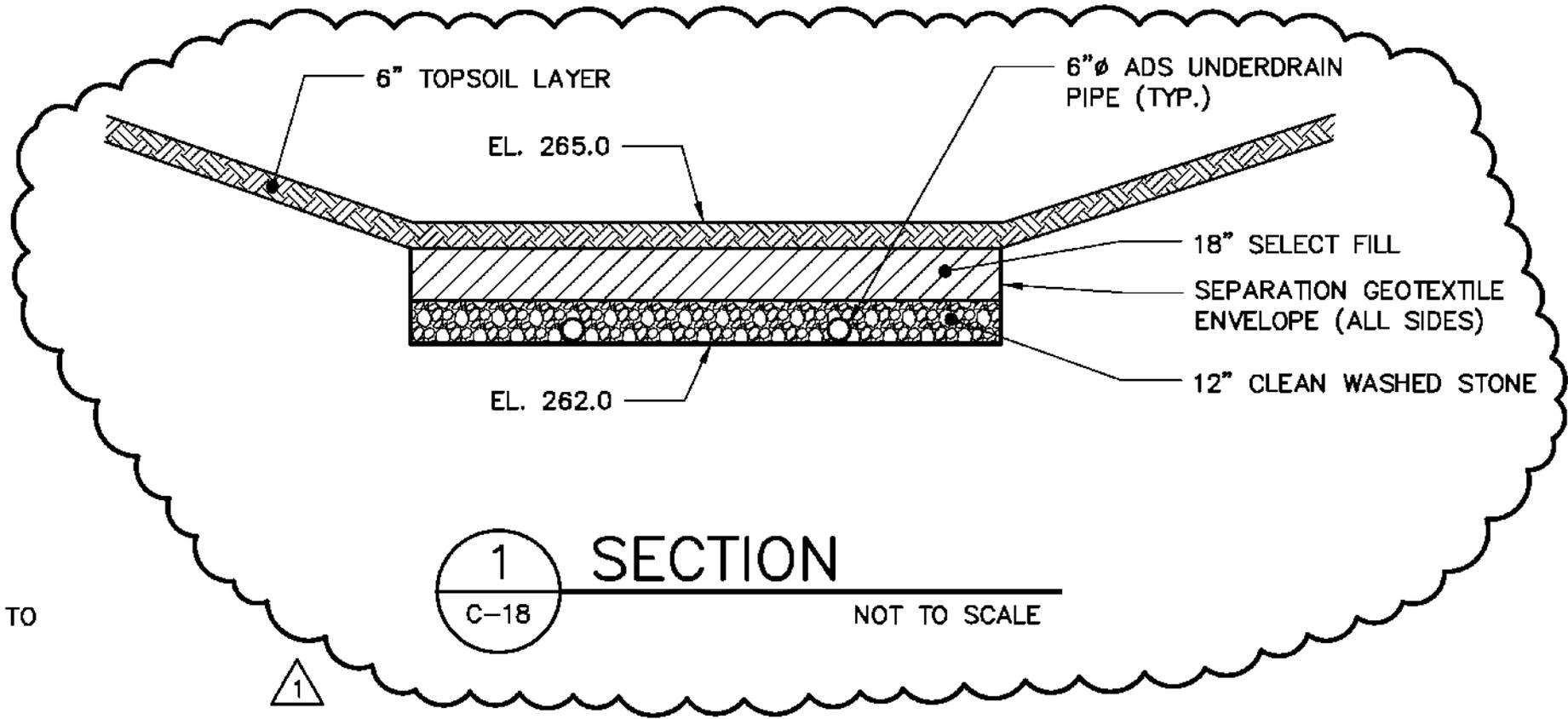
NOVEMBER 2016

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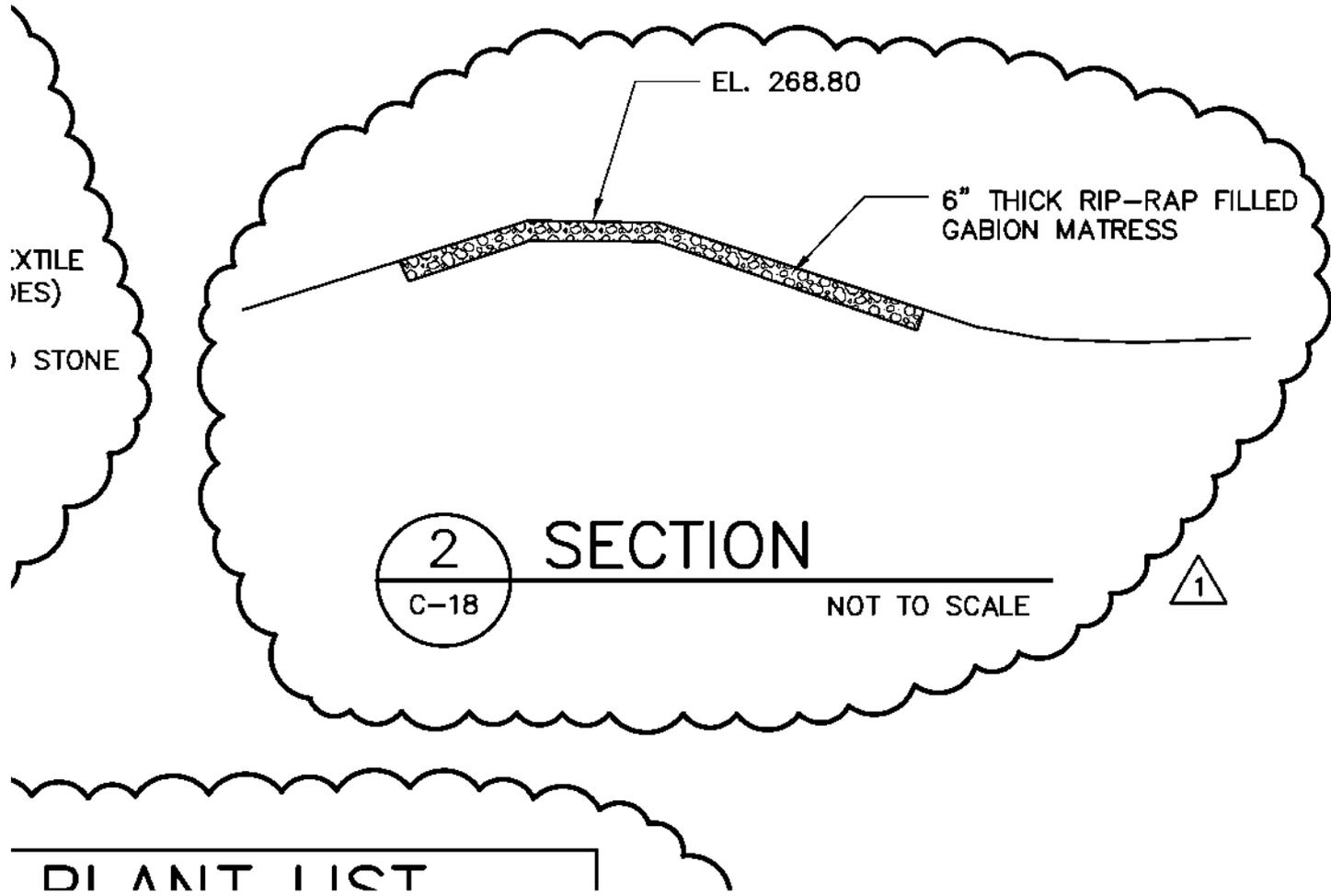


**1 SECTION**  
C-18 NOT TO SCALE

1

**RAIN GARDEN PLAN**  
REF: C-15

 <p>ARCADIS Design &amp; Consultancy for natural and built assets</p>	<p>CITY OF NEWBURGH</p> <p><b>GAC TREATMENT SYSTEM AT WASHINGTON LAKE FILTRATION PLANT</b></p>	<p>CIVIL <b>DETAILS III</b></p> <p>NOT TO SCALE</p>	NOVEMBER 2016
			SK1-C15-ADD1



REF: C-15

NOT TO SCALE

C-18

## RAIN GARDEN PLANT LIST

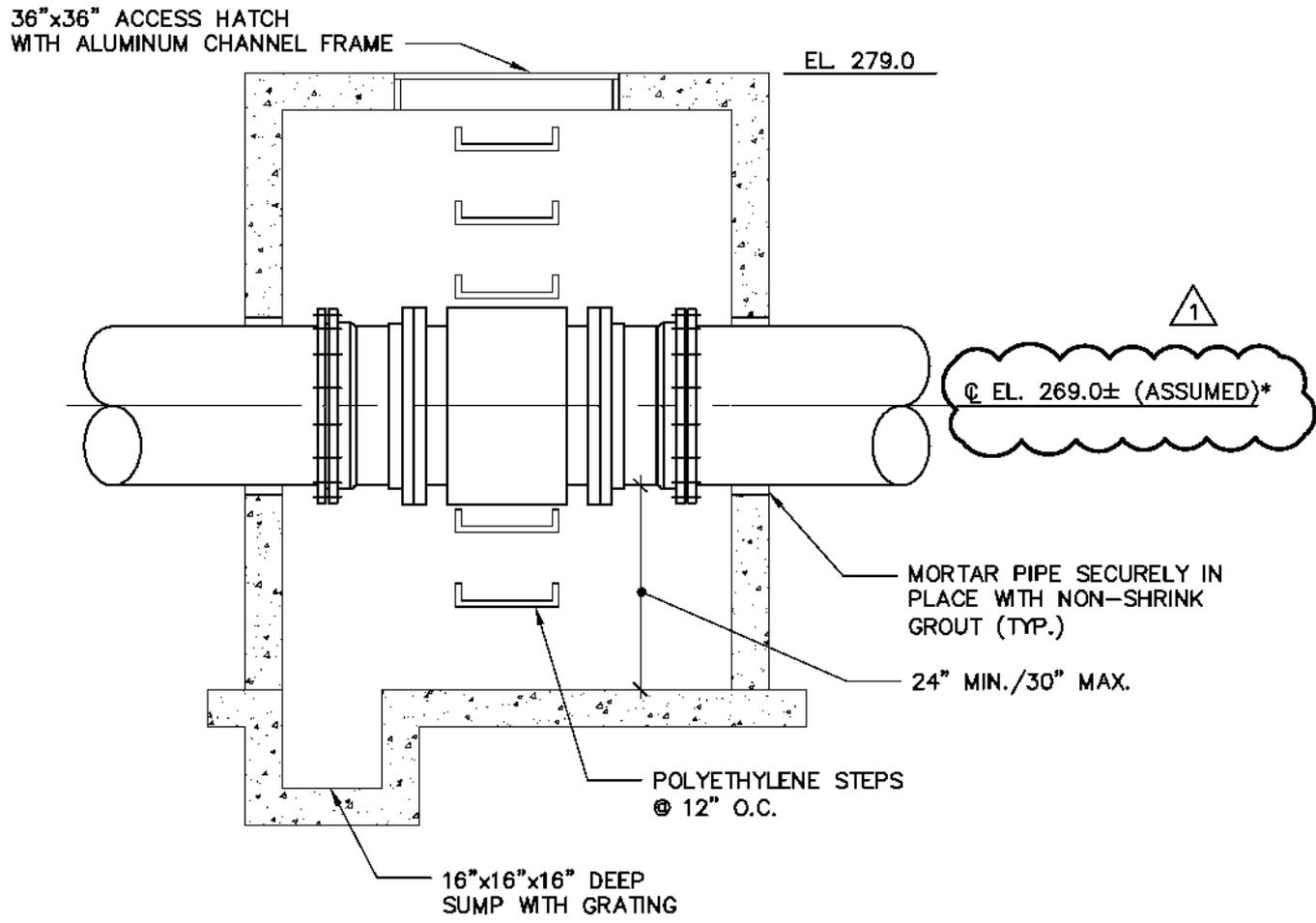
SPECIES NAME	COMMON NAME	QUANTITY
VIBERNUM DENATUM	ARROWWOOD VIBURNUM	20
SPIREA LATFOLIA	BROADLEAF MEADOWSWEET	30
EUPATORIUM MACULATUM	SPOTTED JOE PYE WEED	10
PANICUM VIRGATUM	SWITCHGRASS	6
CAREX INTUMESCENS	SEDGE	12
LOBELIA CARDINALIS	CARDINAL FLOWER	200

### NOTE:

LOCATION OF PLANTINGS TO BE AS DIRECTED BY THE ENGINEER.

1

REF: C-15



SECTION VIEW

\* FINAL ELEVATION TO BE COORDINATED WITH AS-BUILT CONDITIONS FROM CONTACT TANK PROJECT.

TREATED WATER METER VAULT

NOT TO SCALE

REF: C-17

NOVEMBER 2016

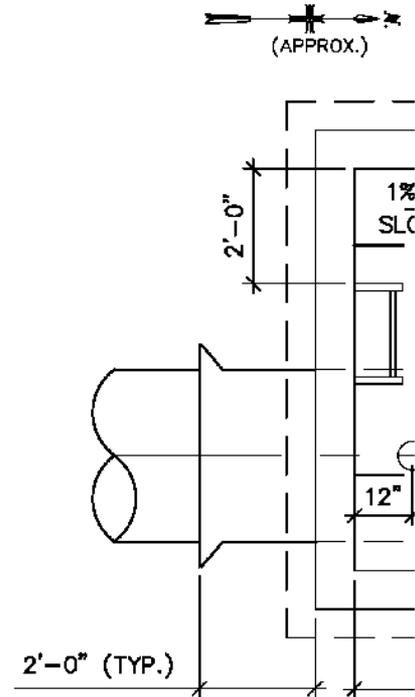
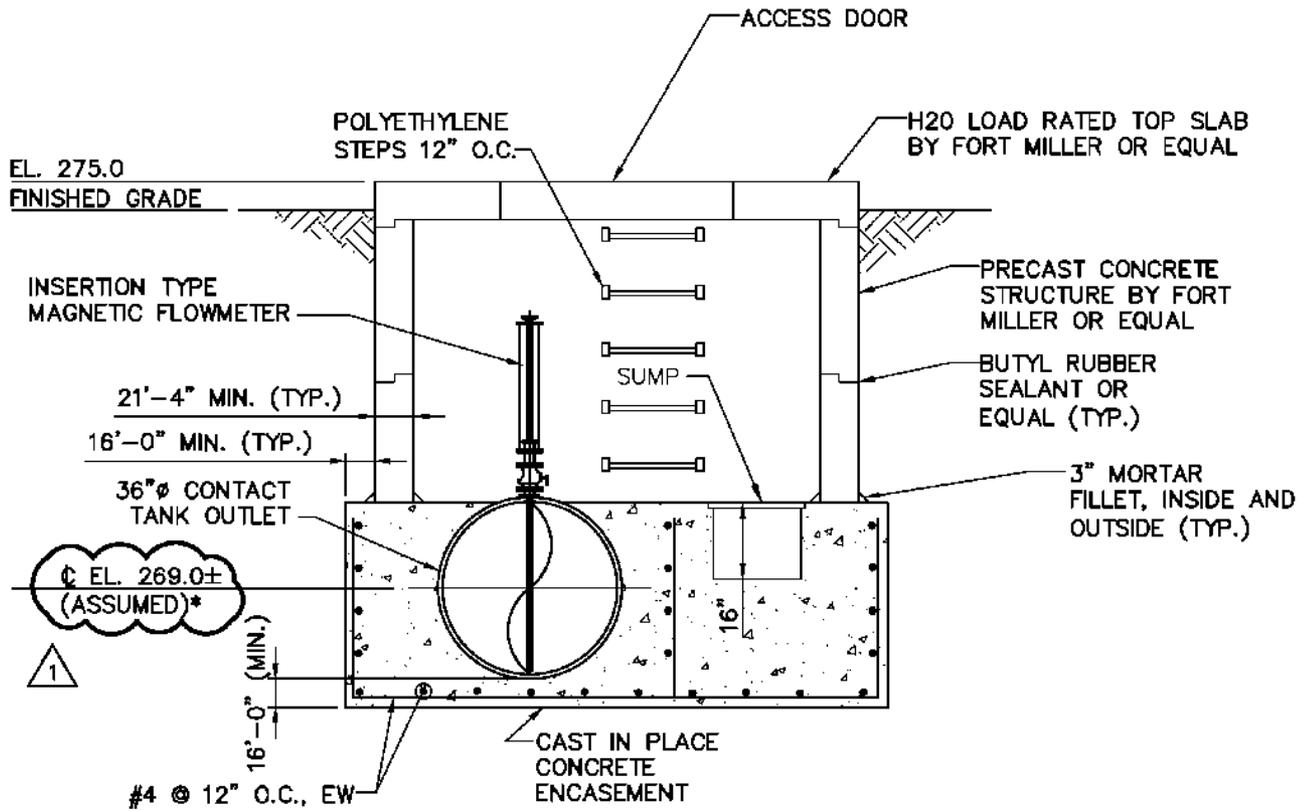


CITY OF NEWBURGH  
 GAC TREATMENT SYSTEM AT  
 WASHINGTON LAKE FILTRATION PLANT

CIVIL  
 DETAILS V

NOT TO SCALE

SK1-C17-ADD1



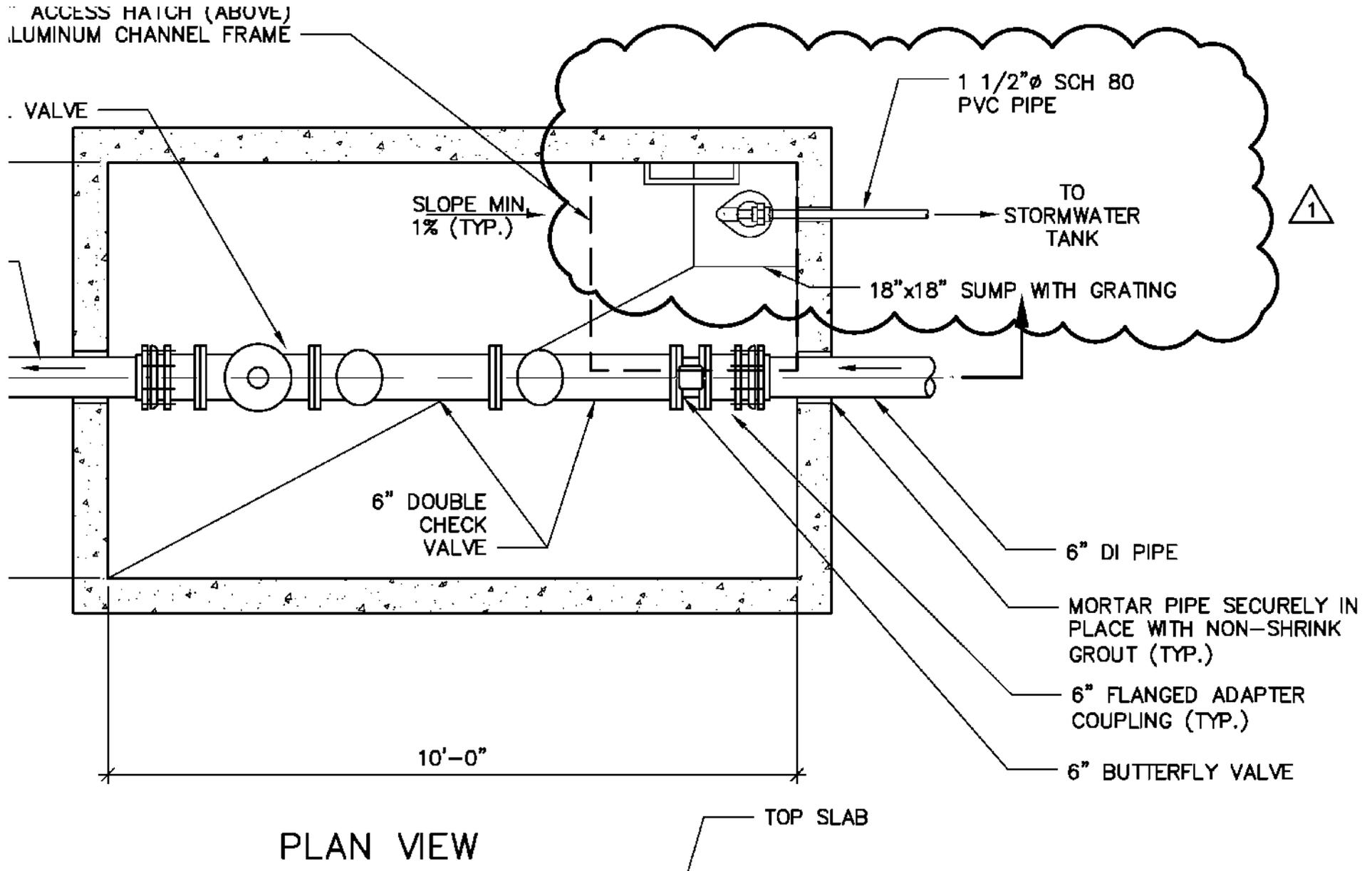
\* FINAL ELEVATION TO BE COORDINATED WITH AS-BUILT CONDITIONS FROM CONTACT TANK PROJECT.

SECTION VIEW

**LOW SERVICE METER VAULT**

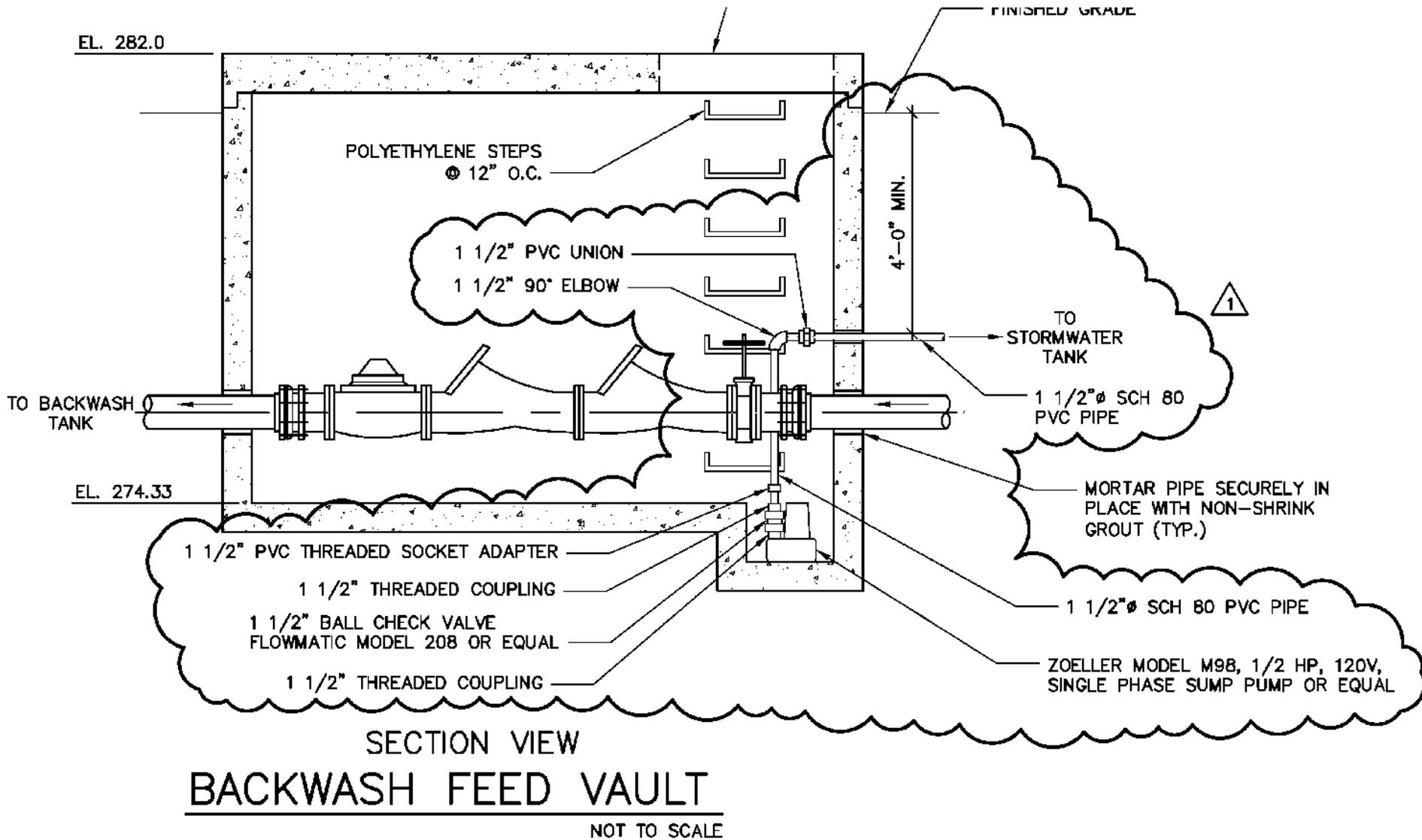
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REF: C-17



REF: C-18

NOVEMBER 2016



REF: C-18

NOVEMBER 2016

278.5

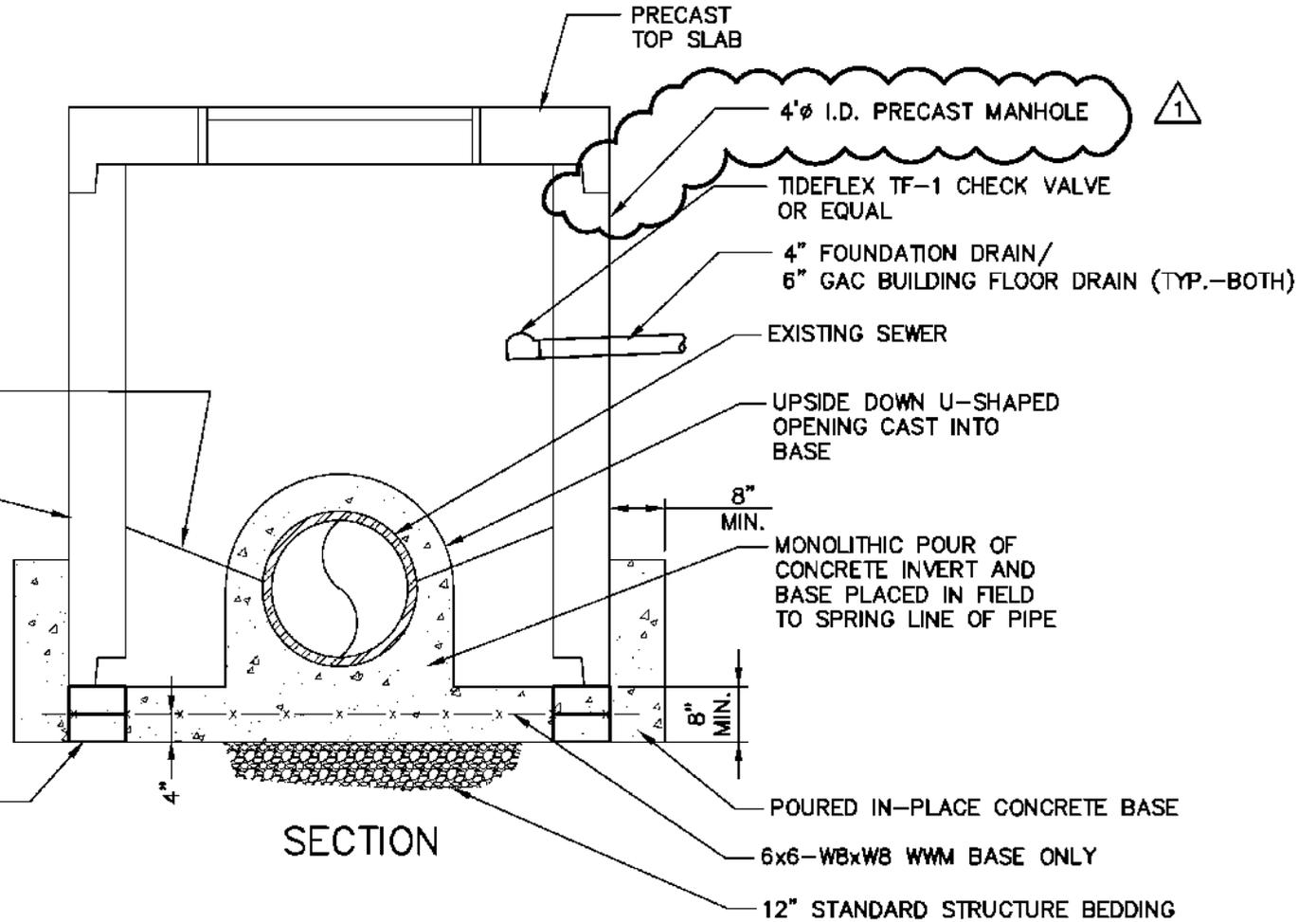
CUT AND REMOVE TOP HALF OF PIPE  
 INSIDE MANHOLE AFTER CONCRETE IS SET  
 AND ACCEPTED, REMOVE ADDITIONAL  
 PIPE AS NECESSARY TO PROVIDE ACCESS  
 TO BENCH TROUGHS

STANDARD BENCH OVER  
 CUT EDGE OF PIPE

PRECAST CONCRETE  
 MANHOLE BASE

SEE NOTE 3

4"x8"x16" SOLID  
 CONCRETE BLOCKS  
 STACKED 2 HIGH  
 180° APART



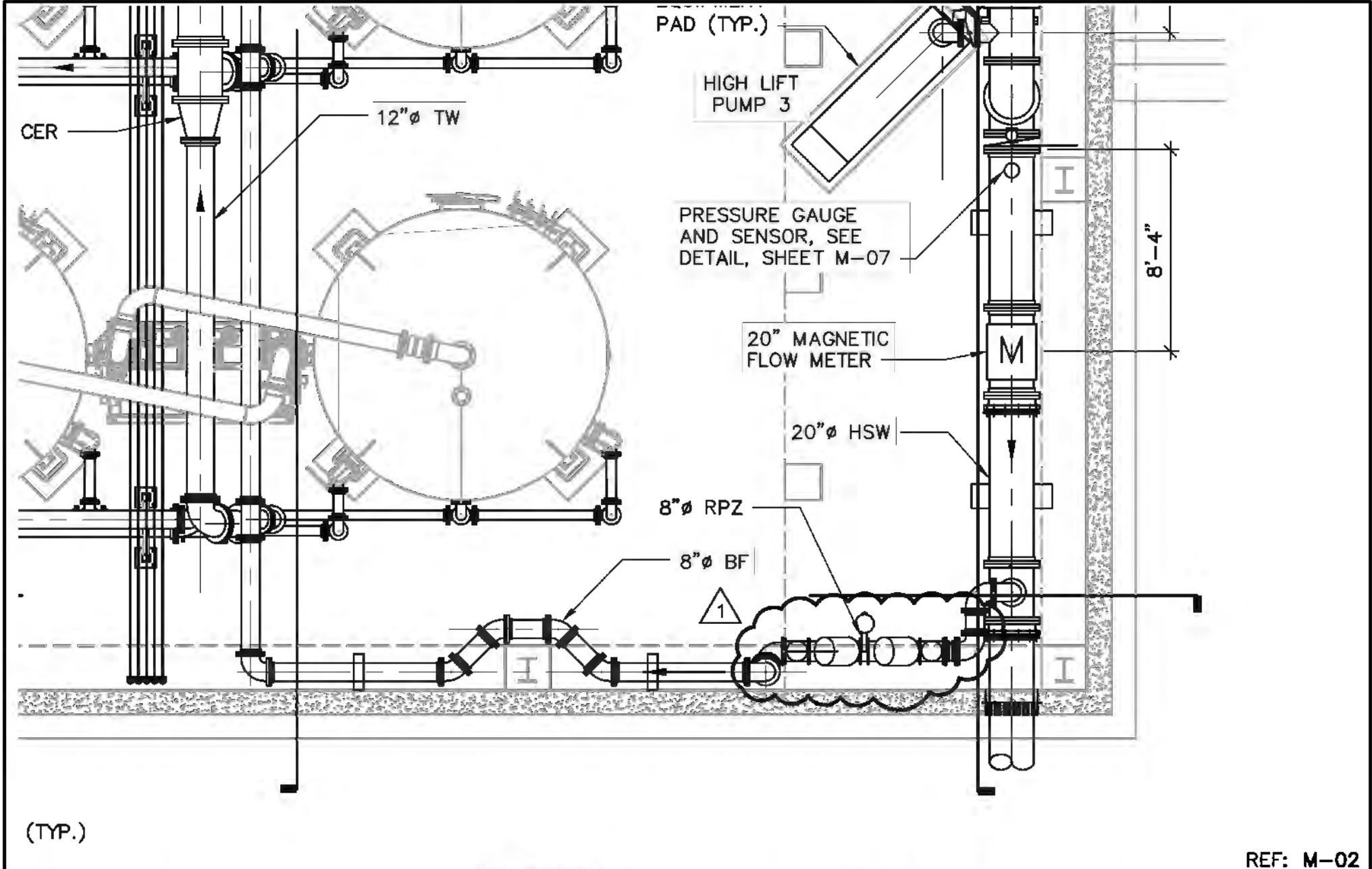
SECTION

# SEWER DOGHOUSE MANHOLE

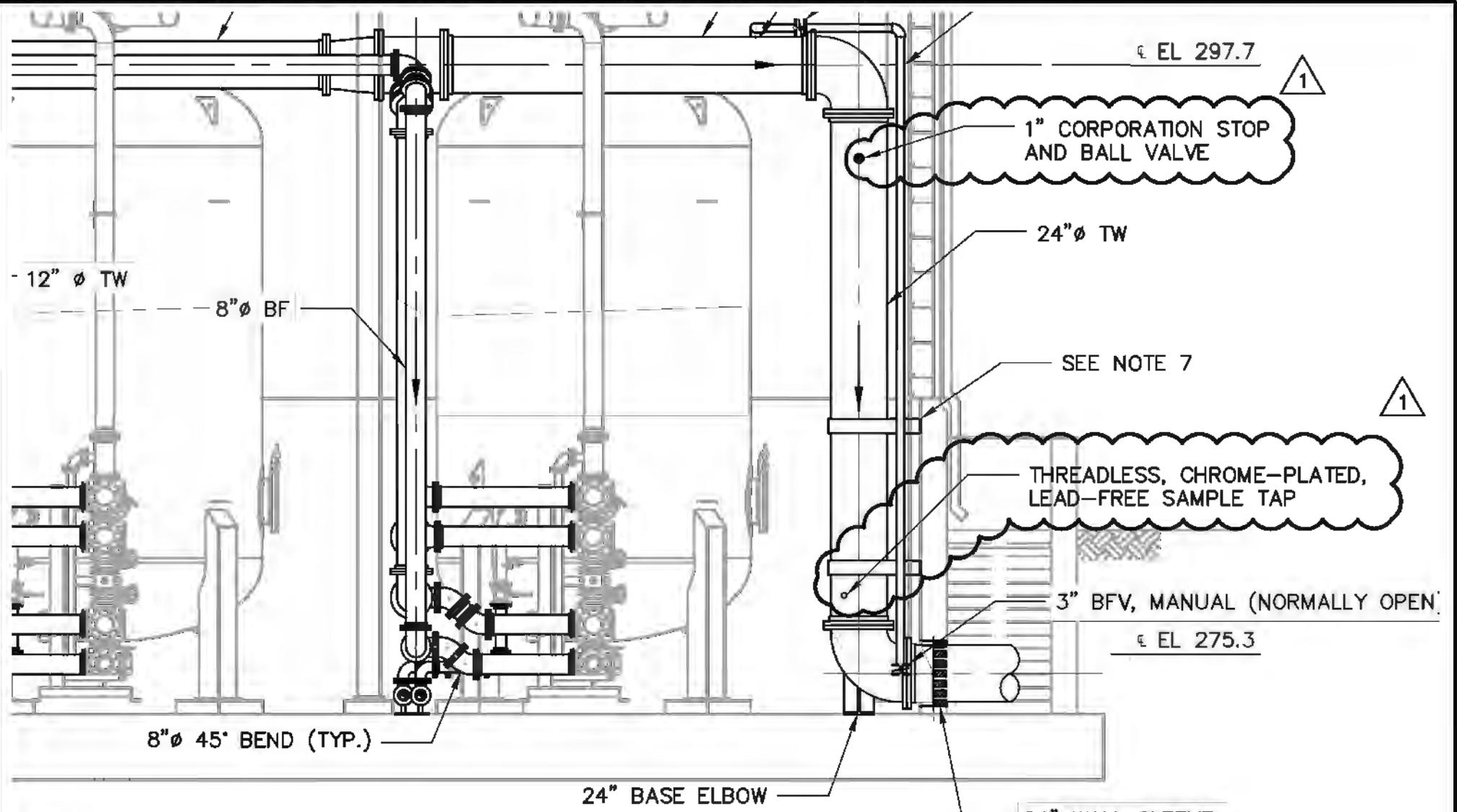
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REF: C-18

NOVEMBER 2016



REF: M-02



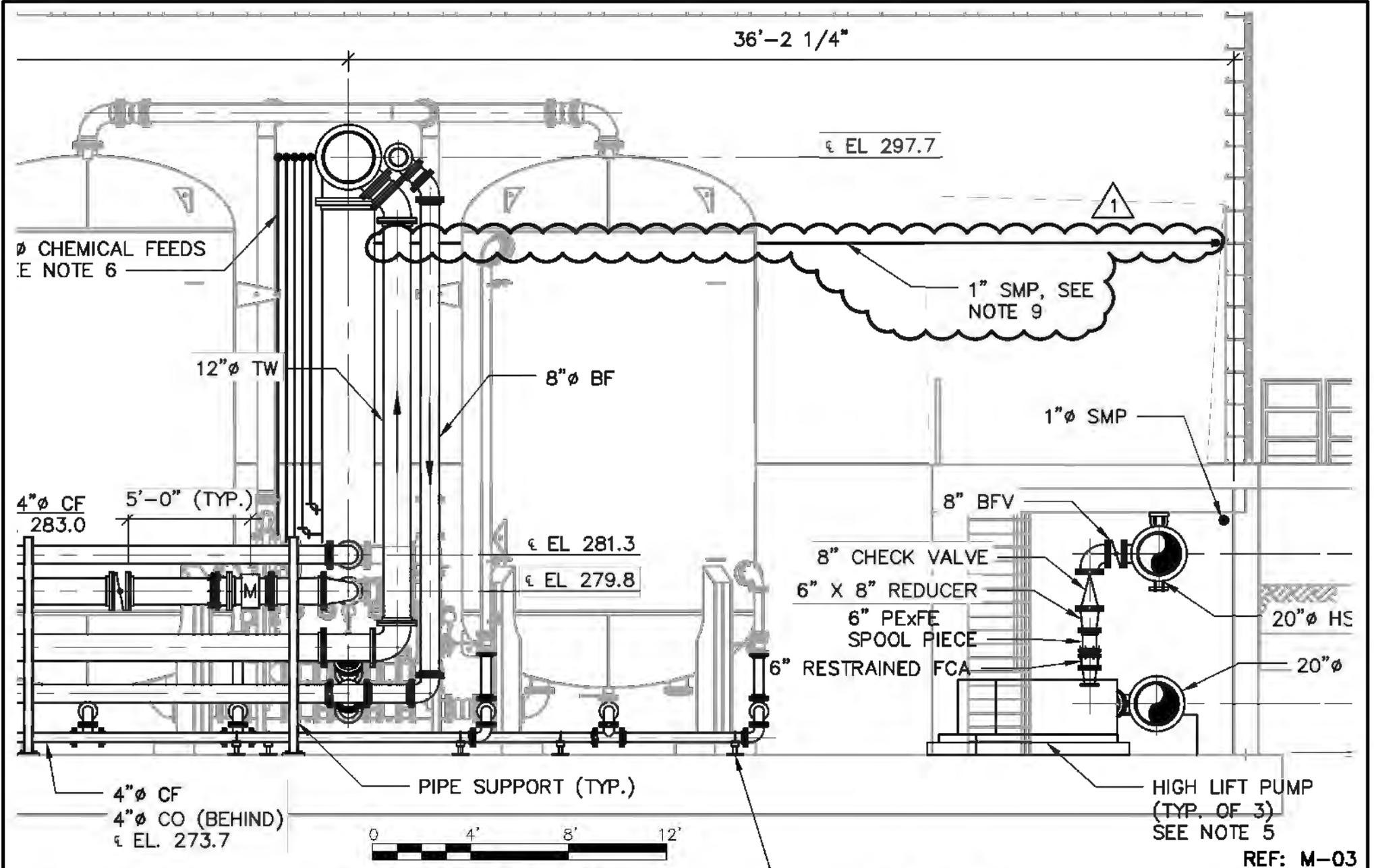
**2 SECTION**

M-01

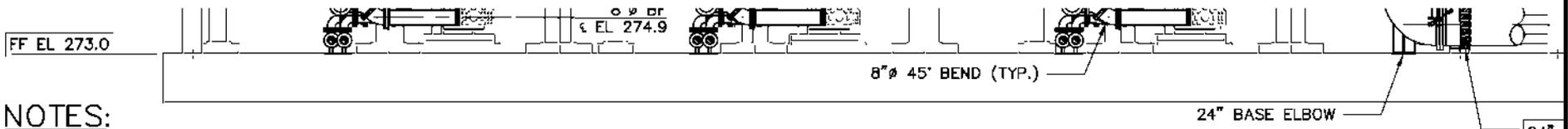


REF: M-03

NOVEMBER 2016



REF: M-03



**NOTES:**

**2 SECTION**  
M-01

1. WALL COLUMNS OMITTED FOR CLARITY.
2. CONNECT 4" CO TO TWO CARBON OUT CONNECTIONS PER GAC CONTACTOR (FOUR PER SYSTEM).
3. CONNECT 4" CF TO CARBON FILL ON EACH GAC CONTACTOR (TWO PER SYSTEM).
4. COORDINATE PIPE ROUTING WITH PIPE SUPPORTS AS NEEDED.
5. PUMP/MOTOR CONFIGURATIONS SHOWN ARE BASED ON ONE MANUFACTURER. IF THE SELECTED EQUIPMENT DIFFERS FROM WHAT IS SHOWN, THE EQUIPMENT SHALL BE INSTALLED AS REQUIRED TO MAINTAIN THE CLEARANCES AND SPACING SHOWN. MODIFICATIONS TO THESE CONFIGURATIONS MUST BE APPROVED BY ENGINEER.

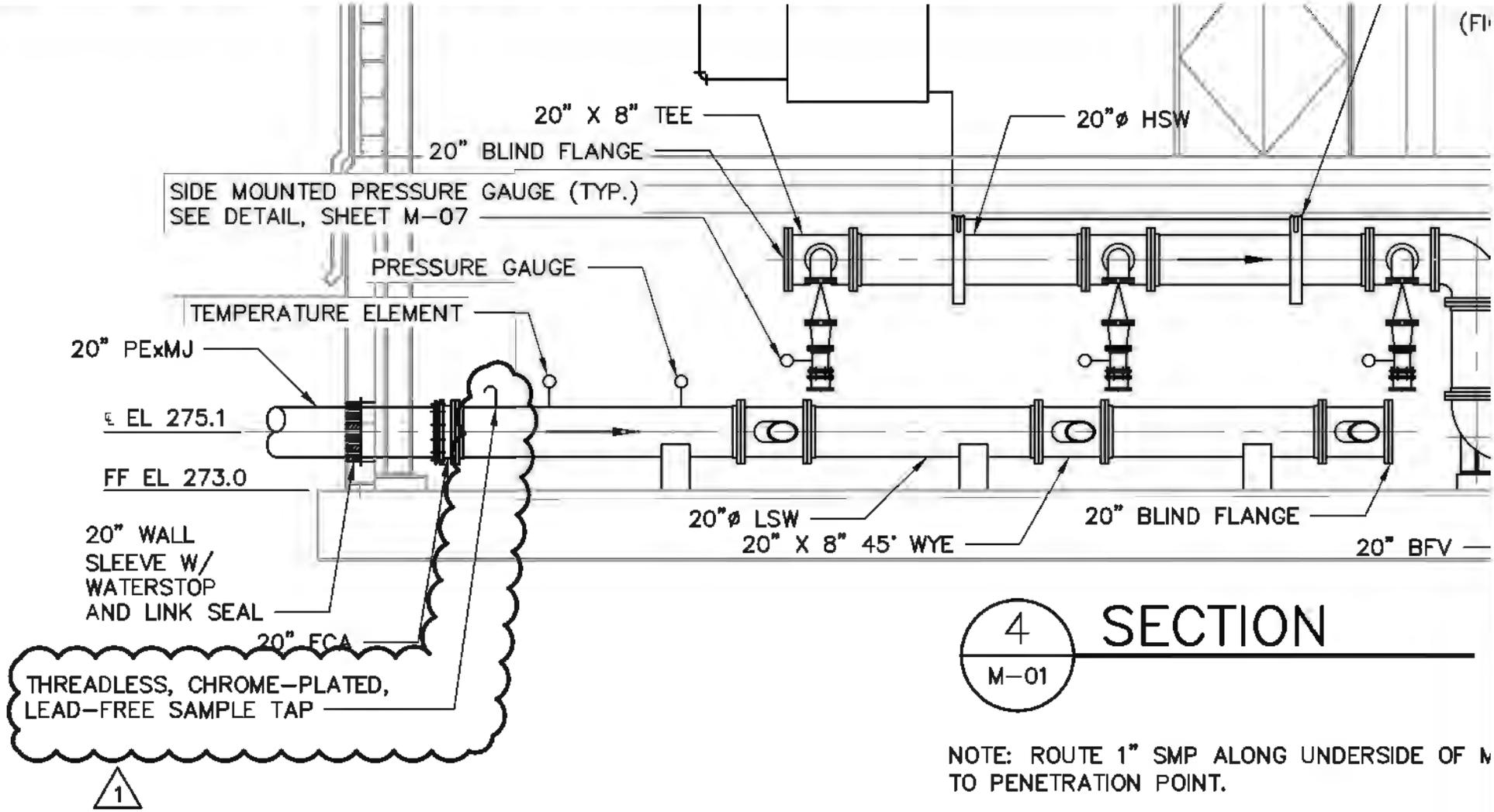
7. RESTRAIN PIPING TO CONCRETE WALL. COORDINATE LOCATIONS OF PIPE SUPPORTS WITH CHEMICAL DIFFUSER LOCATIONS.
8. SUPPORT OVERHEAD PIPING FOR TW, CHEMICALS, BWF FROM METAL BUILDING STRUCTURAL SYSTEM.

6. SEE CHEMICAL SOLUTION DIFFUSER DETAIL ON SHEET M-07. DIFFUSERS SHALL BE INSTALLED AT THE FOLLOWING HEIGHTS ABOVE THE LOWER FLANGE ON 24" TW: FLUORIDE - 2', PHOSPHATE - 3', HYPOCHLORITE - 4', CAUSTIC - 5', SPARE - 6'. OFFSET DIFFUSERS RADIALLY SUCH THAT A LEAK FROM ONE WILL NOT DRIP ON ONE BELOW. DIFFUSERS SHALL NOT IMPEDE FOOT TRAFFIC.

9. ROUTE 1" SMP FOR TURBIDIMETER ALONG EAST WALL TO CHEMICAL MONITORING SYSTEM PANEL.

REF: M-03

 <p>Design &amp; Consultancy for natural and built assets</p>	<p>CITY OF NEWBURGH</p> <p><b>GAC TREATMENT SYSTEM AT WASHINGTON LAKE FILTRATION PLANT</b></p>	<p>MECHANICAL</p> <p><b>GAC TREATMENT BUILDING SECTIONS I</b></p> <p>NOT TO SCALE</p>	<p>NOVEMBER 2016</p>
			<p><b>SK3-M03-ADD1</b></p>

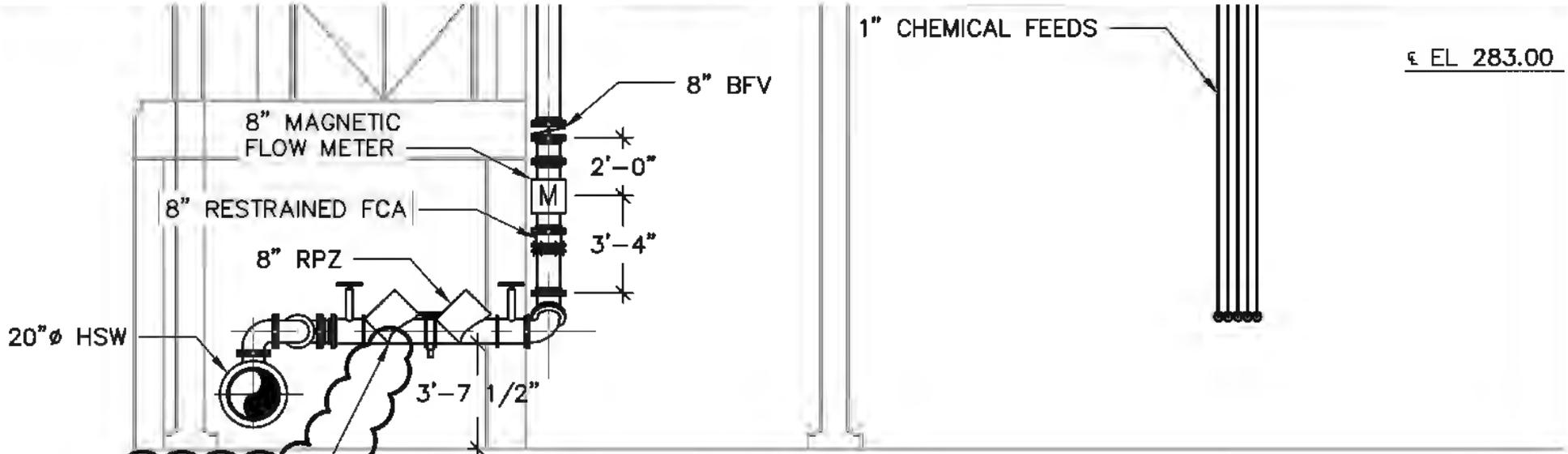


4 SECTION  
 M-01

NOTE: ROUTE 1" SMP ALONG UNDERSIDE OF M TO PENETRATION POINT.



REF: M-04



5
SECTION  
M-01

SEE NOTE 2 1

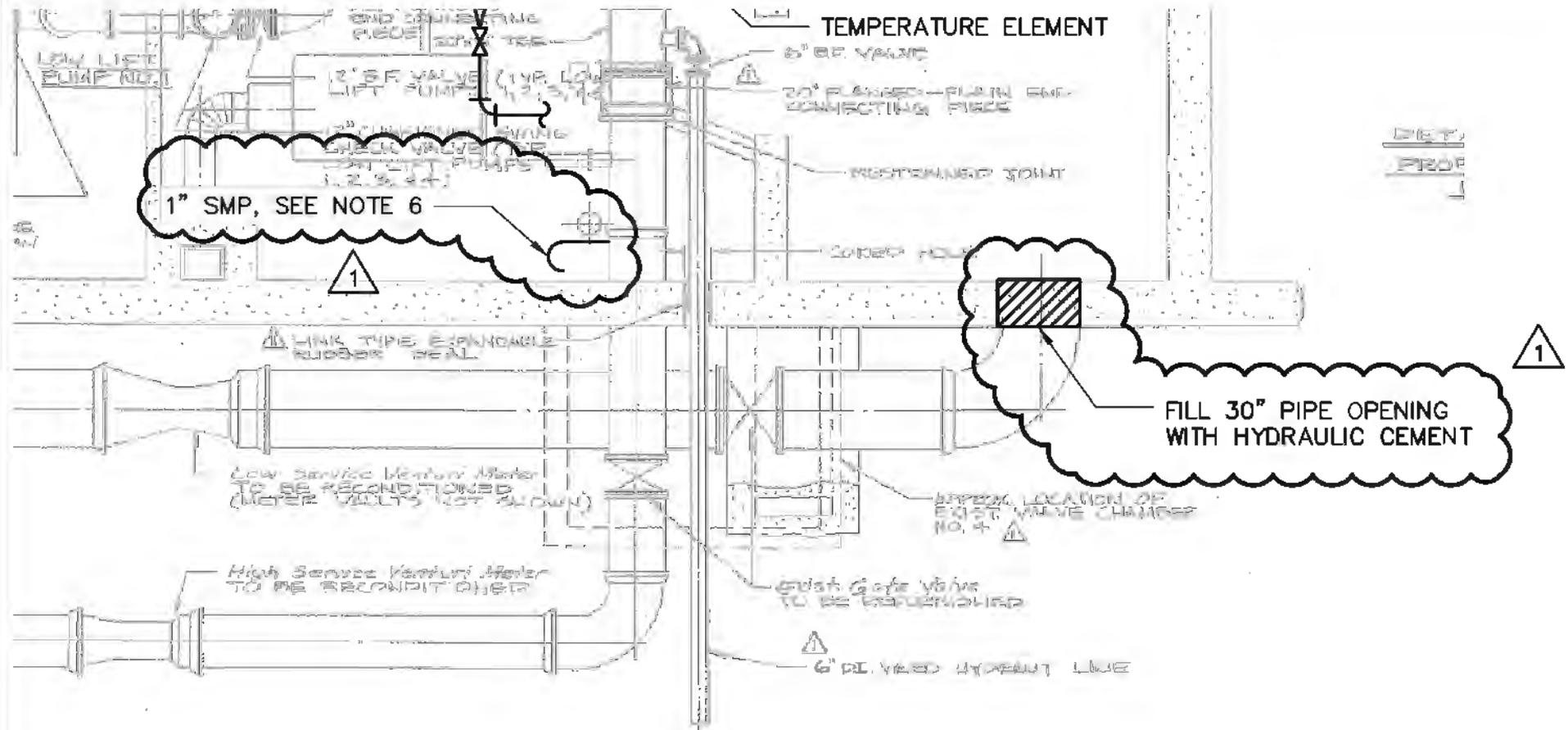
NOTES:

1. CF AND CO PIPING THROUGH GAC TREATMENT BUILDING SHALL BE AT THE SAME ELEVATION FOR ALL PENETRATIONS.
2. MAINTAIN AT LEAST 8 INCHES CLEARANCE FROM BACK SIDE OF DEVICE TO WALL.

1



REF: M-04



# HEAD HOUSE BASEMENT PLAN

REF: M-05



## NOTES:

1. REFER TO SPECIFICATIONS FOR CONSTRUCTION SEQUENCING AND SHUTDOWN SCHEDULE.
2. LEVEL EXISTING PUMP PADS BEFORE INSTALLATION OF NEW PUMPS. USE EPOXY GROUT IF LESS THAN 1" OF LEVELING IS REQUIRED TO SUIT NEW PUMPS. USE NON-SHRINK GROUT IF 1" TO 4" OF LEVELING IS REQUIRED. IF MORE THAN 4" IS REQUIRED OR PUMP PAD IS CRACKED OR OTHERWISE DAMAGED AND UNSUITABLE TO SUPPORT THE NEW PUMPS, ENGINEER WILL DIRECT CONTRACTOR TO DEMOLISH THE EXISTING PADS AND POUR NEW EQUIPMENT PADS PER THE DETAIL ON STRUCTURAL DRAWINGS.

1

3. DEMOLISH EXISTING RPZ IN BOILER ROOM AND 3" POTABLE PIPING FROM 20" HIGH SERVICE MAIN. BLIND FLANGE EXISTING CONNECTION TO HIGH SERVICE SUPPLY. ROUTE 2" PLANT WATER FROM NEW 6"X2" TEE OVERHEAD TO BOILER ROOM, INSTALL NEW 2" RPZ AND CONNECT RELIEF OUTLET TO EXISTING DRAIN WITH AN APPROPRIATE AIR GAP PER MANUFACTURER'S RECOMMENDATIONS. CONNECT 2" RPZ DISCHARGE TO EXISTING 2" PLANT WATER PIPING IN BOILER ROOM. DEVICE CENTERLINE SHALL BE LOCATED 30-60 INCHES ABOVE THE FLOOR. PROVIDE ADEQUATE CLEARANCE ON ALL SIDES FOR TESTING AND SERVICING THE DEVICE.

4. REMOVE EXISTING TEMPORARY PIPING AFTER PERMANENT SYSTEM IS OPERATIONAL.

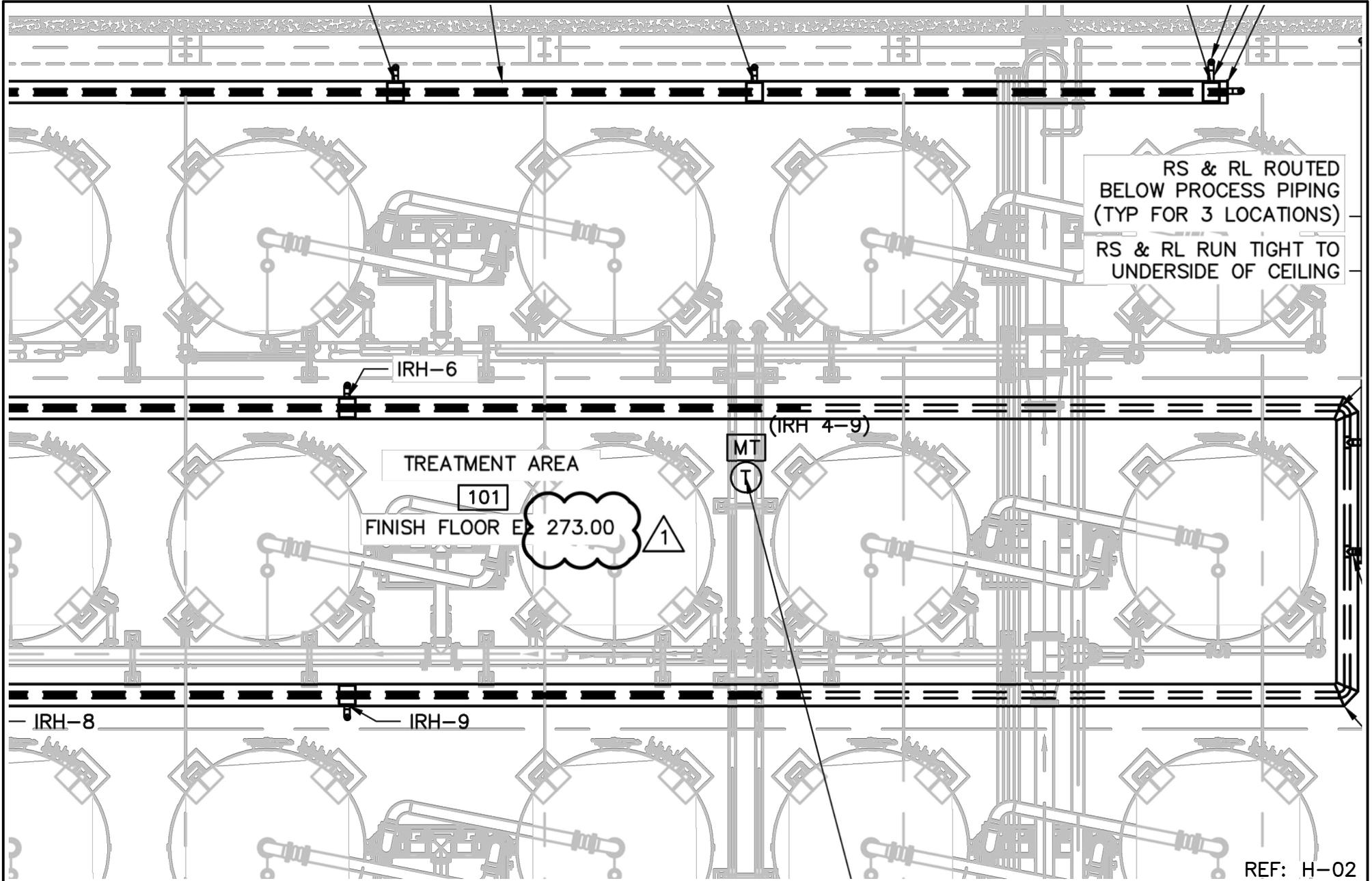
5. PUMP/MOTOR CONFIGURATIONS SHOWN ARE BASED ON ONE MANUFACTURER. IF THE SELECTED EQUIPMENT DIFFERS FROM WHAT IS SHOWN, THE EQUIPMENT SHALL BE INSTALLED AS REQUIRED TO MAINTAIN THE CLEARANCES AND SPACING SHOWN. MODIFICATIONS TO THESE CONFIGURATIONS MUST BE APPROVED BY ENGINEER.

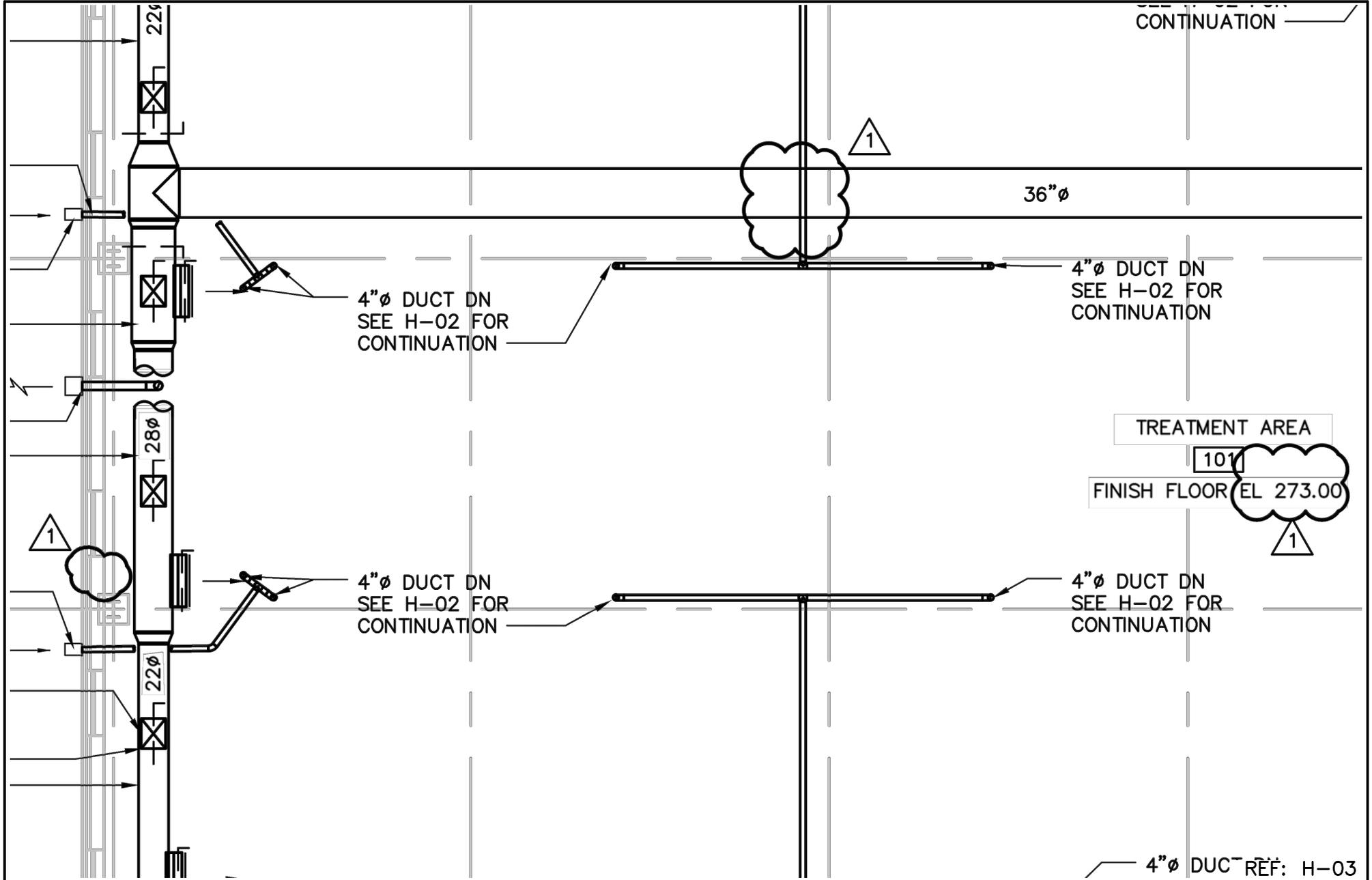
1

6. PROVIDE 1" CORPORATION STOP IN 20" FW PIPE AND CONNECT 1" SMP. ROUT SMP TO 4 FT ABOVE FLOOR AND CONNECT TO THRADLESS, CHROME-PLATED, LEAD-FREE SAMPLE TAP.

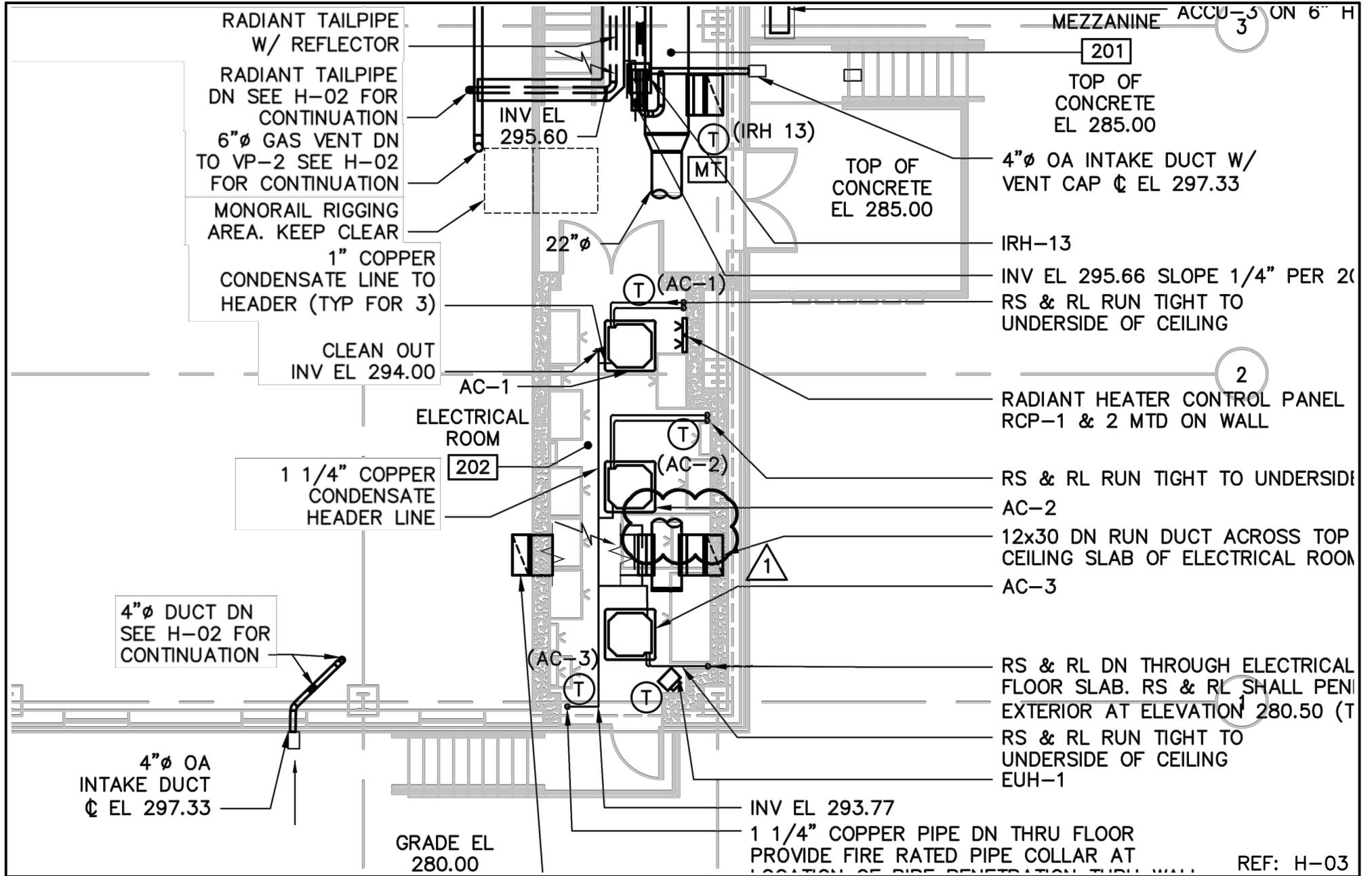
REF: M-05

NOVEMBER 2016





 <p>Design &amp; Consultancy for natural and built assets</p>	<p>CITY OF NEWBURGH</p> <p>GAC TREATMENT SYSTEM AT WASHINGTON LAKE FILTRATION PLANT</p>	<p>HVAC</p> <p>MEZZANINE PLAN</p> <p>SCALE: 1" = 1'-0"</p>	<p>NOVEMBER 2016</p> <p>SK1-H03-ADD1</p>
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User: SFAFARPOUR, Spec: AUS-NCSMOD, File: \\NY05F01\OFFICE\DATA\WHI\PLANS-NYA\WHI\_CAD\VOL2\ACAD\FRONT\0266443A-E01-R1.DWG, Scale: 1:1, SavedDate: 11/3/2016, Time: 18:55, Plot Date: Safarpoor, Homid, 11/3/2016, 18:55, Layout: E-01

### MV & 600V CABLE (26 05 19)

**U101** 600V FEEDER TAGS U - UNDERGROUND IN DUCTBANK  
**A102** A - IN RACEWAY IN AIR  
**D103** D - DIRECT BURIED  
**T104** T - IN CABLE TRAY

0: RESERVED FOR MV  
 1: SERVICE LATERAL/SERVICE DROP  
 2: FEEDER  
 3: BRANCH CIRCUIT

N NEUTRAL, GROUNDED CONDUCTOR  
 P, φ PHASE CONDUCTOR  
 EGC EQUIPMENT GROUNDING CONDUCTOR  
 AWG AMERICAN WIRE GAUGE  
 USE UNDERGROUND SERVICE ENTRANCE CABLE  
 KCMIL KCMIL, THOUSANDS OF CIRCULAR MILS  
 MI MINERAL INSULATED, METAL SHEATHED CABLE  
 FDR FEEDER  
 SNC SERVICE NEUTRAL CONDUCTOR

### INSTRUMENT & COMMUNICATIONS CABLE (26 05 23)

**A N 401**  
 4: ALL INSTRUMENT & COMMUNICATIONS CABLES  
 5: DISCREET SIGNAL  
 6: SPARE

B: (S)(SH) SHIELDED PAIR, 600V ▲  
 D: CAT6 UTP, UNSHIELDED TWISTED PAIR  
 E: CAT6 UTP PATCH  
 I: DEVICE NET (THICK), 600V ☑  
 J: DEVICE NET (THIN), 600V ☑  
 A: CLASS 1, 2#14 XHHW-2, D/I DISCRETE INPUT, D/O DISCRETE OUTPUT △  
 K: FIBER OPTIC, DIV 40

U: UNDERGROUND IN DUCTBANK  
 A: IN RACEWAY IN AIR  
 D: DIRECT BURIED  
 T: IN CABLE TRAY  
 N: NOT IN RACEWAY  
 CBV CABLE BY VENDOR, INSTALLED BY CONTRACTOR

### GROUNDING SYSTEMS (26 05 26)

GROUND TEST POINT  
 GROUND ROD  
 GROUND GRID CABLE CONNECTION  
 SERVICE ENTRANCE OR SEPARATELY DERIVED SYSTEM (SEE DETAIL)  
 GEC GROUNDING ELECTRODE CONDUCTOR

### ELECTRICAL SITE WORK (26 05 43)

MH-1 EMH, ELECTRICAL MANHOLE, NUMBER AS NOTED  
 HH ELECTRICAL HANDHOLE (EHH), NUMBER AS NOTED  
 UNDERGROUND ELECTRIC LINE  
 EDB ELECTRICAL DUCTBANK

### RACEWAYS (26 05 33)

RACEWAY CAPPED  
 RACEWAY/CONDUIT TURN UP  
 RACEWAY/CONDUIT TURN DOWN  
 JUNCTION BOX OR P/B (PULLING BOX)

EMT ELECTRICAL METALLIC TUBING  
 RGS RIGID GALVANIZED STEEL, RIGID METAL CONDUIT  
 RMC RIGID METAL CONDUIT  
 RNC RIGID NON-METALLIC CONDUIT, USE SCHED 40 PVC  
 FMC FLEXIBLE METAL CONDUIT  
 AL-RMC ALUMINUM RIGID METAL CONDUIT  
 IMC INTERMEDIATE METAL CONDUIT (GALVANIZED STEEL)  
 LFMC LIQUID-TIGHT FLEXIBLE METAL CONDUIT

### SURGE PROTECTION DEVICE (26 43 00)

**DIAGRAM** **EXPLANATION**  
 SURGE SUPPRESSION DEVICE

### CIRCUIT BREAKER PANELBOARDS (26 24 16)

**PLAN** **DIAGRAM** **EXPLANATION**  
 PANELBOARD  
 DISTRIBUTION PANELBOARD

### DRY TYPE TRANSFORMERS (26 22 14)

**PLAN** **DIAGRAM** **EXPLANATION**  
**T1** 480 V / 208 Y/120 V 10 kV T1 75 kVA 115C K1 DRY-TYPE TRANSFORMER  
**T2** 480 V / 208 Y/120 V 10 kV T2 45 kVA 115C K13 DRY-TYPE SHIELDED ISOLATION TRANSFORMER  
**T3** 460 V / 480 V 10 kV T3 30 kVA 115C DRY-TYPE BUCK-BOOST TRANSFORMER  
 XFMR TRANSFORMER

### MOTOR CONTROL (26 29 XX)

**PLAN** **DIAGRAM** **EXPLANATION**  
**RVSS** RVSS REDUCED VOLTAGE SOFT START  
**VFD** VFD VARIABLE FREQUENCY DRIVE  
 COMBINATION MAGNETIC MOTOR STARTER  
**S<sub>M</sub>** S<sub>M</sub> MANUAL MOTOR STARTER  
 FULL VOLTAGE NON-REVERSING MOTOR STARTER, FVNR  
 MOTOR CIRCUIT PROTECTOR, MCP  
 OVERLOAD RELAYS, OL  
 FULL VOLTAGE REVERSING, FVR  
**RVNR** REDUCED VOLTAGE, NON-REVERSING  
**RVSS** REDUCED VOLTAGE, SOFT-START  
**MCC** MOTOR CONTROL CENTER  
**MCP** MOTOR CIRCUIT PROTECTOR (MOLDED CASE DEVICE WITH INSTANTANEOUS TRIP ONLY)

### CONTROL STATIONS (26 29 33)

**PLAN** **DIAGRAM** **EXPLANATION**  
 PUSH BUTTON STATION  
 PUSH BUTTON STATION WITH LOCK-OUT  
 SELECTOR SWITCH  
 HOA (HAND/OFF/AUTO), H/A (HAND/AUTO) SELECTOR SWITCH  
 INDICATING LIGHT  
 CONTROL STATION, CS  
 LOCAL-OFF-REMOTE SELECTOR SWITCH CONTROL STATION  
 CONTROL STATION FURNISHED BY EQUIPMENT VENDOR  
 LCS, LOCAL CONTROL STATION  
**LCP** LOCAL CONTROL PANEL  
**S/S** STOP/START STATION  
**FOS** FAST/OFF/SLOW STATION

### WIRING DEVICES (26 27 26)

**16** 40" GFI DUPLEX CONVENIENCE RECEPTACLE, NEMA 5-20R MOUNT 18" AFF UNO  
 OTHER DESIGNATION:  
 BLANK - INDUSTRIAL DUTY  
 GFI - W/GROUND FAULT INTERRUPTER  
 SS - W/SURGE SUPPRESSOR  
 C - CORROSION RESISTANT  
 H - SUITABLE FOR HAZARDOUS LOCATIONS, CLASS I, GROUP D  
 WP - WEATHERPROOF COVER  
 WPWU - WEATHERPROOF WHILE IN USE COVER

**16** WP SIMPLEX 5-20R  
**18** 32" WP LOW VOLTAGE RECEPTACLE, NEMA TYPE SHOWN L24-30R  
**z** \$ x SNAP SWITCH  
 1 SINGLE POLE SINGLE THROW, SPST  
 3 3-WAY, SINGLE POLE DOUBLE THROW, SPDT  
 4 4-WAY  
 y NON-HAZARDOUS LOCATION  
 H SUITABLE FOR CLASS I, GROUP D HAZARDOUS LOCATIONS  
 z NONE  
 1 INDOOR COVER  
 C WET & CORROSION RESISTANT COVER

### DISCONNECT SWITCHES (26 28 16)

DISC, DISC SW DISCONNECT SWITCH  
 30- AMPERE RATING IF SWITCH OR FUSE RATE  
 U-UNFUSED, F-FUSED  
 / ENCLOSURE  
 b - NEMA 1  
 3R - NEMA 3R  
 4X - NEMA 4X  
 6P - NEMA 6P

### MANUAL TRANSFER SWITCH

MTS - MANUAL TRANSFER SWITCH

### AUTOMATIC TRANSFER SWITCH (26 36 23)

ATS - AUTOMATIC TRANSFER SWITCH WITH SOLID STATE CONTROLS AND ACCESSORIES

### GENERATOR (26 32 13)

GENERATOR

### FIRE ALARM SYSTEM (28 31 00)

FIRE ALARM CONTROL PANEL  
 FIRE ALARM SYSTEM MANUAL PULL STATION  
 DUCT SMOKE DETECTOR (BY HVAC CONTRACTOR)  
 SMOKE DETECTOR  
 AUDIO VISUAL DEVICE  
 AUDIO VISUAL STATION  
 ALARM BEACON  
 CONTROL MODULE  
 SPEAKER HORN  
 HS = HORN, 85 dB, STOBE 110 cd UNO  
 PS = PAGING SPEAKER  
 C = CEILING MOUNTED SPEAKER  
 MASTER BOX MOUNTED 60" AFF  
 BEAM DETECTOR TRANSMITTER  
 BEAM DETECTOR REFLECTOR

### DISTRIBUTION EQUIPMENT (26 24 13)

**DIAGRAM** **EXPLANATION**  
 DRAW-OUT MV CB (CIRCUIT BREAKER)  
 DRAW-OUT LV AIR CB (CIRCUIT BREAKER)  
 FIXED, INDIVIDUALLY MOUNTED LV MOLDED CASE CB (CIRCUIT BREAKER)  
 GROUP MOUNTED LV MOLDED CASE CB (CIRCUIT BREAKER)  
 AMMETER, AMPMETER SELECTOR SWITCH  
 VOLTMETER, VOLTMETER SELECTOR SWITCH  
 KW POWER METER  
 KWH ENERGY METER  
 LIGHTNING ARRESTOR  
 FUSE  
 CURRENT TRANSFORMER, CT  
 VOLTAGE TRANSFORMER, VT  
 SWITCHBOARD SWITCHGEAR

### FURNISHED AND INSTALLED ON OTHER SECTIONS (F&IOS)

**PLAN** **EXPLANATION**  
 EQUIPMENT TAG

ABBREVIATION	EXPLANATION
AC	AIR CONDITION UNIT
ACCU	AIR COOLED CONDENSING UNIT
BWP	BACKWASH PUMP
BV	BUTTERFLY VALVE
CP	CONTROL PANEL
DAUH	DEHUMIDIFICATION AIR HANDLING UNIT
EF	EXHAUST FAN
EUH	ELECTRIC UNIT HEATER
FCV	MOTORIZED CONTROL VALVE
FE	FLOW ELEMENT
FIT	FLOW XMTR
FS	FLOW SWITCH
FP	FEED PUMP
FPP	FIBER PATCH PANEL
GFP	GAG FEED PUMP
GWH	GAS WATER HEATER
HT	HEAT TRACE
HMCS	HVAC MONITORING AND CONTROL SYSTEM
HLP	HIGH LIFT PUMP
HTR	HEATER
IRH	INFRARED RADIANT HEATER
LE	LEVEL ELEMENT
LIT	LEVEL XMTR
LS	LEVEL SWITCH
LSH	LEVEL SW HIGH
LSL	LEVEL SW LOW
MD	MOTORIZED DAMPER
MOT	MOTOR
MOV	MOTOR OPERATED VALVE OR MOTOR OPERATED GATE
PIT	PRESSURE XMTR
PS	PRESSURE SWITCH
RCP	RADIANT HEATING CONTROL PANEL
SG	SLUICE GATE
TE	TEMP ELEMENT
TIT	TEMP XMTR
VE	VIBRATION ELEMENT
VP	VACUUM PUMP
VS	VIBRATION SWITCH
WBP	WASTE BACKWASH PUMP
ZSC	LIMIT SW CLOSED
ZSO	LIMIT SW OPEN
P	SUBMERSIBLE SUMP PUMP
MT	MARK TIMER
T	THERMOSTAT



LEGAL ENTITY:  
ARCADIS CE, INC.

CONSULTANTS



CITY OF NEWBURGH  
GAC TREATMENT SYSTEM  
AT WASHINGTON LAKE  
FILTRATION PLANT

NO.	DATE	ISSUED FOR	MAL	BY
1	11/4/16	ADDENDUM #1		

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DATE: OCTOBER 2016  
 PROJECT NO.: 00266443.0000  
 FILE NAME: 0266443A-E01-R1  
 DESIGNED BY: M. LADERMAN  
 DRAWN BY: H. SAFARPOUR  
 CHECKED BY: G. MOORE

SHEET TITLE

ELECTRICAL

LEGEND

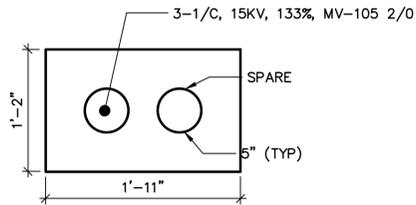
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E-01

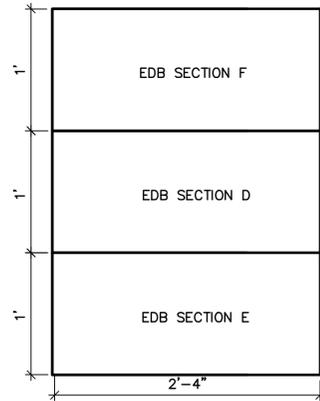
SHEET 84 OF 103

**NOTES:**

1. OUTDOOR AREAS ARE A WET LOCATION.
2. PROVIDE TRANSFORMER PAD IN ACCORDANCE WITH CENTRAL HUDSON REQUIREMENTS.
3. OVERHEAD 3 PHASE LINE #2 ACSR PER CENTRAL HUDSON REQUIREMENTS.
4. EXISTING OVERHEAD LINES FROM HEAD HOUSE TO ELPTV. KEEP IN SERVICE UNTIL ELPTV EQUIPMENT IS CONNECTED AND OPERATIONAL FROM PROPOSED GAC TREATMENT BUILDING AND THEN REMOVED.
5. CONTRACTOR SHALL PROVIDE TRENCH FOR CENTRAL HUDSON PRIMARY CABLE TO CENTRAL HUDSON HEAD HOUSE SERVICE XFMR. DETAIL PER CENTRAL HUDSON.
6. CENTRAL HUDSON WILL MOVE UTILITY POLE.
7. MOVE PRIMARY CABLE AS DIRECTED BY CENTRAL HUDSON.
8. SEE CIVIL DRAWINGS FOR ADDITIONAL VAULT DESCRIPTIONS.
9. 45' CLASS 2 POLE, RISER POLE PER CENTRAL HUDSON REQUIREMENTS. GUY AS REQUIRED.
10. 45' CLASS 2 POLE, POLE PER CENTRAL HUDSON REQUIREMENTS. GUY AS REQUIRED.

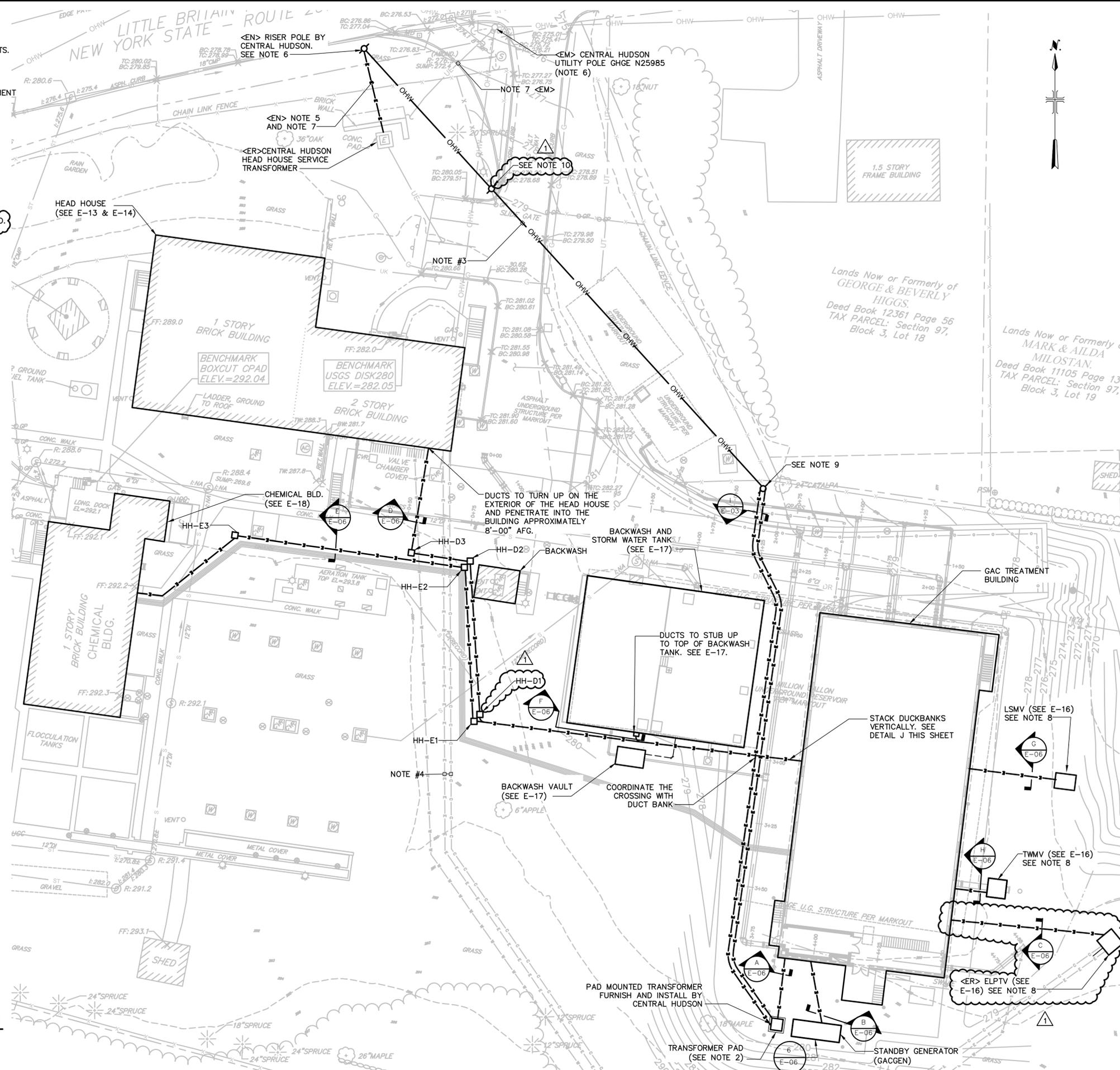
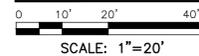


**I DUCTBANK SECTION 'I'**  
E-03  
N.T.S.



**J DUCTBANK SECTION 'J'**  
E-03  
N.T.S.

**ELECTRICAL SITE PLAN**



LEGAL ENTITY:  
ARCADIS CE, INC.

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SEALS

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NEW YORK  
STATE OF OPPORTUNITY

Department of  
Environmental  
Conservation

---

**CITY OF NEWBURGH  
GAC TREATMENT SYSTEM  
AT WASHINGTON LAKE  
FILTRATION PLANT**

---

NO.	DATE	ADDENDUM #1 ISSUED FOR	MAL BY
1	11/4/16	ADDENDUM #1	MAL

---

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DATE: OCTOBER 2016

PROJECT NO.: 00266443.0000

FILE NAME: 0266443A-E03-R1

DESIGNED BY: M. LADERMAN

DRAWN BY: H. SAFARPOUR

CHECKED BY: G. MOORE

---

SHEET TITLE

**ELECTRICAL  
SITE PLAN**

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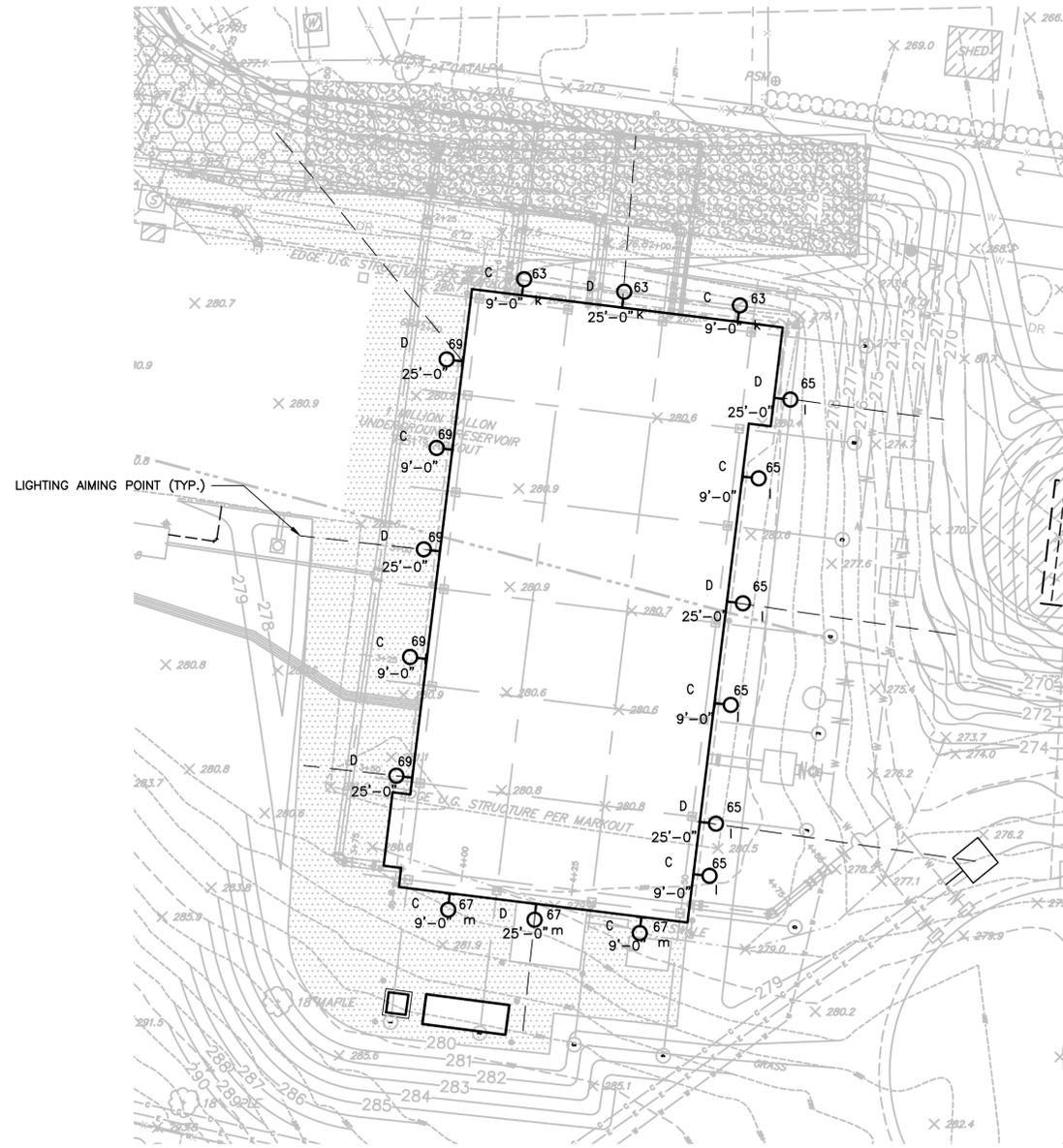
SCALE: AS SHOWN

**E-03**

SHEET 86 OF 103

NOTES:

1. OUTDOOR AREAS ARE A WET LOCATION.
2. COORDINATE GROUNDING GRID CONNECTION LOCATION WITH OTHER TRADES.



**EXTERIOR LIGHTING PLAN**  
 SCALE: 1"=20'



**GROUNDING PLAN**  
 SCALE: 1"=10'



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ARCADIS CE, INC.

CONSULTANTS

SEALS



**CITY OF NEWBURGH  
 GAC TREATMENT SYSTEM  
 AT WASHINGTON LAKE  
 FILTRATION PLANT**

NO.	DATE	ADDENDUM #1 ISSUED FOR	MAL BY
1	11/4/16	ADDENDUM #1	MAL

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DATE: OCTOBER 2016  
 PROJECT NO.: 00266443.0000  
 FILE NAME: 0266443A-E04-R1  
 DESIGNED BY: M. LADERMAN  
 DRAWN BY: H. SAFARPOUR  
 CHECKED BY: G. MOORE

SHEET TITLE  
ELECTRICAL

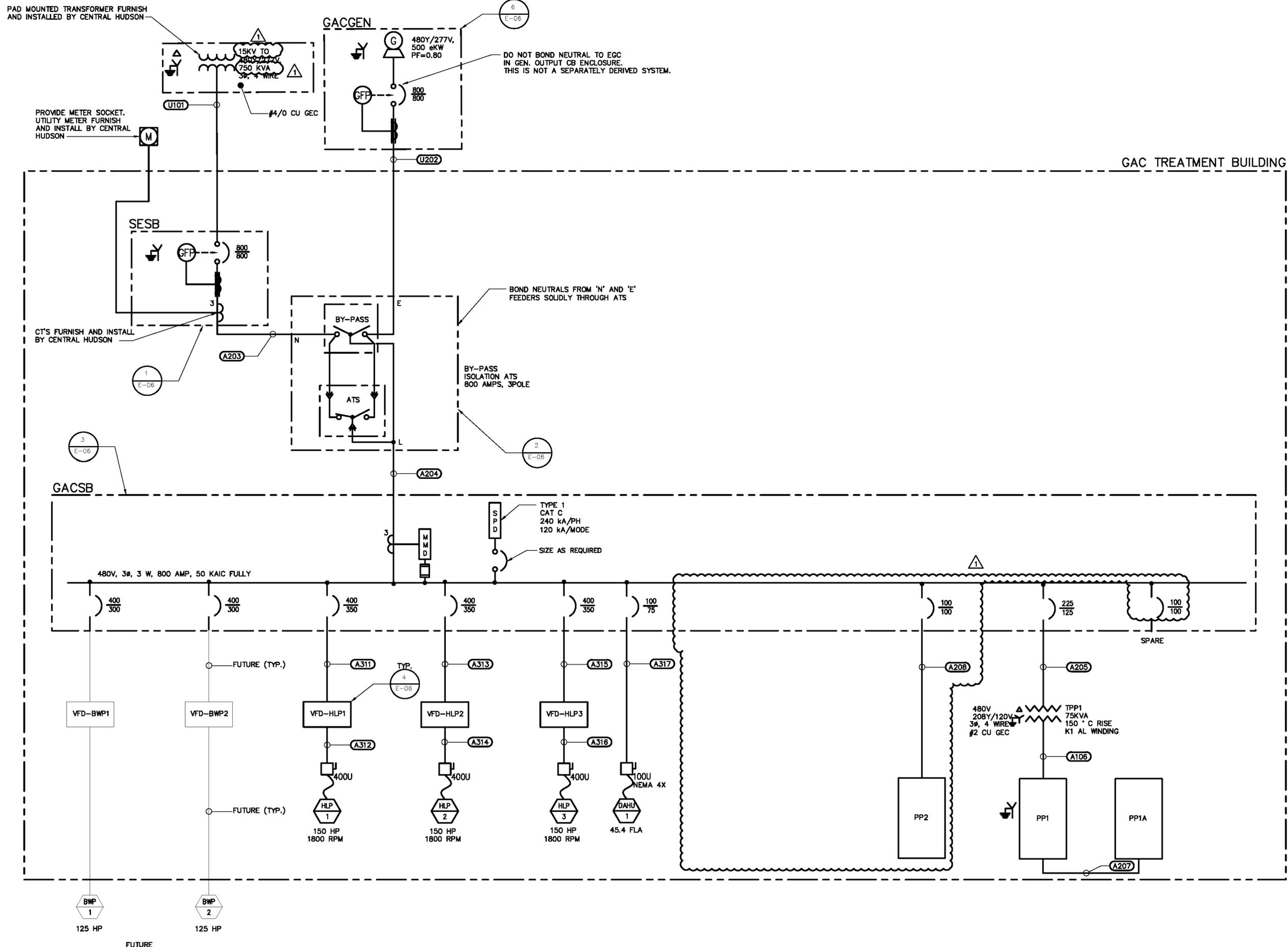
**GAC TREATMENT BUILDING  
 GROUNDING  
 AND EXTERIOR  
 LIGHTING  
 PLAN**

SCALE: AS SHOWN

**E-04**  
 SHEET 87 OF 103

User: SSARFARPOUR Spec: AUS-NCSMOD File: \\NY05FF01\OFFICE\DATA\WHITEPLANS-NY\WHL\_CAD\_V012\ACAD\PROJ\00266443\0000\GAC BUILDING\SHEETS\ELECTRICAL\0266443A-E04-R1.DWG Scale: 1:1 SavedDate: 11/3/2016 Time: 16:56 Plot Date: Safarpour, Hamid: 11/3/2016; 16:56; LayoutE-04

User: SSARFOUR, Spec: AUS-HUCSMOD, File: \\V:\05FPO\OFFICE\DATA\WHITEPAPER\NY\WHI\_CAD\VOL\_2\ACAD\PROJ\00266443\0000\GAC BUILDING\SHEETS\ELECTRICAL\0266443A-E05-R1.DWG, Scale: 1:1, SavedDate: 11/3/2016 11:48, Plot Date: Safarpoor, Hamid: 11/3/2016, 11:57, Layout: E-05



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CITY OF NEWBURGH  
GAC TREATMENT  
SYSTEM  
AT WASHINGTON LAKE  
FILTRATION PLANT

NO.	DATE	ADDENDUM #1 ISSUED FOR	MAL BY
1	11/4/16	ADDENDUM #1	MAL

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DATE: OCTOBER 2016  
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FILE NAME: 0266443A-E05-R1  
DESIGNED BY: M. LADERMAN  
DRAWN BY: H. SAFARPOUR  
CHECKED BY: G. MOORE

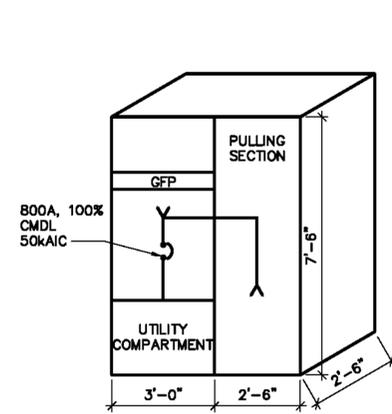
SHEET TITLE  
ELECTRICAL  
GAC TREATMENT  
BUILDING ONE LINE  
DIAGRAM

SCALE:  
AS SHOWN

E-05  
SHEET 88 OF 103

SIZING BASED ON EATON POW-R-LINE FRONT ACCESS, COLD SEQUENCE, BOTTOM ENTRY PROVIDE FORM C (NONC) A300 CONTACTS AS FOLLOWS:

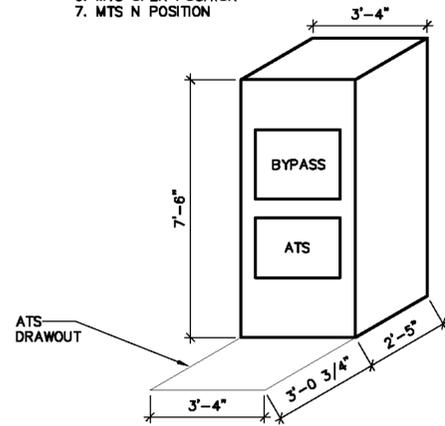
1. CIRCUIT BREAKER OPEN
2. CIRCUIT BREAKER CLOSED
3. CIRCUIT BREAKER TRIPPED



1 SESB DETAIL  
E-05 N.T.S

SIZING BASED ON EATON FRONT ACCESS, BOTTOM ENTRY OPEN TRANSITION 480V, 800A, 3-POLE, NEMA 1 30KA AT 480V SHORT CIRCUIT WITHSTAND AND CLOSE-ON RATED 1,800-LBS. PROVIDE FORM C (NONC) A300 CONTACTS AS FOLLOWS:

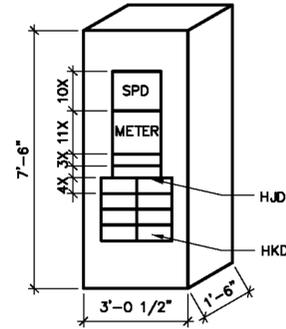
1. ATS E POSITION
2. ATS OPEN POSITION
3. ATS N POSITION
4. ATS WITHDRAWN POSITION
5. MTS E POSITION
6. MTS OPEN POSITION
7. MTS N POSITION



2 ATS DETAIL  
E-05 N.T.S

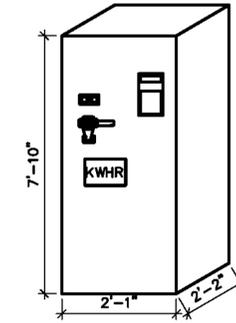
SIZING BASED ON EATON POW-R-LINE C FRONT ACCESS, GROUP MOUNTED BOTTOM ENTRY, 43X OF 50X USED, FROM DIGITAL METER PROVIDE FORM C (NONC) A300 CONTACTS AS FOLLOWS:

1. VOLTAGE WITHIN RANGE (+/-5%)
2. FREQUENCY WITHIN RANGE (+/-2%)
- PROVIDE 4-20 mA SIGNAL AS FOLLOWS:
  1. PH A, A/PH
  2. PH B, A/PH
  3. PH C, A/PH



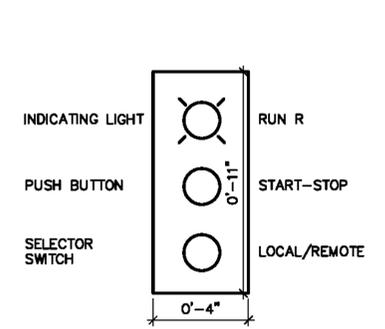
3 GACSB DETAIL  
E-05 N.T.S

SIZING BASED ON ABB ACS800-37-0170-5+C129, ACTIVE CONTROLLED WITH DTC, LCL LINE FILTERING, 480VAC THREE PHASE INPUT, INPUT 180A AND 150HP NORMAL DUTY, 100KA SCCR, CABINET BUILT DRIVE WITH MAIN SWITCH, 74DBA, 765FT3/MIN AIR FLOW, 20,500BTU/HR, 880LBS, NEMA 12 ENCLOSURE, FRAME SIZE R71, OPERATING -15C TO 40C NO FROST, UP TO 1,000M W/O DERATING, 5%-95% HUMIDITY NON-CONDENSING, IP/ETHERNET COMM INSTALLED, ADD SUBMETER TO LOCALLY REPORT KWHR USAGE.

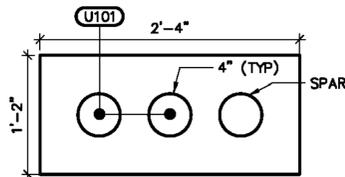


4 VFD DETAIL  
E-05 N.T.S

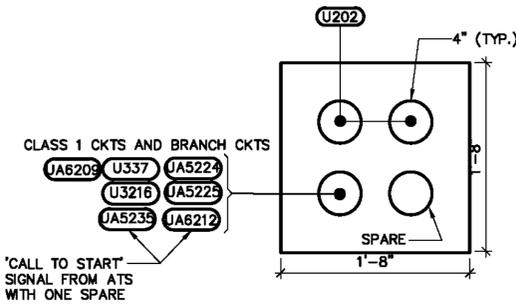
SIZING BASED ON SQUARED D 9001KY AND 9001SKY 30 MM CONTROL STATION, ENCLOSURE SHALL BE SELECTED BASED ON AREA CLASSIFICATION.



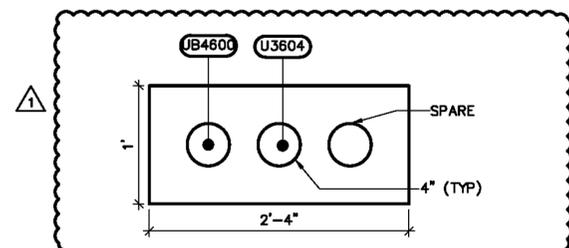
7 LCS DETAIL  
E-XX N.T.S



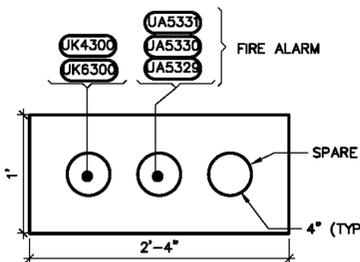
A DUCTBANK SECTION 'A'  
E-03 N.T.S



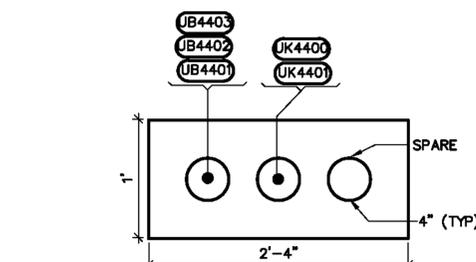
B DUCTBANK SECTION 'B'  
E-03 N.T.S



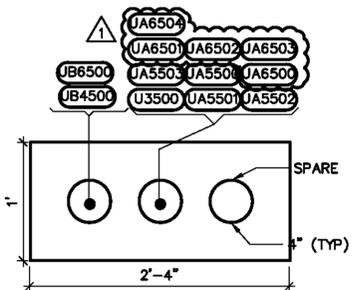
C DUCTBANK SECTION 'C'  
E-03 N.T.S



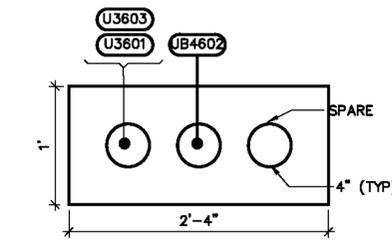
D DUCTBANK SECTION 'D'  
E-03 N.T.S



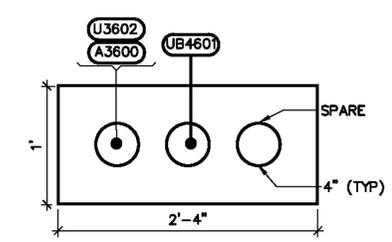
E DUCTBANK SECTION 'E'  
E-03 N.T.S



F DUCTBANK SECTION 'F'  
E-03 N.T.S



G DUCTBANK SECTION 'G'  
E-03 N.T.S



H DUCTBANK SECTION 'H'  
E-03 N.T.S

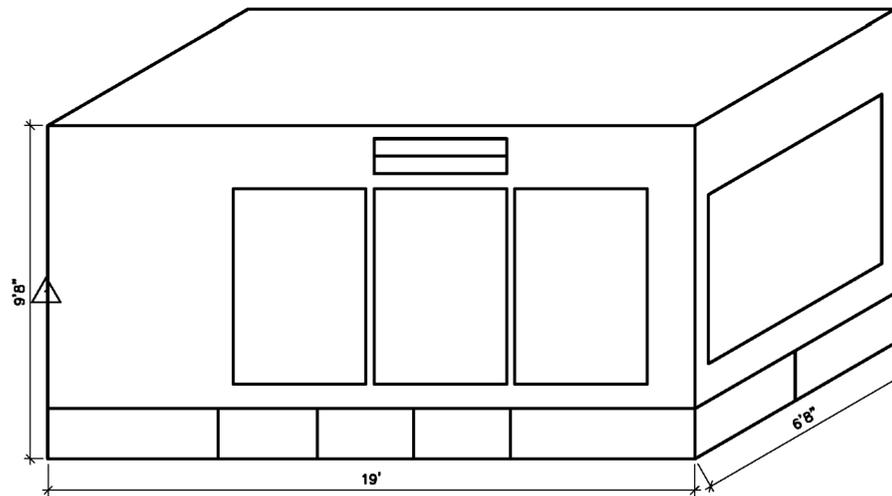
SIZING BASED ON 500 kW STANDBY GENERATOR CAT SOUND ATTENUATED ENCLOSURE (STEEL) C15 MODEL ON A UL LISTED 1024 GALLON SUB-BASE FUEL TANK BASE 26,415 CFM COOLING AIR FLOW RATE, 75 dBA SOUND PRESSURE AT 23 FEET AND 2,745-LBS.

STANDBY 500 kW 625 kVA 60 Hz 1800 RPM, 480 V CAT C15 ATAC DIESEL ENGINE, 36.6-GAL/HR AT 100% RATED LOAD, EPA TIER 2 EMISSIONS AND 3,239-LBS. FOR THE GENERATOR OUTPUT CIRCUIT BREAKER PROVIDE FORM C (NONC) A 300 CONTACTS AS FOLLOWS:

1. CB OPEN
2. CB CLOSED

3. CB TRIPPED FROM GENERATOR CONTROL BOARD, PROVIDE AS FOLLOWS:

1. GEN RUNNING
2. GEN COMMON ALARM
- PROVIDE 4-20 mA SIGNAL:
1. DIESEL FUEL LEVEL



6 GENERATOR ENCLOSURE DETAIL  
E-04 N.T.S



LEGAL ENTITY:  
ARCADIS CE, INC.

CONSULTANTS

SEALS



CITY OF NEWBURGH  
GAC TREATMENT SYSTEM  
AT WASHINGTON LAKE  
FILTRATION PLANT

NO.	DATE	ISSUED FOR	BY

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2016

DATE: OCTOBER 2016  
PROJECT NO.: 00266443.0000  
FILE NAME: 0266443A-E06-R1  
DESIGNED BY: M. LADERMAN  
DRAWN BY: H. SAFARPOUR  
CHECKED BY: G. MOORE

SHEET TITLE

ELECTRICAL

GAC TREATMENT  
BUILDING EQUIPMENT  
DETAILS AND DUCT  
BANK

SCALE: AS SHOWN

E-06  
SHEET 89 OF 103

User:SSAFARPOUR Spec:AUS-HICSMOD File: \\NY05FP01\OFFICE\DATA\WHITEPLAINS-HY\WHI\_CAD\VOL2\ACAD\PROJ\0266443\0000\GAC\_BUILDING\_SHEETS\ELECTRICAL\0266443A-E06-R1.DWG Scale:1:1 SavedDate:11/3/2016 Time:14:12 Plot Date: Safarpour, Homid: 11/3/2016: 18:58 Layout:E-06