WESTCHESTER JOINT WATER WORKS

CONTRACT: A1364 – A: RYE LAKE WATER FILTRATION PLANT
(CONSTRUCTION)

ADDENDUM NO. 5
5/22/2025

This Addendum shall be part of the Contract Documents as provided in the Instructions to Bidders of the referenced project. The following additions to and modifications of the Contract Documents shall be included in, and become a part of any Contract that may be executed for construction of this project. Bidders are instructed to take the following into account in rendering a Bid for the Work.

Please acknowledge receipt of this addendum within your bid, failure to do so may subject a bidder to disqualification.

Modifications to Contract Documents:

SPECIFICATION CHANGES:

Item 5-1. Specification 00 01 10 – Table of Contents

Remove the following Section(s) from the Table of Contents:

- Section 23 08 00 – Commissioning of HVAC System

Add the following Section(s) to the Table of Contents:

- Section 31 23 10 – Special Requirements for Intrusive Activities within Interim Remedial Measure (IRM) Work Area
- Section 33 24 00 – Storm Drains and Roof Drains

Item 5-2. Specification 00 40 00 – Bid Form

Replace Specification Section 00 40 00 with the attached Specification Section 00 40 00 in Attachment A.

Item 5-3. Specification 01 20 00 – Measurement and Payment

Replace Specification Section 01 20 00 with the attached Specification Section 01 20 00 in Attachment A.

Item 5-4. Specification 01 91 00 – Building Systems Commissioning

Section 3.01.A.1. – Add the following text:

b. Sump Pumps
c. Emergency fixtures and alarm system

Item 5-5. Specification 22 13 16 – Sanitary Waste and Vent Piping

Delete Section 2.01.A.1

Delete Section 2.01.A.2

Section 2.01.A.3 – Replace text with the following:

Cast iron soil pipe and fittings shall conform to the requirements of CISPI 301, ASTM A888, or ASTM A74.

Delete Section 2.01.B

Delete Section 2.01.C.1

Section 2.01.C.2 – Add the following text:

f. Where waste temperature is above 140 degrees F.

Item 5-6. Specification 22 14 13 – Facility Storm Drainage Piping

Delete Sections 1.04.D. and 1.04.E.

Delete Section 2.01.A.1

Delete Section 2.01.A.2

Section 2.01.A.3 – Replace text with the following:

Cast iron soil pipe and fittings shall conform to the requirements of CISPI 301, ASTM A888, or ASTM A74.

Delete Section 2.01.B

Delete Section 2.01.C.1

Item 5-7. Specification 22 14 29 – Sump Pumps

Section 1.04. F. – Replace text with the following:

Completed System Readiness Checklist provided by the CxA and completed by the contractor, signed by a qualified technician and dated on the date of completion, in accordance with the requirements of Section 01 91 00 – Building Systems Commissioning.

Section 1.04. G. – Replace text with the following:

Submit training plans and instructor qualifications in accordance with the requirements of Section 01 91 00 – Building Systems Commissioning.

Item 5-8. Specification 23 05 93 – HVAC Testing, Adjusting, and Balancing

Section 1.07. A. – Replace text with the following:

Refer to Articles, Quality Assurance and Submittals in Section 01 91 00 – Building Systems Commissioning and Section 23 00 00 − Basic HVAC Requirements.

Item 5-9. Specification 31 23 10 – Special Requirements for Intrusive Activities within Interim Remedial Measure (IRM) Work Area

Add Specification Section 31 23 10 attached in Attachment A.

Item 5-10. Specification 33 24 00 – Storm Drains and Roof Drains

Add Specification Section 33 24 00 attached in Attachment A.

Item 5-11. Specification 40 06 20 – Process Pipe, Valve, & Gate Schedules

Replace Specification Section 40 06 20 with the attached Specification Section 40 06 20 in Attachment A.

Item 5-12. Specification 40 61 91 – Process Control System Instrument List

Replace Specification Section 40 61 91 - Attachment 1 with the attached Specification Section 40 61 91 - Attachment 1 in Attachment A.

DRAWING CHANGES:

Item 5-13. Contract Drawings

Delete the following drawing sheets in their entirety and replaced with the attached drawings in Attachment B.

- C-001 – GENERAL NOTES, LEGEND AND ABBREVIATIONS
- C-102 - EXISTING CONDITIONS AND DEMOLITION PLAN - AREA 1
- C-121 - GRADING AND DRAINAGE PLAN - AREA 1
- C-122 - GRADING AND DRAINAGE PLAN - AREA 2
- C-131 - YARD PIPING PLAN - AREA 1
- C-132 - YARD PIPING PLAN - AREA 2
- C-201 - PLANT ACCESS DRIVEWAY PLAN AND PROFILE
- C-202 - PLANT ACCESS DRIVEWAY PLAN AND PROFILE - STA 10+00 TO STA 14+50
- C-203 - PLANT ACCESS DRIVEWAY PLAN AND PROFILE - STA 14+50 TO STA 20+20
- C-233 - SANITARY FM (SHEET 2 OF 2)
- C-241 - RAW WATER TRANSMISSION MAIN PLAN AND PROFILE
- C-242 - FINISHED WATER TRANSMISSION MAIN PLAN AND PROFILE - SHEET 1 OF 2
- C-243 - FINISHED WATER TRANSMISSION MAIN PLAN AND PROFILE - SHEET 2 OF 2
- C-246 - WWR AND FUD PROFILE
- C-247 - OVERFLOW PROFILE - SHEET 1 OF 2
- C-248 - OVERFLOW PROFILE - SHEET 2 OF 2
- C-250 - GALLERY DRAIN PROFILE
- C-305 - TRUCK DELIVERY CONTAINMENT DETAIL
- I-019 – UV AND FINAL CHEMICAL ADDITION INSTRUMENTATION PROCESS AND INSTRUMENT DIAGRAM
- P-601 – SCHEDULES – SHEET 2

Response to Questions:

Question 5-1. Can the contractor obtain a BABA waiver for a named supplier's product that does not have BABA compliance, or should this product be omitted from the selection process, and should NOT be considered for use?
Example: Spec Section 43 25 13-4 Part 2.02.A – Acceptable Manufacturer: KSB Pumps

Refer to Specification Section 00 73 00 Article SC 7.04, A.c. The Contractor is required to provide equipment and materials that comply with BABA requirements for all iron and steel, manufactured products and construction materials used on the project. The Contractor is responsible for verifying manufacturers' compliance with the requirements.

Question 5-2. The instrument list provided in section 40 61 91 does not list Magnetic Flow Meters FE-4412, FE-4512 or FE-4612. Drawing I-019 shows these instruments to be provided by the UV system manufacturer however, there is no mention of flow meters in specification section 46 66 23 UV Disinfection equipment. Please confirm if these meters are to be provided by the UV system supplier or by the Systems Integrator.

These flow meters shall be provided by the I&C Subcontractor. Refer to revised Section 40 61 91 – Attachment 1 and Drawing I-019 provided in Attachments A and B.

Question 5-3. The Piping System Schedule on Contract Drawing P-601 calls out poured lead and oakum joints for below ground cast iron XH pipe. Please confirm if gasket joints are allowed in lieu of lead and oakum joints due to concerns about lead handling.

A revised Drawing P-601 has been issued with this Addendum No. 5 provided in Attachment B.

Question 5-4. Please add the piping material, type of joints and related information for the DAF Spray (DAFS) to the Water Treatment Plant Piping Schedule in specification 40 06 20.

A revised Specification Section 40 06 20 has been issued with this Addendum No. 5.

Question 5-5. We respectfully request an additional site visit to the Rye Lake Chemical Building.

An optional site visit to the Rye Lake Pump Station (Chemical Building) has been scheduled for Wednesday May 28, 2025, from 11:00 am to 12:00 pm.

Question 5-6. Contract Documents include Specification Section 32 05 19 – 30 MIL PVC Geomembrane. The only locations that shows a 30 MIL PVC Geomembrane on the Contract Drawings is Drawing C-217 at the Bioretention Level Spreader detail below the clean washed crushed stone. Please confirm that this is the only location where the 30 MIL PVC Geomembrane is required to be utilized under this contract?

Response: The geomembrane is only required for the bioretention level spreader as detailed on Contract Drawing C-217.

Question 5-7. Please issue missing specification 23 08 00 - Commissioning of HVAC System.

Commissioning of HVAC equipment is included in Specification Section 01 91 00 – Building Systems Commissioning. All references to Specification Section 23 08 00 have been removed or revised.

Question 5-8. With respect to the referenced Contract, as per revised SC 6.04, it stated that Builder's Risk Insurance will not be provided by the contractor, can you please confirm that is the intent?

The Supplementary Conditions are correct. The Owner will purchase the Builder's Risk Policy for the Contract.

Question 5-9. Refer to the Chemical Piping Schedule on page 7 of specification 40 06 20 and advise if there is missing information.

A revised Specification Section 40 06 20 has been issued with this Addendum No. 5.

Question 5-10. Are you able to share the magnitude of this project?

Bidders are expected to develop their bids based on a thorough understanding of the project scope, specifications, drawings, site conditions, and current market rates. Bidders are encouraged to perform your own detailed cost analysis.

Question 5-11. Regarding Specification Section 31 23 20 Dewatering Treatment and Drawings C-112 and C-301:

1. Spec 31 23 20 Dewatering Treatment mentions Ion Exchange Resin; we need to know the type of resin media needed.
2. Mentioned is reactivated carbon and virgin carbon. Would that be coal based carbon that was recommended for this project?
3. A water analytical could not be found to review. We cannot estimate a burn rate without an analytical.
4. To what PFOS levels do we need to filter down to?
5. Based on the equipment listed, the max flow rate of the system would be 100 GPM. Is this correct?"

1. Response is forthcoming in a future addendum.
2. Yes, coal based carbon is recommended. The GAC media shall be Calgon Corporation FILTRASORB® F400AR (F400) or approved equivalent. The GAC media shall be double-acid washed prior to delivery of media.
3. The following table provides the maximum PFAS results found at the WJWW site. Information related to a nearby well located on the Westchester County Airport is provided for additional information:

Test Well	Testing Performed	Maximum PFAS Results on WJWW Property	Maximum PFAS Results at Adjacent Westchester County Airport Well
Date		12/13/2019	May 2020
Depth		36.8 ft	Approximately 20 ft

Perfluorobutanoic Acid (PFBA)	0.720 ng/L	Not Reported
Perflurohexanoic Acid (PFHxA)	0.673 ng/L	Not Reported
Perfluoroheptanoic Acid (PFHpA)	0.222 ng/L	Not Reported
Perfluoroocanoic Acid (PFOA)	0.973 ng/L	10 ng/L (FMW-25 in the Remedial Investigation)
Perfluorooctanesulfonic Acid (PFOS)	Not Detected	58 ng/L (FMW-3 in the Remedial Investigation)

4. The water treatment system shall reduce total PFOA and PFOS to below detectable limits (Specification 31 23 20, Part 1.01.D.). Concentrations of PFOA and PFOS shall be confirmed using EPA Method 1633 as specified (Specification 31 23 20, Part 2.03.C.).
5. Yes, 100 gpm is the maximum flowrate of the system.

Question 5-12. Specification states to use Glass lined pipe where required. Can you clarify where Glass lined pipe will be required?

If the Process Pipe Schedule included in Specification 40 06 20 does not specify glass lined pipe, then glass lined pipe is not required.

Attachments:
Attachment A: Revised Specifications
Attachment B: Revised Drawings
Attachment C: Latest Plan Holder's List

Attachment A – Revised Specifications

SECTION 00 40 00

BID FORM

TABLE OF ARTICLES

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

WESTCHESTER JOINT WATER WORKS
DAVID BIRDSALL

1625 MAMARONECK AVENUE, MAMARONECK, NEW YORK 10543

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the price(s) and within the times indicated in this Bid and in accordance with the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the

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disposition of Bid security. This Bid will remain subject to acceptance for 120 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner. Bidder will sign the Agreement and will furnish the required contract security, and other required documents within the time periods set forth in the Bidding Documents.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, if any, and the following Addenda, receipt of all of which is hereby acknowledged.

Addendum No.	Date Received	Addendum No.	Date Received

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities), if any, that have been identified in Section 01 11 00 – Summary of Work as containing reliable "technical data".

E. Bidder has considered the information known to Bidder, information commonly known to contractors doing business in the locality of the Site, information and observations obtained from visits to the Site, the Bidding Documents, and the Site-related reports and drawings identified in the Bidding Documents with respect to the effect of such information, observations, and documents on:

1. The cost, progress and performance of the Work.

2. The means, methods, techniques, sequences and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder.

3. Bidder's safety precautions and programs.

F. Based on the information and observations referred to in Paragraph 3.01.E, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required and in accordance with the other terms and conditions of the Bidding Documents.

G. Bidder is aware of the general nature of work (if any) to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

I. Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 – BIDDER'S CERTIFICATIONS

4.01 Bidder certifies that:

A. This Bid is genuine and is not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation.

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract. For the purposes of the Paragraph 4.01.D.

1. "Corrupt practice" means the offering, giving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.

2. "Fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to

establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.

3. “Collusive practice” means to scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.

4. “Coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the amount as listed below. Total bid amount(s) shall be shown in words and numbers. In case of discrepancy, the bid amount shown in words will govern.

NOTE: THE CONTRACTOR FOR CONTRACT A1364 SHALL STATE THE PROPOSAL PRICE FOR EACH ITEM BOTH IN WORDS (ON DOTTED LINES) AND IN NUMERALS (IN THE PARENTHESES)

BASE BID ITEMS AND PRICES - CONTRACT A1364					
Contract Item No.	**Description of Work**	**Unit**	**Est. Quantity**	**Unit Price**	**Total Price**
LS-1	General Construction: All work required under this Contract not included in other Lump Sum, Unit Price, or Allowance Items.	Lump Sum	N/A	$...Lump Sum	……..... ……..... ($_____)

BASE BID ITEMS AND PRICES - CONTRACT A1364					
Contract Item No.	**Description of Work**	**Unit**	**Est. Quantity**	**Unit Price**	**Total Price**
LS-2 (1)	**Intrusive Activities within Interim Remedial Measure (IRM) Work Area:** **All work required under Section 31 23 10, not included in other Lump Sum, Unit Price or Allowance Items.**	**Lump Sum**	**N/A**	**$...Lump Sum**	**…….....** **…….....** **($_____)**

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BASE BID ITEMS AND PRICES - CONTRACT A1364					
Contract Item No.	**Description of Work**	**Unit**	**Est. Quantity**	**Unit Price**	**Total Price**
UP-1a	Additional Excavation: As specified in Section 01 20 00 Measurement and Payment and Section 31 00 01 Earthwork.	Cubic Yard	500	…..... …..... ($_____)	………..... ………..... ($_____)
UP-1b	Additional Select Fill Replacement: As specified in Section 01 20 00 Measurement and Payment and Section 31 00 01 Earthwork.	Cubic Yard	400	…..... …..... ($_____)	………..... ………..... ($_____)

BASE BID ITEMS AND PRICES - CONTRACT A1364					
Contract Item No.	**Description of Work**	**Unit**	**Est. Quantity**	**Unit Price**	**Total Price**
UP-1c	Additional Common Fill Replacement: As specified in Section 01 20 00 Measurement and Payment and Section 31 00 01 Earthwork.	Cubic Yard	100	…..... …..... ($_____)	………..... ………..... ($_____)
UP-2	Rock and Boulder Excavation: As specified in Section 01 20 00 Measurement and Payment and Section 31 00 01 Earthwork.	Cubic Yard	100	…..... …..... ($_____)	………..... ………..... ($_____)
UP-3	Additional Tie-Down Length: As specified in Section 01 20 00 Measurement and Payment and Section 31 68 13 Soil Tie Downs.	LF	620	…..... …..... ($_____)	………..... ………..... ($_____)

BASE BID ITEMS AND PRICES - CONTRACT A1364					
Contract Item No.	**Description of Work**	**Unit**	**Est. Quantity**	**Unit Price**	**Total Price**
UP-4	Additional Class A Concrete: As specified in Section 01 20 00 Measurement and Payment and Section 03 30 00 Cast-In-Place Concrete.	Cubic Yard	2000	….. ….. ($_____)	…….. …….. ($_____)
UP-5	Additional Class B Concrete: As specified in Section 01 20 00 Measurement and Payment and Section 03 30 00 Cast-In-Place Concrete.	Cubic Yard	500	….. ….. ($_____)	…….. …….. ($_____)

BASE BID ITEMS AND PRICES - CONTRACT A1364					
Contract Item No.	**Description of Work**	**Unit**	**Est. Quantity**	**Unit Price**	**Total Price**
UP-6	Additional Steel Reinforcement: As specified in Section 01 20 00 Measurement and Payment and Section 03 21 00 Reinforcing Steel.	Ton	10	…..... …..... ($_____)	…….... …….... ($_____)
UP-7 (1)	**Demarcation Layer:** **As specified in Section 01 20 00 Measurement and Payment and Section 31 23 10 Special Requirements for Intrusive Activities within Interim Remedial Measure (IRM) Work Area.**	**Square Yard**	**4840**	**…..... …..... ($_____)**	**…….... …….... ($_____)**
A-1	Contingency Allowance for: Miscellaneous Unforeseen Work	LS	N/A	$550,000	$550,000
A-2	Contingency Allowance for Disposal of Contaminated Soil.	LS	N/A	$150,000	$150,000
A-3	Contingency Allowance for Abatement and Disposal of Hazardous Materials and PFAS.	LS	N/A	$150,000	$150,000
A-4	Cash Allowance for SCADA Integration Engineering by Woodard and Curran. As specified in Section 40 61 13 Process Control System General Provisions and Appendix G – Woodard and Curran Scope, Terms and Conditions.	LS	NA	$3,060,000	$3,060,000
TOTAL SINGLE PRIME BASE BID PRICE (SUM OF LS, UP, & A):					$_____

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BASE BID ITEMS AND PRICES - CONTRACT A1364					
Contract Item No.	**Description of Work**	**Unit**	**Est. Quantity**	**Unit Price**	**Total Price**
TOTAL SINGLE PRIME BASE BID PRICE (SUM OF LS, UP, & A) in Words: _____ _____ _____					
BIDDER NAME:					
NOTE: ALL SIGNATURES REQUIRED IN THE BID FORM MUST BE PROPERLY EXECUTED TO BE CONSIDERED A VALID BID.					

ALTERNATE BID ITEM NO. 1

Alternate Pipe Materials

DESCRIPTION:
Under Alternate Bid Item No. 1, the following Pipe Designations from the Pipe Schedule (Section 40 06 20) constructed with materials specified as stainless steel (Section 40 05 23.23) to be provided in lined carbon steel (Section 40 05 24.23):

BW
FLW
FTW
FLWT
WWW

The deductive amount (if any) shall be shown as a positive number.

TOTAL ALTERNATE BID ITEM NO. 1 PRICE (in numbers): **CIRCLE ONE: ADDITIVE OR DEDUCTIVE**	**$**

TOTAL ALTERNATE BID ITEM NO. 1 PRICE (in words):

_____

_____

ARTICLE 6 – CERTIFIED LIST OF SUBCONTRACTORS

6.01 The Bidder,

_____,

as part of the procedure for the submission of Bids on this project entitled

_____

_____, submits the following list of Subcontractors to be used in the performance of work to be done on said Project. The list shall include all Subcontractors who will be subcontracted to provide at least $25,000.00 of the work, list on additional paper as required. The list of Subcontractors and all responsibilities of all disciplines shall be based on requirements of the Contract Documents. Changes to this list after the Bid opening shall only be as approved by the Owner upon request by the Contractor or as required by the Owner based on upon review of Subcontractor's qualifications.

The Contractor must ensure that all Subcontractors comply with Chapter 31 Article 8 Subsection 220-I of New York State Law, which requires that contractors and subcontractors register with the Bureau of Public Work and Prevailing Wage Enforcement. This registration must be completed prior to commencing work. The Contractor shall submit to the Owner valid certification of registration prior to the Subcontractor commencing work and upon Subcontractor's renewal of certification.

AREA OF SPECIALIZATION	SUBCONTRACTORS
SCADA Integration	*Woodard and Curran Engineering and Geological Services P.A. P.C.*

A. It is understood and agreed that, if awarded a Contract, the Contractor will not make any additions, deletions or substitutions to this certified list without the consent of the Owner.

CERTIFICATION AFFIDAVIT

FOR CERTIFIED LIST OF SUBCONTRACTORS

THE ABOVE INFORMATION IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER UNDERSTAND AND AGREE THAT, IF AWARDED A CONTRACT, THIS CERTIFICATION SHALL BE ATTACHED THERETO AND BECOME A PART THEREOF.

NAME OF SIGNER: _____

(Please Print or Type)

TITLE OF SIGNER: _____

(Please Print or Type)

SIGNATURE: _____ DATE: _____

ARTICLE 7 – CERTIFICATION OF EQUIPMENT/MATERIAL MANUFACTURERS

7.01 Declaration of Equipment Suppliers:

A. The Bidder shall base the Lump Sum Bid Item upon the specified and named (A) equipment/supplier items as listed in the following Owner-Selected Equipment/Supplier Schedule. If more than one (A) equipment/supplier is listed for the same equipment item, then the Bidder shall choose and base the Lump Sum Bid upon one of the specified and named (A) equipment/suppliers listed and shall so designate by circling the name of the chosen (A) equipment/supplier on the Schedule. **If Bidder's choice is not so indicated, the Lump Sum Bid will, by default, be based upon the first named (A) equipment/supplier in the Schedule.**

If an alternative (B) equipment/supplier is proposed, the desired (A) equipment/supplier must still be designated in the event that the alternate is not selected. The Contract will be awarded based on the selected (A) manufacturer. If the Owner accepts an alternate, the Contract amount will be adjusted by change order after execution of the Contract.

B. Proposed Deducts for Proposed Equipment/Supplier Alternates:

Bidder may propose equipment/supplier alternates on the following Owner-Selected Equipment/Supplier Schedule by circling (B) and writing in an equal alternate, and by writing in the amount of deduct offered for the proposed equipment/supplier alternate. Where no space is provided on the Schedule for a write-in alternate, no such alternate will be considered.

Design of this project is based upon the (A) named equipment/suppliers as listed in the Owner-Selected Equipment/Supplier Schedule. Should a Bidder propose an equipment/supplier alternate, he shall include in his Bid any and all additional construction costs associated with the alternate and reimbursement to the Owner for any incurred engineering redesign costs associated with the alternate. The Bid shall also include any paid-up licenses necessary for the use of the equipment if required by the manufacturer.

No equipment/supplier alternate will be considered unless a deduct is offered and, in the opinion of the Owner, it conforms to the requirements of the Contract documents in all respects except for make, manufacturer, and minor details. Equipment/supplier alternates will generally be deemed "equal" provided that, in the opinion of the Owner, the alternate is the same or better than the named (A) equipment/supplier in function, performance, reliability, quality, and general configuration. Determination of equality in reference to the project requirements will be made by the Owner. Owner's allowance of an equipment/supplier alternate will constitute neither a waiver of the requirements of the Contract Documents nor agreement by the Owner that the alternate is equal to the named

(A) equipment/supplier. The Owner may determine any proposed equipment/supplier alternate to be "not desired" as the Owner determines will best suit Owner’s sole best interests.

Should a proposed and circled write-in alternate be determined "not equal" or "not desired" by the Owner, or should no proposed alternate be indicated; then the Bidder must provide the named (A) equipment/supplier listed in the Owner-Selected Equipment/Supplier Schedule, and if more than one (A) equipment/supplier is listed, the name circled by the bidder must be provided.

C. Submittal Requirements for Proposed Unnamed (Write-In) Equipment/Supplier Alternates

Bidder shall submit information with its Proposal, as described below for the Owner's use in determining the equality or desirability of proposed (write-in) equipment/supplier alternates. Bidder's failure to comply with the following requirements will result in a determination by the Owner that the proposed alternate is "not desired".

For each proposed equipment/supplier alternate, Bidder shall submit with his Proposal one set of Drawings, Specifications, complete descriptive material, a detailed listing of proposed equipment, and other information, including, but not limited to, the following:

1. Dimensional and weight information on components and assemblies.

2. Catalog information.

3. Manufacturer's specifications, including materials descriptions and paint systems descriptions.

4. Complete listing of requested exceptions to the requirements of the Contract Documents.

5. Written description and Drawings regarding all changes and modifications to the Work necessary to adapt the equipment to the arrangements shown or function described in the Contract Documents.

6. Time of delivery

D. Owner Selected Equipment/Supplier Schedule

Section Number	Description	Equipment Supplier	Amount of Deduct for Alternative Equipment
14 21 23.16	Passenger Elevator	(A) Otis Elevator Company (A) Schindler (A) Thyssen Krupp Elevator (B) Or equal _____	
23 84 16	Dehumidification Unit	(A) Munters Corporation (A) Bry-Air Inc (B) Or equal _____	
26 24 13	Switchboard	(A) Eaton (A) General Electric Co. (A) Square D Co. (A) Siemens Energy and Automation Inc. (B) Or equal _____	
26 24 29	Motor Control Center (MCC)	(A) Square D Co. (A) Allen Bradley (A) ABB (B) Or equal _____	
26 23 00	Generator Switchgear	(A) ASCO (A) Cummins Power Generation (A) Caterpillar (A) G.E. Zenith Controls Inc. (A) Russelectric (A)Thompson Technology (B) Or equal _____	
26 29 23	Variable Frequency Drives (VFDs)	(A) Eaton (A) Square D Co. (A) Allen-Bradley (A) ABB (A) Toshiba (B) Or equal _____	
40 61 22	Multimeters and Calibrators	(A) Fluke (B) Or equal _____	
40 63 43	Programmable Logic Controllers (PLCs)	(A) Allen-Bradley (B) Or equal _____	

40 68 00	SCADA HMI	(A) Trihedral - VTScada (B) Or equal _____	
40 66 00	Ethernet Switch	(A) Cisco Catalyst (A) Hirshmann (A) Phoenix Contact (A) Weidmuller (B) Or equal _____	
40 66 00	Ethernet Firewall	(A) PaloAlto – PA220 (B) Or equal _____	
40 66 00	Modems / Radios	(A) Cal-Amp (B) Or equal _____	
40 71 13.13	Magnetic Flowmeter	(A) Foxboro (A) ABB (A) Sensus (A) Rosemount (A) Endress+Hauser (A) Krohne (A) Siemens (A) Toshiba (B) Or equal _____	
40 73 20	Pressure Transmitter	(A) Rosemount (A) Foxboro (A) Siemens (A) Endress+Hauser (B) Or equal _____	
40 75 33	Analytical – Fluoride	(A) Hach (B) Or equal _____	
40 75 53	Analytical – Turbidity	(A) Hach (A) Swan (B) Or equal _____	
40 75 54	Analytical – Streaming Current	(A) Chemtrac (A) Hach (A) Milton Roy (B) Or equal _____	
43 21 47	Vertical Turbine Pumps	(A) Afton (A) Fairbanks Morse (A) Patterson (B) Or equal _____	
43 23 21	Horizontal Split Case Pumps	(A) Aurora (A) Fairbanks (A) Patterson (B) Or equal _____	
46 41 34	Vertical Shaft Flocculators	(A) Chemineer (A) Lightnin (A) Philadelphia Mixers	

46 51 17	Residuals Storage Mixing System and Pumps	(A) Vaughan (Rotamix) (A) Hayward Gordon (HydroMix) (A) Wemco (B) Or equal _____	
46 61 00	Filter Underdrains	(A) OVIVO (A) Orthos (A) WesTech (B) Or equal _____	
46 76 33	Centrifuge	(A) Centrisys CNP (A) Andritz (A) Alfa Laval (A) GEA Westfalia	

NOTE: BIDDER MUST CIRCLE A BASE BID MANUFACTURER FOR EACH EQUIPMENT ITEM.

CERTIFICATION AFFIDAVIT

FOR EQUIPMENT/MATERIAL MANUFACTURERS

THE ABOVE INFORMATION IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER UNDERSTAND AND AGREE THAT, IF AWARDED A CONTRACT, THIS CERTIFICATION SHALL BE ATTACHED THERETO AND BECOME A PART THEREOF.

NAME OF SIGNER: _____
(Please Print or Type)

TITLE OF SIGNER: _____
(Please Print or Type)

SIGNATURE: _____

DATE: _____

ARTICLE 8 – TIME OF COMPLETION

8.01 Bidder agrees that the Work will be substantially complete and completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

8.02 Bidder accepts the provisions of the Agreement as to liquidated and special damages in the event of failure to complete the Work within the Contract Times.

ARTICLE 9 – ATTACHMENTS TO THIS BID

9.01 The following documents are attached to and made a condition of this Bid:

A. Bid Bond (Section 00 40 11)

B. Contractor's Qualification Statement (Section 00 43 32)

C. Non-Collusion Affidavit of Bidder Form (00 43 33)

ARTICLE 10 – DEFINED TERMS

10.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders and the General Conditions and Supplementary Conditions.

ARTICLE 11 – BID SUBMITTAL

11.01 This Bid submitted on _____, 20___ by:

If Bidder is (pick one):

AN INDIVIDUAL

Name: _____
(Typed or Printed)

By: _____
(Individual's Signature)

Doing business as: _____

License or Registration Number: _____

Business Address: _____

_____

_____

Phone No.: _____ Fax No.: _____

E-mail: _____

A PARTNERSHIP

Partnership Name: _____

By: _____
(Signature of General Partner - Attach evidence of authority to sign)

Name: _____
(Typed or Printed)

License or Registration Number: _____

Business Address: _____

_____

_____

Phone No.: _____ Fax No.: _____

E-mail: _____

CORPORATION

Corporation Name: _____

_____
(State of Incorporation)

By: _____
(Signature – Attach evidence of authority to sign)

Name and Title: _____
(Typed or Printed)

(CORPORATE SEAL)

Attest _____
(Secretary)

License or Registration Number: _____

Business Address: _____

_____

_____

Phone No.: _____ Fax No.: _____

E-mail: _____

LIMITED LIABILITY COMPANY

By: _____
(Firm Name)

_____
(State of Formation)

By: _____
(Signature of Member / Authorized to Sign)

_____
(Printed or Typed Name and Title of Authorized to Sign)
(Attach evidence of authority to sign.)

License or Registration Number: _____

Business Address: _____

_____

_____

Phone No.: _____ Fax No.: _____

E-mail: _____

A JOINT VENTURE

Name of Joint Venture: _____

First Joint Venturer Name: _____

By: _____
(Signature of First Joint Venturer – Attach evidence of authority to sign)

Name (Typed or Printed): _____

Title: _____

Second Joint Venturer Name: _____

By: _____
(Signature of First Joint Venturer – Attach evidence of authority to sign)

Name (Typed or Printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, corporation or limited liability company that is a party to the joint venture shall be in the manner indicated above).

Business Address: _____

_____

_____

Phone and fax numbers and address for receipt of communications to joint venture.

Phone No.: _____ Fax No.: _____

E-mail: _____

END OF BID

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SECTION 01 20 00
MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.01 SUMMARY

A. Section Includes:

1. Items listed in this Section refer to and are the same pay items listed in the Bid Form and constitute all pay items for completing the Work.

2. Compensation for all services, items, materials, and equipment shall be included in prices stipulated for lump sum and unit price pay items listed in this Section and included in the Contract.

3. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, bonds, insurance, or other requirements of the General Conditions, Supplementary Conditions, General Requirements, and other requirements of the Contract Documents.

4. Each lump sum and unit bid price shall include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.

B. Related Sections:

1. Payments to Contractor: Refer to General Conditions, Supplementary Conditions, and Agreement.

2. Changes to Contract Price: Refer to General Conditions, Supplementary Conditions, and Section 01 26 00 – Contract Modification Procedures.

3. Schedule of Values: Refer to General Conditions, Supplementary Conditions, and Section 01 29 73 – Schedule of Values.

1.02 ENGINEER'S ESTIMATE OF QUANTITIES

A. Engineer's and Owner's estimated quantities for unit price pay items, as listed in the Bid Form, are approximate only and are included solely for the purpose of comparison of Bids. Owner does not expressly or by implication agree that the nature of the materials encountered below the surface of the ground or the actual quantities of material encountered or required will correspond therewith and reserves the right to increase or decrease any quantity or to eliminate any quantity as Owner may deem necessary.

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B. Contractor will not be entitled to any adjustment in a unit bid price as a result of any change in an estimated quantity and agrees to accept the aforesaid unit bid prices as complete and total compensation for any additions caused by changes or alterations in the Work ordered by Owner.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Contractor shall include all additional Work items, services, goods, resources, and manpower necessary for installation of the Work to provide a completely functional system in accordance with the Contract Documents. Contractor shall include these costs associated with providing a completely functional system within the items listed on the Bid Form and as specified herein.

B. Bid Items:

1. Item LS-1: General Construction

    a. Measurement and Payment: Lump sum for Item LS-1 will be full compensation for administration and completion of the Work, as shown on the Drawings and specified in the Contract Documents, except Work specifically included under other Items.

2. **Item LS-2: Intrusive Activities within Interim Remedial Measure (IRM) Work Area**

    Measurement and Payment: Lump sum for Item LS-2 will be full compensation for administration and completion of the Work required under Section 31 23 10, except work specifically included under other items. (1)

3. Item UP-1a: Additional Excavation

    a. Description: Work under this Item shall consist of additional excavation when ordered by the Engineer due to unsuitable subgrade materials, as described in Section 31 00 01 – Earthwork.

    b. Measurement: This Work will be measured for payment as the actual volume of unsuitable subgrade material that has been excavated and disposed of, as ordered by the Engineer. Payment limits are to be discussed and agreed to with the Engineer and Owner prior to excavation and payment.

    c. Payment: Payment shall be per cubic yard, which includes excavation and disposal of unsuitable material.

    d. Quantity is estimated and may vary based on site conditions.

4. Item UP-1b: Additional Select Fill Replacement

(1) ADDENDUM NO. 5

a. Description: Work under this Item shall consist of additional select fill replacement when ordered by the Engineer due to unsuitable subgrade materials, as described in Section 31 00 01 – Earthwork.

b. Measurement: This Work will be measured for payment as the actual volume of select fill material placed and compacted, as ordered by the Engineer. Payment limits are to be discussed and agreed to with the Engineer and Owner prior to select fill placement and payment.

c. Payment: Payment shall be per cubic yard, which includes furnishing and delivery of select fill from offsite sources, placement of select fill, and compaction of select fill.

d. Quantity is estimated and may vary based on site conditions.

5. Item UP-1c: Additional Common Fill Replacement

a. Description: Work under this Item shall consist of additional common fill replacement when ordered by the Engineer due to unsuitable subgrade materials, as described in Section 31 00 01 – Earthwork.

b. Measurement: This Work will be measured for payment as the actual volume of common fill material placed and compacted, as ordered by the Engineer. Payment limits are to be discussed and agreed to with the Engineer and Owner prior to common fill placement and payment.

c. Payment: Payment shall be per cubic yard, which includes furnishing and delivery of common fill from offsite sources (as applicable), placement of common fill, and compaction of common fill.

d. Quantity is estimated and may vary based on site conditions.

6. Item UP-2: Rock and Boulder Excavation.

a. Description: Work under this Item shall consist of the breakup, removal, handling, loading/live loading, stockpiling, and disposal of non-rippable large boulders (i.e. material that cannot be removed with typical excavation equipment), as defined in Section 31 00 01 – Earthwork. All other rock and boulder excavations shall be included in the lump sum Item LS-1.

b. Measurement: This Work will be measured for payment as the actual volume of rock material excavated, as ordered and approved by the Engineer. Payment limits are to be discussed and agreed to with the Engineer and Owner prior to common fill placement and payment.

c. Payment: This Work will be paid for at the Contract unit price per cubic yard of rock and boulders to be excavated, which shall include all materials,

equipment, tools, and labor necessary to handle, load, and transport the rock to a stockpile location, and dispose of all rock offsite, and all equipment materials, tools, and labor incidental to this Work.

d. Quantity is estimated and may vary based on site conditions.

7. Item UP-3: Additional Soil Tie Down Length.

a. Description: Work under this item shall consist of additional soil tie down length when ordered by the Engineer due to unforeseen and unsuitable soil conditions, as defined in Section 31 68 13 – Soil Tie Downs.

b. Measurement: This Work will be measured for payment as the actual linear feet of additional soil tie-downs installed beyond the beyond the quantities indicated on the Drawings and as ordered by the Engineer.

c. Payment: This Work will be paid for at the Contract unit price per linear feet of additional soil tie down length and shall include all Work required to install additional tie-down length. Additional payment for failed tie-downs due to improper installation will not be authorized.

8. Item UP-4: Additional Class A Concrete

a. Description: Work under this Item shall consist of additional Class A concrete placement when ordered by the Engineer, as described in Section 03 30 00 – Cast-in-Place Concrete.

b. Measurement: This Work will be measured for payment as the actual volume of Class A concrete placed, as ordered by the Engineer. Payment limits are to be discussed and agreed to with the Engineer and Owner prior to additional Class A concrete placement and payment.

c. Payment: Payment shall be per cubic yard of Class A concrete placed, and shall include furnishing all labor, materials and equipment, and performing any associated Contractor quality control, environmental protection, tests and reports for performing all work described herein. Additional payment for Class A concrete that was improperly sourced, mixed, installed, cured and/or tested will not be authorized.

d. Quantity is estimated and may vary based on site conditions.

9. Item UP-5: Additional Class B Concrete

a. Description: Work under this Item shall consist of additional Class B concrete placement when ordered by the Engineer, as described in Section 03 30 00 – Cast-in-Place Concrete.

b. Measurement: This Work will be measured for payment as the actual volume of Class B concrete placed, as ordered by the Engineer. Payment limits are to be discussed and agreed to with the Engineer and Owner prior to additional Class B concrete placement and payment.

c. Payment: Payment shall be per cubic yard of Class B concrete placed, and shall include furnishing all labor, materials and equipment, and performing any associated Contractor quality control, environmental protection, tests and reports for performing all work described herein. Additional payment for Class B concrete that was improperly sourced, mixed, installed, cured and/or tested will not be authorized.

d. Quantity is estimated and may vary based on site conditions.

10. Item UP-6: Additional Steel Reinforcement

a. Description: Work under this Item shall consist of additional steel reinforcement installed when ordered by the Engineer, as described in Section 03 21 00 – Reinforcing Steel.

b. Measurement: This Work will be measured for payment as the actual weight (tons) of steel reinforcement installed, as ordered by the Engineer. Payment limits are to be discussed and agreed to with the Engineer and Owner prior to additional steel reinforcement installation and payment.

c. Payment: Payment shall be per ton of steel reinforcement installed, and shall include furnishing all labor, materials and equipment required. Additional payment for steel reinforcement as the result of improperly sourced, mixed, installed, cured and/or tested cast in place concrete will not be authorized.

d. Quantity is estimated and may vary based on site conditions.

11. **Item UP-7: Demarcation Layer**

a. **Description: Work under this Item shall consist of the installation of the demarcation layer (snow fence) when ordered by the Engineer, as described in Section 31 23 10 – Special Requirements for Intrusive Activities within Interim Remedial Measure (IRM) Work Area.**

b. **Measurement: This Work will be measured for payment as the actual square yards of snow fence installed for the demarcation layer, as ordered by the Engineer. Payment limits are to be discussed and agreed to with the Engineer and Owner prior to additional installation and payment.**

c. **Payment: Payment shall be per square yard of snow fence installed for the demarcation layer, and shall include furnishing all labor, materials and equipment required.**

d. **Quantity is estimated and may vary based on site conditions.** [(1)]

12. Item A-1: Contingency Allowance for Miscellaneous Unforeseen Work

    a. Description: Work under this Item shall consist of compensating the Contractor for additional unforeseen work required as a result of unforeseen or differing conditions, as ordered by Engineer. All work shall be performed in accordance with the requirements of the Contract Documents.

    b. Measurement: There will be no measurement for the payment, as this Work will be on a lump sum basis. Payment limits are to be discussed and agreed to with the Engineer and Owner prior to the additional miscellaneous unforeseen Work being completed and paid for.

    c. Payment: Payment of the lump sum Bid price will be made in accordance with the contingency allowance stated in the Bid Form and shall constitute full payment for all work performed, tested, and approved by the Engineer for payment.

13. Item A-2: Contingency Allowance: Disposal of Contaminated Soil

    a. Description: Work under this Item shall consist of the disposal of contaminated soil when ordered by the Engineer, due to unforeseen conditions.

    b. Measurement: This Work will be measured for payment as the actual weight (tons) of contaminated soil disposed of offsite, as ordered by the Engineer. Payment limits are to be discussed and agreed to with the Engineer and Owner prior to disposal of contaminated soil and payment.

    c. Payment: Payment shall be per ton of contaminated soil disposed of offsite.

    d. Quantity is estimated and may vary based on site conditions.

14. Item A-3: Contingency Allowance: Disposal of Hazardous Materials and PFAS

    a. Description: Work under this Item shall consist of the removal and disposal of any unforeseen hazardous materials remediation, material sampling, and laboratory analyses, when ordered by the Engineer.

    b. Measurement: This Work will be measured for payment as the actual weight (tons) of hazardous materials and PFAS removed and disposed of offsite, as ordered by the Engineer. Payment limits are to be discussed and agreed to

[(1)] **ADDENDUM NO. 5**

with the Engineer and Owner prior to removal and disposal of hazardous and/or PFAS materials.

c. Payment: Payment shall be per ton of hazardous materials and/or PFAS removed and disposed of offsite, beyond that required for excavation and disposal of uncontaminated soils.

d. Payment for disposal of unforeseen remediation materials will not be made until a signed copy of the manifest from the treatment or disposal facility certifying the amount of remediation materials delivered is returned with complete chain of custody documentation to the Engineer.

e. Quantity is estimated and may vary based on site conditions.

15. Alternate Bid Item No. 1: Provide Lined Carbon-Steel Piping in lieu of Stainless-Steel Piping for Exposed Applications

a. Lump sum payment for Alternate Bid Item No. 1 shall be full compensation for providing lined carbon-steel piping in accordance with Section 40 05 24.23 –Steel Pipe for Water and Wastewater Service in lieu of stainless-steel piping in accordance with Section 40 05 23.23 – Stainless-Steel Pipe for select exposed applications in accordance with Section 40 06 20 – Process Pipe, Valve, and Gate Schedule.

b. Exposed applications subject to Alternate Bid Item No.1, include the following:

1) Backwash Supply (BWS)

2) Filtered Water (FLW)

3) Filter To Waste (FTW)

4) Filtered Water Transfer (FLWT)

5) Waste Wash Water

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 31 23 10 [(1)]
SPECIAL REQUIREMENTS FOR INTRUSIVE ACTIVITIES WITHIN INTERIM REMEDIAL MEASURE (IRM) WORK AREA

PART 1 - GENERAL

1.1 SUMMARY

A. Work under this section requires Contractor to perform Intrusive Site Activities within the Interim Remedial Measure (IRM) Work Area in a manner that is consistent with certain provisions of the New York State Interim Site Management Plan (ISMP) for Westchester County Airport – New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Site No. C360174 as specified in this Section and throughout these specifications.

B. This Section is only applicable to Intrusive Site Activities within the IRM Work Area.

C. Prior to starting Intrusive Site Activities, the Contractor shall coordinate with the WJWW's Representative, and the Project's Qualified Environmental Professional (QEP).

D. The Contractor shall delineate the IRM Work Area where Intrusive Site Activities are to take place and shall perform work within that area in a manner that limits exposure of its workers, the community and the environment to Controlled Materials, including implementation of dust and odor control as well as other measures specified within this Section.

E. In addition to the Site-Specific Health and Safety Plan (HASP), required by Section 01 35 29 of these Specifications, the Contractor shall develop specific safety and health risk analysis applicable to all of the Contractor's personnel that enter the designated IRM Work Area. The HASP shall provide additional health and safety requirements for workers exposed to Controlled Materials and water or other materials that come in contact with Controlled Materials while working in the IRM Work Area.

F. In addition, to the Dust Control Plan, required by Section 01 57 00 of these Specifications, the Contractor shall develop odor control and vapor control measures to be implemented during Intrusive Site Activities in response to Community Air Monitoring Program (CAMP) action levels.

G. Section Includes:

1. General execution requirements.
2. Material handling and loadout.
3. Soil staging.
4. Environmental coordination.
5. Excavation contingency plan.
6. Odor and dust control.
7. Dewatering.

8. Erosion and sedimentation control.
9. Transportation and disposal of excavated material.

H. Related Sections

1. Section 01 35 29 – Health and Safety Plan
2. Section 01 57 00 – Temporary Controls
3. Section 02 24 20 – Soil Sampling and Analysis
4. Section 31 00 01 – Earthwork
5. Section 31 23 19 – Dewatering
6. Section 31 23 20 – Dewatering Treatment
7. Section 31 50 00 – Excavation Support and Protections
8. Section 31 68 13 – Soil Tie Downs
9. Section 32 90 00 – Final Grading and Landscaping

1.2 DEFINITIONS

A. Brownfields Cleanup Program (BCP) – The work is being performed on a portion of the Westchester County Airport – NYSDEC BCP Site No. C360174, and is subject to the terms and conditions of the Brownfield Cleanup Agreement (BCA) dated August 10, 2021 as set forth in Article 27, Title 14 of the Environmental Conservation Law (ECL), and the additional regulatory terms and conditions at 6 NYCRR 375-1.5, 375-3.4 and 375-3.5.

B. Interim Site Management Plan (ISMP) for the Westchester County Airport – NYSDEC Site No. C360174, which includes an Excavation Work Plan and a generic Site-Specific Health and Safety Plan as attachments.

C. Interim Remedial Measure (IRM) Work Area - IRM Work Area designated by the Contractor pursuant to subsection 1.1.D above where Site Intrusive Site Activities (e.g., excavation, drilling, hand digging, etc.) will occur within the IRM Work Area. Access to the IRM Work Area is to be controlled by the Contractor.

D. Intrusive Site Activities – Any activity within the IRM Work Area that results in disturbance of soil or other materials below the ground surface including, but not necessarily limited to: excavation, fence post installation, sedimentation and erosion control measure installation, utility repair of installation, drilling, pile driving, hand digging, etc.

E. Qualified Environmental Professional (QEP) - WJWW-designated personnel responsible for overseeing the implementation of the requirements of this Section within the IRM Work Area, and who WJWW has determined meets the NYSDEC definition of a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding the presence of releases or threatened releases to the surface or subsurface of a property, or off-site areas, sufficient to meet the objectives and performance factors for the areas of practice.

F. Community Air Monitoring Plan (CAMP) – Plan that includes provisions for real-time monitoring for vapors (i.e., volatile organic compounds [VOCs]) and particulates (i.e., dust)

at the perimeter of each designated work area when certain activities are in progress within the IRM Work Area. The CAMP will be developed by the QEP to meet the BCP requirements and will be performed by the QEP on behalf of the WJWW during Intrusive Site Activities.

G. Controlled Material – Any soil, debris, or other material removed from beneath the ground surface within the IRM Work Area as a result of Intrusive Activities, including exposed soil remaining in the sides or bottom of excavations, and other material that may come in contact with such Controlled Material.

H. Remedial Investigation (RI) – Mechanism for collecting data to characterize Site conditions, determine the nature of contamination, and assess the risk to human health and environment. The RI will be performed by the QEP prior to the start of Intrusive Site Activities by the Contractor. The Contractor will coordinate with the QEP to maintain access to sampling locations such as groundwater monitoring wells to the extent practical during the Intrusive Site Activities.

I. Site-Specific Health and Safety Plan (HASP) – Required by Section 01 35 29 of these Specifications. The HASP also shall provide additional health and safety requirements for workers exposed to Controlled Materials and water or other materials that come in contact with Controlled Materials during Intrusive Site Activities.

1.3 REFERENCES AND STANDARDS

A. Occupational Safety and Health Administration (OSHA) Regulations, 29 CFR Parts 1910 and 1926 - Including, but not limited to, Excavations, Current Revision.

B. State of New York Codes, Rules, and Regulations, including Title 6 of the official Compilation of Codes, Rules, and Regulations (6NYCRR) Parts 360, 364, and 370-374 regarding disposal/treatment, transportation, and management of hazardous waste.

C. 6 NYCRR Part 375 Environmental Remediation Programs, Subparts 375-1 to 375-4 & 375-6, effective December 14, 2006 (NYSDEC, 2006).

D. Transportation regulations, including US Department of Transportation (USDOT) regulations, including Title 29 CFR Parts 171 and 172 and New York State Department of Transportation (NYSDOT) rules and regulations.

E. Draft Interim Site Management Plan for the Westchester County Airport - NYSDEC Site Number: C360174; Terracon; May 2025. This report is provided for informational purposes only and is not part of the Construction Documents. This document is in draft form pending review and approval by NYSDEC and New York State Department of Health (NYSDOH).

F. Draft Interim Remedial Measure for Westchester Joint Water Works by GZA GeoEnvironmental of New York, dated May 2025. This document is in draft form pending review and approval by NYSDEC and NYSDOH.

G. Waste Characterization Report for Westchester Joint Water Works by GZA

GeoEnvironmental of New York, dated January 27, 2021.

1.4 QUALITY ASSURANCE

A. The Contractor shall ensure that on-site management and supervisors directly responsible for handling, storage or transportation of excavated materials shall have completed at least 8 hours of additional, specialized training on managing such operations under OSHA 29 CFR 1910.120 regulations (HAZWOPER supervisor).

1.5 SUBMITTALS

A. At least 60 days prior to the start of any Intrusive Site Activities, the Contractor must provide WJWW with a Notification Submittal. The Notification Submittal shall include, but not be limited to:

1. A schedule for the work, detailing the start and completion of all Intrusive Site Activities;

2. A detailed description of all Intrusive Site Activities that will be performed within the IRM Work Area, including, but not necessarily limited to, the location, areal extent and depth of disturbance, plans/drawings that delineate the anticipated IRM Work Area and environmental control measures that will be used within these areas (e.g., water retention and capture, stabilized equipment egress, sediment and erosion control, etc.);

3. A copy of the Contractor's HASP, submitted in electronic format;

ii. A statement that the Contractor will make all personnel aware of the environmental conditions within the IRM Work Area;

1. Identification of disposal facilities from the list of approved disposal facilities provided by the Owner that will be used for disposal of Controlled Material and water that comes in contact with such material; and

2. Identification of sources of any anticipated backfill, along with all required chemical testing results.

3. Manufacturer’s Cut Sheet for proposed material (demarcation layer, steel casing, lean cement mix).

B. At least 30 days prior to the start of any Intrusive Site work, the Contractor shall submit the following plans:

1. Dust and Odor Control Measures - The contractor shall detail the products that will be mobilized to the site to respond to dust odor and vapor complaints during the CAMP at a minimum it shall include, water truck, 10 mil poly sheeting, and spray-applied foams.

2. Transportation Management Plan (TMP).

PART 2- PRODUCTS

2.1 MATERIALS

A. Demarcation layer: The demarcation shall consist of geosynthetic fencing (orange snow fence) or equivalent material to be placed on the in-place surface of residual soil/fill that is left after removal of Controlled Material prior to any backfill of other permanent covering the surface to provide an observable reference layer.

B. Imported Backfill: All backfill materials imported to the project shall meet geotechnical and environmental requirements. The barrow sources for imported materials must be approved by the QEP prior to import to the Site.

PART 2 - EXECUTION

3.1 GENERAL

A. Prior to initiating an Intrusive Site Activity, the Contractor shall control access to the IRM Work Area with construction fencing around the location of the Intrusive Site Activity that shall be of sufficient size to allow for management, in accordance with the applicable provisions of this Section, of Controlled Material that may be created by the Intrusive Site Activity.

B. After the completion of soil removal and any other invasive remedial activities in areas not covered by the building foundation within the IRM Work Area and prior to backfilling, a New York State licensed surveyor will perform a land survey. The survey will define the top elevation of residual unexcavated soils. A physical demarcation layer, consisting of orange snow fencing material (or equivalent material) will be placed on this surface to provide a visual reference. This demarcation layer will constitute the top of the 'Residuals Management Zone,' the zone that requires adherence to special conditions for disturbance of contaminated residual soils defined in the Interim Site Management Plan. The survey will measure the grade covered by the demarcation layer before the placement of cover soils, pavement and sub-soils, structures, or other materials. This survey and the demarcation layer placed on this grade surface will constitute the physical and written record of the upper surface of the 'Residuals Management Zone' in the Site Management Plan. The Contractor shall provide a map showing the survey results for inclusion in the Construction Completion Report (CCR) submitted by the QEP to the NYSDEC.

C. The designated IRM Work Area will remain in place until all Intrusive Site Activities within the IRM Work Area have been completed and exposed material has been covered by a barrier (e.g., backfill, concrete, base material, or other material that effectively prevents exposure by workers or the public to Controlled Materials that may be exposed by the Intrusive Site Activity).

D. All of the Contractor's personnel within the IRM Work Area shall be subject to the requirements of the HASP until soil and other Controlled Material left in place has been covered by the barrier referenced in 3.1 B of this Section.

E. Import of soils (e.g., gravel, rock, stone, etc.) onto the property will be performed as needed. Backfill materials used at the Site will meet the requirements of 6 NYCRR Part 375-6.7(d) for use as backfill.

F. Intrusive Site Activities shall be performed in such a manner that the construction site, including excavations, pits, and trenches, will be continually and effectively free from accumulations of water. Any water that comes in contact with Controlled Material shall be collected and managed in accordance with Section 3.7.

G. The Contractor shall develop, implement, and enforce an activity specific Health and Safety Plan (HASP) for Intrusive Site Activities within the IRM Work Area. The HASP shall provide additional health and safety requirements for workers exposed to Controlled Material. A generic activity specific HASP is included as part of the Interim Site Management Plan (ISMP) for the Westchester County Airport which has been provided for reference purposes. This generic HASP should be reviewed by a qualified representative of the Contractor performing the work, and the Contractor's HASP should, at a minimum, address the task-specific requirements and procedures included within the generic HASP, be compliant with the most current regulatory requirements, and provide any additional safety requirements that the Contractor believes are warranted. The Contractor shall be solely responsible for preparing the HASP in accordance with all applicable local, state, and federal rules, laws, and regulations. The HASP shall include, but not necessarily be limited to, the following requirements:

1. Be prepared by a qualified person and meet the requirements of the most recently adopted and applicable general industry (29 CFR 1910) and construction (29 CFR 1926) OSHA Standards, the U.S. Department of Labor, as well as any other federal, state, and or local statutes and regulations.

2. Procedures to mitigate exposure to Controlled Materials as well as water and other material that may come in contact with Controlled Materials including, but not limited to, wearing adequate PPE, performing appropriate air monitoring, and implementing other engineering controls, as necessary, to mitigate potential ingestion, inhalation, or contact with residual constituents in Controlled Materials.

3. All workers have hazard awareness training, and that training shall be documented.

4. The HASP shall apply to all construction personnel that enter the IRM Work Area. In addition, the Contractor shall protect the public and untrained visitors from on-site hazards including subsurface contaminants associated with excavation activities.

5. The HASP will provide procedures for hazardous chemicals expected at the site, job hazard analyses, hazard communication, worker training, accident prevention, personnel protective equipment selection, emergency response/contingency

planning, air monitoring, decontamination of personnel and equipment, community protection, and management of change.

6. The Contractor's HASP shall identify key project personnel with roles, responsibilities, and contact information. Typical roles include Site supervisor, field safety officer, and first aid personnel.

H. Intrusive site activities and waste management activities will be conducted in accordance with all applicable state and federal rules, regulations, and guidance, regardless of whether they are specifically identified herein or not (including any and all applicable subsequent updates, modifications, or alternative/replacement rules, regulations, and guidance).

3.2 MATERIAL HANDLING AND LOADOUT

A. All Controlled Material shall be transported offsite for disposal in accordance with all applicable regulations and the requirements of these Specifications.

B. Unless otherwise approved by the QEP, Controlled Material shall be directly loaded into the appropriate container (e.g., drum, roll off, truck, etc.) in a manner that reduces odors, dust, or spillage outside of the IRM Work Area. If stockpiling of Controlled Material is required, such stockpiling shall be performed in accordance with Part 3.3 of this Section.

C. Excavated Material that does not meet Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-.165 Registration Facility).

D. All loaded containers leaving the IRM Work Area shall be appropriately lined, tarped, or otherwise securely covered to prevent physical exposure to Controlled Materials outside of the IRM Work Area, eliminate dust, prevent spillage, and control odors.

E. All vehicles and other equipment where tires or exterior portions of the vehicle have come in contact with Controlled Material shall exit the IRM Work Area through a stabilized construction exit to prevent the vehicles or equipment from tracking or otherwise releasing Controlled Material outside of the IRM Work Area. The stabilized construction entrance shall be constructed of a 6-inch lift of 1/2-inch crushed stone placed on filter fabric.

F. All visible Controlled Material shall be removed from the tires or exterior of the vehicle or equipment prior to leaving the controlled exit area either through brushing, scrapping, or washing, as necessary. The adequacy of such removal will be determined by the QEP. Any wash waters shall be collected and disposed of off-site in accordance with all applicable regulations and these Specifications.

G. Locations where vehicles enter or exit at IRM Work Area, and the site shall be inspected daily for evidence of off-site soil tracking.

H. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Controlled Material.

3.3 SOIL STAGING

A. Stockpiling of Controlled Materials shall only occur within the IRM Work Area and require prior approval of the QEP.

B. The stockpiles shall be routinely inspected by the Contractor at a minimum of once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and made available upon request of WJWW's Representative.

C. Controlled Material must be placed on a polyethylene sheeting. Stockpiled Controlled Material must be covered whenever the pile is not actively in use, during overnight/weekend hours, during periods of precipitation, or whenever dust or odor action levels are exceeded. The Controlled Material will be covered using 10-mil polyethylene sheeting, or similar, to reduce potential migration and/or direct contact exposures, windblown dust, and nuisance odors.

D. Controlled Material stockpiles that remain in-place after the end of a work shift shall be encircled by the Contractor with a berm and/or silt fence.

3.4 ENVIRONMENTAL COORDINATION

A. The Contractor shall coordinate with the QEP in implementation of the requirements of this Section of the Specifications.

B. The QEP will collect samples of Controlled Materials as necessary for waste characterization and disposal facility acceptance and send them for laboratory analysis to evaluate off-site disposal options.

C. During excavation work, the Contractor shall coordinate with the QEP who will perform screening, sampling, and Community Air Monitoring Program (CAMP) during the excavation.

3.5 EXCAVATION CONTINGENCY PLAN

A. If underground tanks are found during subsurface excavations or related construction, excavation activities will be suspended until the NYSDEC's Project Manager and WJWW Representative are notified and sufficient equipment is mobilized to address the condition.

B. Sampling by the QEP will be performed on product, sediment, and surrounding soil, etc. as necessary to determine the nature of the material and proper disposal method.

C. Chemical analyses to be performed will be developed in conjunction with the NYSDEC prior to sampling.

D. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline.

3.6 ODOR AND DUST CONTROL

A. The Contractor shall employ all necessary means to prevent nuisances associated with odor and dust outside of the IRM Work Area. At a minimum, these measures will include: limiting the area of open excavations and size of soil stockpiles; shrouding of open excavations and stockpiles with a minimum of 10 mil poly sheeting and/or other covers (as approved by the QEP); and using spray-applied foams to cover exposed odorous soil.

B. If CAMP threshold or action levels are exceeded, the Contractor shall cease all excavation or other activities that may be contributing to odor or dust levels until additional control measures can be identified and implemented.

1. The measures utilized shall be subject to the approval of the QEP and the WJWW's Representative.

2. If nuisance odors are identified at the IRM Work Area boundary or if odor complaints are received, work shall be halted, and the source of odors shall be identified and corrected.

3. If odors develop and cannot be otherwise controlled, additional means to eliminate nuisance odors will include use of chemical odor suppressants in spray or misting systems.

4. If nuisance odors develop that cannot be corrected, then odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

C. During ground disturbance activities, dust control measures shall be employed in accordance with site specific plans prepared in conformance with applicable laws and regulations. A dust suppression plan will be incorporated in accordance with applicable regulations that addresses dust management during Invasive Activities or management of Controlled Material that will include at a minimum:

1. A dedicated on-site water supply for road wetting, applying water on traffic areas, wetting equipment, spraying water on earth-removal equipment buckets during dumping, and hauling materials in properly covered or watertight containers.

2. Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, non-vegetated soil vulnerable to dust production.

3. Gravel will be used for on-site roadways to provide a clean and dust free road surface.

4. On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

3.7 DEWATERING

A. The Contractor shall contain fluids that collect in open excavations in order to prevent uncontrolled migration from excavated areas of water that comes into contact with Controlled Materials. The Contractor shall be prepared to pump fluids into appropriately sized containers and transport containerized water off-site for disposal at a disposal facility approved by the Owner. The QEP will collect samples for disposal characterization prior to transport off-site by the Contractor.

B. Specific dewatering and dewatering treatment requirements are included in Sections 31 23 19 and 31 23 20, respectively.

3.8 EROSION AND SEDIMENTATION CONTROLS

A. The Contractor shall provide erosion control methods to prevent migration of Controlled Materials outside of the IRM Work Area.

B. Erosion and sedimentation control measures shall be employed in accordance with site-specific plans prepared in accordance with applicable laws and regulations. Proven soil conservation practices shall be incorporated in any such plans in order to mitigate soil erosion, off-site sediment migration, and water pollution from erosion.

C. Appropriate temporary erosion control measures shall be installed and maintained around the IRM Work Area and non-vegetated soil surfaces in the area during such activities.

3.9 TRANSPORTATION AND DISPOSAL OF EXCAVATED MATERIALS

A. To the extent necessary for waste characterization and acceptance by the disposal facility, the QEP will collect samples of Controlled Material and any water that has come in contact with those materials and send them for laboratory analysis.

B. Controlled Materials and water that is sent for off-site disposal shall be transported in accordance with applicable requirements and regulations. The Contractor shall only transport Controlled Materials to disposal facilities that have been approved. The QEP shall review and comment on the selected disposal facilities based on the results of the Waste Characterization study, RI sampling and any additional sampling performed by the Contractor.

1. The QEP will coordinate with the Contractor to develop waste profiles for disposal facility acceptance.

2. The Contractor shall coordinate with the Owner's representative to have a representative on- Site to sign manifests and bills-of-lading for excavated materials on behalf of the Owner on days that materials are transported off-site for disposal.

C. All transport of excavated materials from this site will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR

Part 364. All materials must be secured with tight-fitting covers prior to leaving the Site.

D. The Contractor shall develop a Transportation Management Plan (TMP) for submittal to the WJWW prior to the start of any Intrusive Activity for review and approval.

1. The TMP shall contain a map identifying the required truck transport routes to and from the Site where the selected routes limit transport through residential areas and past sensitive sites; emphasizes use of city mapped truck routes; limits total distance to major highways; promotes safety in access to highways; and overall safety in transport.
2. The TMP shall provide a listing, including company name and address, of proposed waste haulers. Provide for each proposed waste hauler a copy of the valid 6 NYCRR 364 Waste Transporter Permit. The contractor shall furnish a list approved by the Authority that identifies the make, model, truck number and registration plate number of each of the trucks that shall transport the material to the designated facility(ies).
3. Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site.
4. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and redevelopment.
5. Queuing of trucks will be performed on-Site in order to minimize off-Site disturbance. Off-Site queuing will be minimized.
6. Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

E. All material excavated and removed from the IRM Work Area will be managed and transported in accordance with all local, State, and Federal regulations.

F. Actual disposal quantities and associated documentation shall be reported to the WJWW. At the completion of the project the Contractor shall provide the WJWW all applicable: facility acceptance letters, trucking manifests, bills-of-lading, and facility receipts.

END OF SECTION

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SECTION 33 24 00 [1]

STORM DRAINS AND ROOF DRAINS

PART 1 – GENERAL

1.01 THE REQUIREMENT

A. Furnish all labor, equipment and materials in connection with the installation of exterior underground Storm drains and Roof drains as shown on the Contract Drawings and specified herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 31 00 01 – Earthwork

1.03 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. ASTM C 150 – Standard Specification for Portland Cement.

B. ASTM C478 –Standard Specification for Precast Reinforced Concrete Manhole Sections

C. ASTM C857 – Minimum Structural Design Loading for Underground Precast Concrete Utility Structures

D. ASTM C969 – Standard Practices for Infiltration and Exfiltration Testing of Installed Precast Concrete Pipe Sewer Lines

E. ASTM C990 – Standard Specification for Joints in Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants

F. ASTM C1103 – Standard Practice for Joint Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines

G. ASTM C1619 – Standard Specifications for Elastomeric Seals for Joining Concrete Structures

H. ASTM D 2321 – Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and other Gravity-Flow Applications.

I. ASTM D 3350 – Standard Specifications for Polyethylene Plastic Pipe and Fitting Material.

J. AWWA C 110 – Standard Specification for Ductile Iron Pipe & Fittings for Water and Other Liquids.

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[1] **ADDENDUM NO. 5**

K. AWWA C 151 – American National Standard for Ductile-Iron Pipe, Centrifugally Cast, for Water.

L. AASHTO M 198 – Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants

M. AASHTO M 294 – Standard Specifications for Corrugated Polyethylene Pipe (12” to 36”).

N. AASHTO Section 30 – Thermoplastic Pipe.

1.04 SUBMITTALS

A. Furnish and submit shop drawings and certificates for the piping work as outlined in the General Conditions and Division 1.

B. Special care shall be exercised during delivery, distribution and storage of the pipe and fittings to prevent damage. Damaged pipe will be rejected and shall be replaced at the Contractor's expense. Storage of pipe and fittings, prior to use, shall be in such a manner as to keep the materials clean and dry.

PART 2 – PRODUCTS

2.01 DUCTILE IRON PIPE (DIP)

A. Pipe

1. Shall be centrifugally cast in metal molds or sand lined molds in accordance with ANSI A21.51 (AWWA C151) of grade 705005 ductile iron. The above standard covers ductile iron pipe with nominal pipe sizes from three (3) inches up to and including fifty-four (54) inches in diameter.

2. Shall be a minimum Special Thickness Class 53.

B. Fittings

1. Shall be manufactured in accordance with ANSI A21.10 (AWWA C110).

2. Shall be manufactured of grade 70 50 05 ductile iron.

3. Shall have a rated working pressure of 250 psi.

4. Grey iron fittings which conform to the specifications contained herein may be used with ductile iron pipe providing the piping systems minimum working pressure

is met or exceeded, and only where ductile iron fittings are not manufactured for a specific fitting.

C. Coatings and Linings for Pipe and Fittings

1. The standard asphaltic coating shall be applied to the exterior wall of the pipe and fittings in accordance with ANSI A21.51 (AWWA C151).

2. The pipe and fittings shall be cement mortar lined to twice the standard thickness in accordance with ANSI A21.4 (AWWA C104) except as specified in the pipe schedule. A seal coat of asphaltic material shall be applied to the mortar lining.

D. Joints

1. Joints shall be push on type in accordance with ANSI A21.11 (AWWA CIII).

2.02 SMOOTH LINED CORRUGATED HIGH-DENSITY POLYETHYLENE (HDPE) PIPE

A. General

1. Smooth lined corrugated high-density polyethylene (HDPE) pipe shall be used for storm drains and shall be BLUE SEAL watertight HDPE pipe as manufactured by Hancor, Inc., N-12 WT IB (Watertight) Pipe by ADS, Inc., or approved equal.

B. Pipe and Fittings

1. Smooth lined corrugated HDPE pipe and fittings shall conform to AASHTO M252-TYPE S for 4" to 10"φ and AASHTO M294 - TYPE S for 12" to 42"φ. All pipes shall be of the sizes indicated on the drawings.

C. Joints

1. Joints shall be watertight bell and spigot type; Hancor, Inc. BLUE SEAL, ADS, Inc. N-12 WT IB, or equal.

D. Foundation Underdrain

1. Foundation drains shall conform to AASHTO M252-TYPE C. Drains shall have drilled perforations underneath the foundation and transition to solid wall pipe a minimum five feet outside the limits of the foundations.

2. Foundations drains shall be Heavy Duty-AASHTO Pipe as manufactured by Hancor, Inc., Single Wall Corrugate Pipe by ADS, Inc., or approved equal.

2.03 POLY(VINYL CHLORIDE) PIPE

A. General – Smooth-wall perforated and unperforated PVC pipe between four and 15-inches, couplings and fitting shall conform to AASHTO M278-22. PVC pipe between 18-inches and 60-inches shall conform to ASTM D3034 Type PSM for gravity sewer pipe.

B. Joints

1. Joints shall be watertight bell and spigot with gaskets meeting the requirements of ASTM F477.

2.04 BACKFILL MATERIAL

A. The material obtained from excavation of the pipe trench or elsewhere on site with a particle size not greater than 3 inches shall be used for pipe backfill if they conform with the soil classes given in Table 1. Imported materials meeting the criteria of Table 1 may also be used.

Table 1: Acceptable Backfill Material and Compaction Requirements

Soil Classifications				
Description	**ASTM D 1479**	**ASTM D 2487**	**AASHTO M 43**	**Minimum Standard Proctor Density %**
Graded or crushed, crushed stone, gravel	Class I	--	5 56	Dumped
Well-graded sand, gravels and gravel/sand mixtures, poorly graded sand, gravels and gravel/sand mixtures; little or no fines	Class II	GW GP SW SP	57 6	95%
Silty or clayey gravels, gravel/sand/silt or gravel and clay mixtures; silty or clayey sands, sand/clay or sand/silt mixtures	Class III	GM GC SM SC	Gravel and Sand (<10% fines)	95%

PART 3 – EXECUTION

3.01 INSPECTION

A. Each length of pipe and fittings delivered to the property shall be inspected by the Contractor, in the presence of the Engineer, for flaws, cracks, dimensional tolerances and compliance with the referenced Standards. The Contractor shall provide the Engineer with suitable templates or calipers for checking pipe dimensions. Only lengths of pipe and fittings accepted by the Engineer and so marked may be installed in the work.

3.02 INSTALLATION

A. Trenching, bedding and backfilling shall be as specified in Section 31 00 01 – Earthwork of these Specifications and Paragraph 2.04 Backfill Material of this Specification. Under no condition shall pipe be laid in water or when trench conditions or weather are unsuitable for such work.

B. All pipes and fittings shall be handled carefully in loading and unloading. They shall be lifted by hoists or lowered on skidways in such a manner as to avoid shock. Derricks, ropes or other suitable equipment shall be used for lowering the pipe into the trench. Pipe and fittings shall not be dropped or dumped.

C. Each pipe and fitting shall be inspected before it is lowered into the trench. The interior of the pipe and all joint surfaces shall be thoroughly cleaned and shall thereafter be maintained clean. The open ends of pipe shall be securely plugged whenever pipe laying is not in progress.

D. Pipe and fittings shall be selected so that there will be as small a deviation as possible at the joints and so that inverts present a smooth surface. All joints shall be installed, made up and inspected in accordance with approved printed instructions of the manufacturer. Pipe and fittings which do not fit together to form a tight joint will be rejected.

E. Cutting of reinforced concrete pipe will be permitted only at connections to structures and be accomplished by abrasive saws. Cutting of other pipe materials shall be done only with mechanical cutters and in accordance with the manufacturer's recommendations.

F. Pipe shall be laid accurately to the lines and grades shown on the drawings or as directed by the Engineer.

G. If an adequate foundation for the pipe is not available at the desired depth, additional excavation shall be required, and the foundation brought to desired grade with suitable granular material.

H. Rock outcroppings, very soft soils such as muck, and other similar materials not providing proper foundation support shall be removed/replaced with suitable granular material.

I. Bedding material directly under the pipe invert shall be left in native condition and not compacted. Pipe shall be placed on the bedding, then backfilled under the pipe haunches before further backfill is placed.

J. Class I materials may be dumped around pipe. Voids shall be eliminated by knifing under and around the pipe or by other approved technique.

K. Inorganic silts, and gravelly, sandy, or silty clays, and other Class IV materials (not shown in Table 1) shall not be used for pipe backfill.

L. Any section of the pipe that is found defective in material, alignment, grade, joints, or otherwise, shall be satisfactorily corrected by the Contractor at no additional cost to the Owner.

3.03 COMPACTION

A. General

1. Place and assure backfill and fill materials achieve an equal or higher degree of compaction than undisturbed materials adjacent to the work.

2. In no case shall degree of compaction below “Minimum Compactions” specified be accepted.

B. Compaction Requirements: Unless noted otherwise on the Drawings or more stringently by other Sections of these Specifications, comply with following trench compaction criteria:

Table 2: Minimum Compactions

Location	Soil Type	Density
Compacted Select Backfill		
All applicable areas	Cohesive soil	95 percent of maximum dry density by ASTM D698
	Cohensionless soils	75 percent of maximum relative density by ASTM D4253 and ASTM D4254
Common Trench Backfill		
Under pavements roadways surfaces, D698 within highway rights-of-way, adjacent to retaining walls	Cohesive soils	95 percent of maximum dry density by ASTM D698
	Cohensionless soils	75 percent of maximum relative density by ASTM D4253 and ASTM D4254
Under turfed, sodded plant seeded, non-traffic areas	Cohesive soils	95 percent of maximum dry density by ASTM D698
	Cohensionless soils	75 percent of maximum relative density by ASTM D4253 and ASTM D4254

C. Ensure backfill materials have moisture content within three (3) percent of optimum moisture content at the time of placement.

3.04 INSPECTION AND TESTING

A. General

1. The Contractor shall provide at his own expense, all labor, material, video and measuring devices, water, plugs, or other equipment necessary to perform the required tests. All tests shall be performed in the presence of the Engineer. Disposal of water shall be in accordance with Section 01 11 00 – Summary of Work.

B. Tests by Manufacturer

1. DIP and HDPE - An infiltration and exfiltration test for the pipe shall be made at the place of manufacture. Certified test results shall be submitted. The infiltration or exfiltration allowance shall not exceed 250 gallons per inch of pipe diameter per mile per day. One joint test for each two hundred feet of pipe to be furnished.

C. Field Test - Visual Inspection

1. Examine structures and pipes for:

a. Physical damage.

b. Indication of displacement of pipes or structures, reinforcement, forms, or bedding.

c. Porous areas or voids.

d. Proper placement of seals, gaskets, and embedments.

e. Visible infiltration.

2. Verify structures and pipes are set to proper line, grade as per the Contract Drawings, and are plumb.

3. Verify structure and pipe dimensions and thickness match Contract Drawings.

4. Measure inside dimensions of all flexible (HDPE) pipe prior to installation. Use these dimensions when sizing the mandrel should deflection testing be required.

a. Using light to inspect pipe shall be done following pipe trench backfill is compacted and brought to grade or pavement subgrade.

b. Full pipe diameter shall be visible for entire length of each section between structures.

c. No less than half pipe diameter shall be visible for horizontal alignment.

5. The Contractor shall be responsible to provide video recording of the all installed storm sewer systems at least 30 days after completion of backfill and one month before Owner or Engineer gives final acceptance for the two-year warranty. The recording shall be made using a color camera, self-propelled or other, having sufficient light to show detail of problem areas and joints. Camera speed shall not exceed 3 feet per second. If problems or concerns are seen by the operator, then the camera shall be reversed and an extended look at the area will be recorded. All recordings will have time, date, and footage displayed. Supplement the video recording with a written log or orally recorded tape log noting observations, findings, and deficiencies shown on the video tape.

   a. The video recording inspection shall be performed by an outside independent testing agency acceptable to the Owner or Engineer.

   b. The video tape and log will be given to the Engineer for review. If the Engineer finds any problems with the storm sewer, the Contractor will repair the problem and re-camera the repaired area before final acceptance will be given, at no added cost to the Owner.

   c. Video recording of storm sewer may be waived if pipe diameter is sufficient for human access, as determined by the Engineer. A log shall be developed for such inspection.

   d. One copy of the video tape and log will become permanent property of the Engineer and Owner as record.

D. Field Test - Manhole Testing

1. The finished manholes shall be as watertight as the pipe system of which it is part. See Section 33 05 61 – Utility Structures for manhole testing criteria.

2. Observed leaks (infiltration or exfiltration) at any time within the warranty period shall be cause for rejection.

E. Field Test - Storm Drains and Culverts less than 30” Ø

1. If, after the visual inspection and video recording of the storm trunk or lateral lines, the Engineer finds there is a potential joint tightness problem, or excessive deflection, and the Contractor does not agree to repairing defects in pipe based on visual inspection, he/she may require leakage testing of the line.

a. Reference ASTM C696, latest revision. Test shall be used if the groundwater level is less than 2 ft. above the crown of the pipe measured from the highest elevation of the pipe length being tested.

b. Leakage rate testing applies to only circular pipe less than 30” Ø. The length of pipe tested shall not exceed 700 ft.

c. The leakage testing shall occur at least 30 days after completion of the backfilling and compaction.

d. If the Engineer determines reliable and uniform results are produced by the Contractor's construction techniques, the leakage testing may occur after initial backfill and compaction.

2. The Contractor shall provide all equipment and personnel to perform the leakage testing.

3. The Engineer shall record times and calculation leakage rates during the test period.

4. The leakage test shall be performed as follows:

a. Plug all pipe outlets discharging into the upstream manhole and the test section outlet. Fill the sewer line with water.

b. At the upstream manhole the test head shall be established as minimum of 2 ft above the crown of the pipe, or at least 2 ft above existing groundwater, whichever is higher.

c. Allow the pipe to remain saturated for a period long enough to allow water absorption in the pipe, a minimum of 4 hours and up to a maximum of 72 hours. After the absorption period, refill the pipe to the required test head.

d. Measure the leakage loss over a timed test period. The minimum test period shall be 15 minutes and the maximum shall not exceed 24 hours.

5. The allowable leakage limit including manholes is 250 gal/(in. of internal diameter) (mile of sewer) (24 h) when the average head on the test section is 6 ft or less.

6. When the average head on the test section is greater than 6 ft, the allowable leakage shall be multiplied by the ratio of the square root of the average test head and the square root of the base head of 6 ft.

7. Manholes shall be tested separately and independently or with the pipeline with an allowance of 0.1 gal/(ft of diameter) (ft of head) (h).

8. Sections of the pipe which fail the air test, shall have the defects repaired, and the test shall be repeated.

    a. The initial leakage testing, repair, and repeat testing of the failed section of pipe shall be repeated at no added cost to the Owner until the testing requirements are met.

F. Field Test - Storm Drains and Culverts 30” Ø and greater

1. If, after the visual inspection and video recording of the storm trunk or lateral lines, the Engineer finds there is a potential joint tightness problem, or excessive deflection, and the Contractor does not agree to repairing defects in pipe based on visual inspection, he/she may require air or water pressure testing of individual pipe joints.

    a. Reference ASTM C1103, latest revision. The following procedures apply to testing with either air or water.

    b. Pressure testing applies to only circular pipe 30” Ø or greater and not elliptical, arch or box sections.

    c. The pressure test shall occur at least 30 days after completion of the backfilling and compaction.

    d. If the Engineer determines reliable and uniform results are produced by the Contractor's construction techniques, the pressure test may occur after initial backfill and compaction.

2. The Contractor shall provide all equipment and personnel to perform the pressure testing.

3. The Engineer shall record times and observe pressure losses during the test period.

4. If the groundwater pressure is equal to or greater than the test pressure, and the storm drain or joint is not leaking, the storm drain or joint is acceptable in accordance with ASTM C969 and no additional testing is required. If one or more joints are leaking, but the total amount of leakage in the storm drain being tested is equal to, or less than, the allowable leakage rate established in accordance with ASTM C969, the line is acceptable and no additional testing is required provided visible leaks are repaired. Moisture or beads of water appearing on the surface of the joint will not be considered as visible leakage.

5. The pressure test shall be performed as follows:

a. Move the joint test apparatus into the sewer line to the joint to be tested and position it over the joint. The end element sealing tubes must straddle both sides of the joint and the hoses are attached. For the water test, the bleed-off petcock must be located at top dead center.

b. Inflate end element sealing tubes with air or water in accordance with equipment and manufacturer's instructions.

c. All test pressures are measured as gauge pressure, defined as any pressure greater than atmospheric pressure. Test observer shall note water produces a pressure of 0.43 psi for every foot of depth, and therefore test pressures must be increased to offset the depth of groundwater over the sewer line. If the groundwater level is 2 ft or more above the top of the pipe at the upstream end or if the pressure required for the test is greater than 6-psi gauge, the joint test method shall not be used and the infiltration test may be used (see ASTM C969).

d. An air or water reservoir shall be included in the joint test system. By maintaining a constant supply of air or water in a reservoir, continuous pumping of air or water is not required, and any variances in test equipment and joint space will be negated. The reservoir shall have a minimum volume of 2.5 ft^3.

6. The joint air pressure test shall be performed as follows

a. Pressurize the void volume with air to 3.5 psi greater than the pressure exerted by groundwater above the pipe. Allow the air pressure and temperature to stabilize before shutting off the air supply and start of test timing.

b. If pressure holds, or drops less than 1 psi in 5 seconds, the joint is acceptable.

c. If the joint being tested fails, it shall be retested, or repaired if necessary, and retested.

d. After the joint test is completed, exhaust void volume, then exhaust end element tubes prior to removal of apparatus.

7. The joint water pressure test shall be performed as follows

a. Introduce water into void volume until water flows evenly from open petcock. Close the petcock and pressurize with water to 3.5 psi above the pressure exerted by groundwater above the pipe. Shut off the water supply.

b. If pressure holds, or drops less than 1 psi in 5 seconds, the joint is acceptable.

c. If the joint being tested fails, it shall be retested, or repaired if necessary, and retested.

d. After the joint test is completed, exhaust end element tubes which will automatically release the water from the void volume, prior to removal of apparatus.

G. Field Test – DIP Storm

1. All ductile iron storm drains shall be leakage tested to a minimum of 50 psi. The test shall be conducted in presence of the Engineer. The test shall be conducted for a minimum of two hours.

H. Deflection Test – Flexible Pipe

1. If after the visual or video inspection of the storm trunk or lateral lines, the Inspector finds there is “egging or deflection” of a section of pipe, a deflection test shall be performed on the defective section of pipe installed. Test shall be performed using an odd-legged mandrel pulled through the pipe without mechanical assistance or by laser profiling. The mandrel size shall be the measured inside diameter of the subject pipe minus 5% of the measured diameter. The mandrel shall have no less than nine legs.

2. Any pipe failing any deflection test shall be removed, replaced, and retested.

3. At the end of the two-year warranty period, the flexible storm pipe will be visually inspected for “egging or deflection”. If excess deflection is observed, the Owner/Warranty Holder will, at his/her expense, retest questionable portions per this section.

I. Repair

1. Repair or replace any unacceptable work at no additional cost to the Owner.

2. Repair all visible leaks.

3. Remove any concrete webs or protrusions.

4. Remove form ties and repair tie holes.

END OF SECTION

SECTION 40 06 20

PROCESS PIPE, VALVE, AND GATE SCHEDULES

PART 1 - GENERAL

1.01 THE REQUIREMENT

A. Reference Section 40 05 00 - Basic Mechanical Requirements.

1.02 PIPING SCHEDULES

A. Piping requirements for this Section are outlined on the Drawings and in the Piping Schedules. In the absence of a specified test pressure, pipe shall be tested at the greater of: 1) 150 percent of working pressure as determined by the Engineer or 2) 10 psig, unless the Schedule indicates no test is required.

B. If the pipe material is not shown on the Piping Schedule or otherwise specified, the following materials shall be used.

PIPE SIZE	MATERIAL	TYPE OF JOINT	CLASS/DESIGN	TEST PRESSURE
4-IN AND LARGER	DIP	FLANGED (EXPOSED)	CLASS 53	(1)
		RESTRAINED (BURIED)	PRESSURE CLASS 350	
LESS THAN 4-IN	PVC/CPVC (2)	SOCKET	SCH 80	(1)

(1) Test at 150 percent of working pressure or 10 psi, whichever is greater.
(2) For all PVC / CPVC designations, if piping is exposed to direct sunlight or if heat tracing is required, CPVC shall be used. Otherwise, PVC shall be used.

1.03 VALVE SCHEDULES

A. All valves shall be tagged by the manufacturer according to the control valve designations listed in this Section.

B. Valves not listed in this Section shall be manually operated, unless otherwise shown on the Drawings.

10-22-20

1.04 GATE SCHEDULES

A. Gates shall be tagged by the manufacturer according to locations listed in this Section.

WATER TREATMENT PLANT PIPING SCHEDULE

PIPE DESIGNATIONS		MATERIAL	BURIED PIPING		EXPOSED PIPING			DESIGN PRESSURE (PSI)[1]			
			TYPE OF JOINT	CLASS/ DESIGN	TYPE OF JOINT	CLASS/ DESIGN	HEAT TRACE[2]	WORKING	SURGE	RESTRAINT	FIELD TEST
AM	ACCESS MANWAYS	DIP	N/A	N/A	FLANGED	CLASS 53	No	20	N/A	N/A	45
AS	AIR SCOUR	STAINLESS STEEL	N/A	N/A	WELDED/ FLANGED[4]	SECTION 40 05 24.23	NO	12	18	30	25
BWS	BACKWASH SUPPLY	STAINLESS STEEL	N/A	N/A	WELDED/ FLANGED[4]	SECTION 40 05 24.23	NO	63	78	110	95
CA	COMPRESSED AIR	COPPER	N/A	N/A	SOLDERED	TYPE K	NO	150	N/A	187.5	225
CEN	CENTRATE	DIP	N/A	N/A	FLANGED	CLASS 53	NO	10	N/A	15	15
CTF	CENTRIFUGE FEED	DIP	N/A	N/A	FLANGED	CLASS 53	NO	116	N/A	174	174
DAFR	DAF RECYCLE	STAINLESS STEEL	N/A	N/A	WELDED/ FLANGED[4]	SECTION 40 05 24.23	NO	144	180	180	216
DAFS	**DAF SPRAY**	**< 4" PVC / CPVC[3]**	**N/A**	**N/A**	**SOCKET/ FLANGED**	**SCH 80**	**NO**	**144**	**180**	**180**	**216**
FLW	FILTERED WATER	STAINLESS STEEL	N/A	N/A	WELDED/ FLANGED[4]	SECTION 40 05 24.23	NO	20	N/A	30	30
FLWT	FILTERED WATER TRANSFER	STAINLESS STEEL	N/A	N/A	WELDED/ FLANGED[4]	SECTION 40 05 24.23	NO	156	195	273	234
		DIP	**RESTRAINED**	**CLASS 53**	**N/A**	**N/A**	**NO**				
FS	FLOATED SOLIDS	DIP	N/A	N/A	FLANGED	CLASS 53	NO	10	N/A	15	15
FST	FLOATED SOLIDS TRANSFER	< 4" PVC / CPVC[3]	N/A	N/A	SOCKET/ FLANGED	SCH 80	NO	116	N/A	174	174
		> = 4" DIP	N/A	N/A	FLANGED	CLASS 53	NO				
FTW	FILTER TO WASTE	STAINLESS STEEL	N/A	N/A	WELDED/ FLANGED[4]	SECTION 40 05 24.23	NO	20	N/A	30	30
MW	MIXED WATER	STAINLESS STEEL	N/A	N/A	WELDED/ FLANGED[4]	SECTION 40 05 24.23	NO	15	N/A	23	23

WATER TREATMENT PLANT PIPING SCHEDULE

PIPE DESIGNATIONS		MATERIAL	BURIED PIPING		EXPOSED PIPING			DESIGN PRESSURE (PSI)[1]			
			TYPE OF JOINT	CLASS/ DESIGN	TYPE OF JOINT	CLASS/ DESIGN	HEAT TRACE[2]	WORKING	SURGE	RESTRAINT	FIELD TEST
MR	MIXED RESIDUALS	> = 4" DIP	N/A	N/A	FLANGED	CLASS 53	NO	22	N/A	32	32
NPW	NON-POTABLE (SERVICE) WATER	< 4" PVC / CPVC[3]	N/A	N/A	SOCKET/ FLANGED	SCH 80	NO	80	N/A	120	120
		> = 4" DIP	N/A	N/A	FLANGED	CLASS 53	NO				
OF	OVERFLOW	> = 4" DIP	RESTRAINED	CLASS 53	FLANGED	CLASS 53	NO	2.5	N/A	4	4
		HDPE	**PUSH-ON**	**SECTION 33 24 00**	**NA**	**NA**	**NO**	**SECTION 33 24 00**			
	PROPANE	4" POLYETHYLENE	FUSED	PRESSURE CLASS 80	N/A	N/A	N/A				
PDG	PROCESS DRAIN GRAVITY	< 3" PVC / CPVC[3]	SOCKET	SCH 80	SOCKET/ FLANGED	SCH 80	NO	20	N/A	N/A	30
		> = 3" DIP	RESTRAINED	CLASS 53	FLANGED	CLASS 53	NO				
		>= 4" PVC	**PUSH-ON**	**SDR 26**	**NA**	**NA**	**NO**				
PW	POTABLE WATER	< 4" PVC / CPVC[3]	SOCKET	SCH 80	SOCKET/ FLANGED	SCH 80	NO	150	150	300	225
		< 4" COPPER	SOLDERED	TYPE K	SOLDERED	TYPE L	NO				
		> = 4" DIP	RESTRAINED	CLASS 53	FLANGED	CLASS 53	NO				
RW	RAW WATER	DIP	RESTRAINED	CLASS 53	FLANGED	CLASS 53	NO	125	156.25	218.75	187.5
RD	RESIDUALS DECANT	> = 4" DIP	N/A	N/A	FLANGED	CLASS 53	NO	5	N/A	8	8
SA	SAMPLE	< 4" PVC / CPVC[3]	N/A	N/A	SOCKET/ FLANGED	SCH 80	NO	20	25	40	30
SD	**STORM DRAIN**	**DIP**	**PUSH-ON**	**CLASS 53**	**N/A**	**N/A**	**N/A**	**SECTION 33 24 00**			
		HDPE	**PUSH-ON**	**SECTION 33 24 00**	**N/A**	**N/A**	**N/A**				

WATER TREATMENT PLANT PIPING SCHEDULE

PIPE DESIGNATIONS		MATERIAL	BURIED PIPING		EXPOSED PIPING			DESIGN PRESSURE (PSI)[1]			
			TYPE OF JOINT	CLASS/ DESIGN	TYPE OF JOINT	CLASS/ DESIGN	HEAT TRACE[2]	WORKING	SURGE	RESTRAINT	FIELD TEST
V	VENT	< 4" PVC / CPVC[3]	N/A	N/A	SOCKET/ FLANGED	SCH 80	NO	NA	N/A	NA	NA
		> = 4" DIP	N/A	N/A	FLANGED	CLASS 53	NO				
WM	**WATER MAIN**	**> = 4" DIP**	**RESTRAINED**	**CLASS 53**	**N/A**	**N/A**	**NO**	**150**	**150**	**300**	**225**
WWW	WASTE WASHWATER	DIP	RESTRAINED	**CLASS 53**	N/A	N/A	NO	5	N/A	8	8
		STAINLESS STEEL	N/A	N/A	WELDED/ FLANGED[4]	SECTION 40 05 24.23	NO		xx PSI	0	0
WWR	WASHWATER RECYCLE	DIP	RESTRAINED	Class 53	FLANGED	CLASS 53	NO	31	38.75	54.25	46.5
SAN	SANITARY PUMP STATION DISCHARGE	DIP[5]	RESTRAINED	Class 53	FLANGED	CLASS 53	NO	50	100	75	75
		PVC	THREADED	SCH 80	FLANGED	CLASS 56	NO	50	100	75	75

1) Surge pressure is the maximum pressure in the system during a surge event. Restraint pressure shall be used to determine pipe joint design and if required, the size, number, material, and dimensions of tabs and threaded-rods and thrust blocking for thrust restraint of piping and piping system components specified.
2) Provide heat tracing and insulation as specified in Section 40 41 13 on all exposed outdoor piping indicated.
3) For all PVC / CPVC designations, if piping is exposed to direct sunlight or if heat tracing is required, CPVC shall be used. Otherwise, PVC shall be used.
4) Flanges shall be provided as shown on the drawings or as approved by the Engineer.
5) Sanitary pump station discharge pipe shall be DIP within the wet well and valve vault.

CHEMICAL PIPING SCHEDULE [(1)]

PIPE DESIGNATIONS		MATERIAL	BURIED PIPING		EXPOSED PIPING			DESIGN PRESSURE (PSI)[1]		
			TYPE OF JOINT	CLASS/ DESIGN	TYPE OF JOINT	CLASS/ DESIGN	HEAT TRACE[2]	WORKING	RESTRAINT	FIELD TEST
AL	COAGULANT	< 4" PVC / CPVC[3]	N/A	N/A	SOCKET/ FLANGED	SCH 80	NO	44	150	125
CAS	SODIUM HYDROXIDE/ CAUSTIC	< 4" PVC / CPVC[3]	N/A	N/A	SOCKET/ FLANGED	SCH 80	NO	44,82	150	125
CCP	CHEMICAL CASING PIPE	PVC CONDUIT	N/A	N/A	SOCKET/ FLANGED	SCH 40 (WITH LONG RADIUS BENDS)	NO	N/A	N/A	N/A
HFS	HYDROFLUOROSILICIC ACID	< 4" PVC / CPVC[3]	N/A	N/A	SOCKET/ FLANGED	SCH 80	NO	78	150	125
SH	SODIUM HYPOCHLORITE	< 4" PVC / CPVC[3]	N/A	N/A	SOCKET/ FLANGED	SCH 80	NO	47, 88	150	125
DAP	DEWATERING AID POLYMER	< 4" PVC / CPVC[3]	N/A	N/A	SOCKET/ FLANGED	SCH 80	NO	30	150	125
CI	CORROSION INHIBITOR	< 4" PVC / CPVC[3]	N/A	N/A	SOCKET/ FLANGED	SCH 80	NO	88	150	125

1) Surge pressure is the maximum pressure in the system during a surge event. Restraint pressure shall be used to determine pipe joint design and if required, the size, number, material, and dimensions of tabs and threaded-rods and thrust blocking for thrust restraint of piping and piping system components specified.
2) Provide heat tracing and insulation as specified in Section 40 41 13 on all exposed outdoor piping indicated.
3) For all PVC / CPVC designations, if piping is exposed to direct sunlight or if heat tracing is required, CPVC shall be used. Otherwise, PVC shall be used.
4) Flanges shall be provided as shown on the drawings or as approved by the Engineer.

ELECTRICALLY OPERATED VALVE SCHEDULE									
TAG NO.	VALVE TYPE	OPERATOR TYPE	SIZE (in.)	FLOW	OPERATING PRESSURE (psi)	CLASS	SERVICE	REMARKS	LOCATION
MOV-1901	BUTTERFLY	MODULATING	42	40 MGD	160		RW		Raw water
MOV-1902	BUTTERFLY	MODULATING	30	30 MGD	160		RW		Raw water
MOV-1903	BUTTERFLY	MODULATING	14	12 MGD	160		RW		Raw water
MOV-2110	BUTTERFLY	OPEN/CLOSE	30	5.15 MGD	5		MW	Submerged	Flocculation Tanks
MOV-2210	BUTTERFLY	OPEN/CLOSE	30	5.15 MGD	5		MW	Submerged	Flocculation Tanks
MOV-2310	BUTTERFLY	OPEN/CLOSE	30	5.15 MGD	5		MW	Submerged	Flocculation Tanks
MOV-2410	BUTTERFLY	OPEN/CLOSE	30	5.15 MGD	5		MW	Submerged	Flocculation Tanks
MOV-2510	BUTTERFLY	OPEN/CLOSE	30	5.15 MGD	5		MW	Submerged	Flocculation Tanks
MOV-2610	BUTTERFLY	OPEN/CLOSE	30	5.15 MGD	5		MW	Submerged	Flocculation Tanks
MOV-2710	BUTTERFLY	OPEN/CLOSE	30	5.15 MGD	5		MW	Submerged	Flocculation Tanks
MOV-3100	BUTTERFLY	OPEN/CLOSE	3	150 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3110	BUTTERFLY	OPEN/CLOSE	2.5	100 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3120	BUTTERFLY	OPEN/CLOSE	3	210 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3200	BUTTERFLY	OPEN/CLOSE	3	150 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3210	BUTTERFLY	OPEN/CLOSE	2.5	100 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3220	BUTTERFLY	OPEN/CLOSE	3	210 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3300	BUTTERFLY	OPEN/CLOSE	3	150 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3310	BUTTERFLY	OPEN/CLOSE	2.5	100 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3320	BUTTERFLY	OPEN/CLOSE	3	210 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3400	BUTTERFLY	OPEN/CLOSE	3	150 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3410	BUTTERFLY	OPEN/CLOSE	2.5	100 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3420	BUTTERFLY	OPEN/CLOSE	3	210 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3500	BUTTERFLY	OPEN/CLOSE	3	150 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3510	BUTTERFLY	OPEN/CLOSE	2.5	100 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3520	BUTTERFLY	OPEN/CLOSE	3	210 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3600	BUTTERFLY	OPEN/CLOSE	2.5	100 gpm	225		DAFR		DAF Recycle Injection Zone

ELECTRICALLY OPERATED VALVE SCHEDULE

TAG NO.	VALVE TYPE	OPERATOR TYPE	SIZE (in.)	FLOW	OPERATING PRESSURE (psi)	CLASS	SERVICE	REMARKS	LOCATION
MOV-3610	BUTTERFLY	OPEN/CLOSE	3	150 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3620	BUTTERFLY	OPEN/CLOSE	3	210 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3700	BUTTERFLY	OPEN/CLOSE	2.5	100 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3710	BUTTERFLY	OPEN/CLOSE	3	150 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3720	BUTTERFLY	OPEN/CLOSE	3	210 gpm	225		DAFR		DAF Recycle Injection Zone
MOV-3130	BALL VALVE	OPEN/CLOSE	2	40 gpm	225		DAFR		DAF/Filter Tanks
MOV-3230	BALL VALVE	OPEN/CLOSE	2	40 gpm	225		DAFR		DAF/Filter Tanks
MOV-3330	BALL VALVE	OPEN/CLOSE	2	40 gpm	225		DAFR		DAF/Filter Tanks
MOV-3430	BALL VALVE	OPEN/CLOSE	2	40 gpm	225		DAFR		DAF/Filter Tanks
MOV-3530	BALL VALVE	OPEN/CLOSE	2	40 gpm	225		DAFR		DAF/Filter Tanks
MOV-3630	BALL VALVE	OPEN/CLOSE	2	40 gpm	225		DAFR		DAF/Filter Tanks
MOV-3730	BALL VALVE	OPEN/CLOSE	2	40 gpm	225		DAFR		DAF/Filter Tanks
MOV-3140	BALL VALVE	OPEN/CLOSE	2	45 gpm	225		DAFR		DAF/Filter Tanks
MOV-3240	BALL VALVE	OPEN/CLOSE	2	45 gpm	225		DAFR		DAF/Filter Tanks
MOV-3340	BALL VALVE	OPEN/CLOSE	2	45 gpm	225		DAFR		DAF/Filter Tanks
MOV-3440	BALL VALVE	OPEN/CLOSE	2	45 gpm	225		DAFR		DAF/Filter Tanks
MOV-3540	BALL VALVE	OPEN/CLOSE	2	45 gpm	225		DAFR		DAF/Filter Tanks
MOV-3640	BALL VALVE	OPEN/CLOSE	2	45 gpm	225		DAFR		DAF/Filter Tanks
MOV-3740	BALL VALVE	OPEN/CLOSE	2	45 gpm	225		DAFR		DAF/Filter Tanks
MOV-3190	BUTTERFLY	OPEN/CLOSE	8	1,950 cfm	30		AIR		Pipe Gallery
MOV-3290	BUTTERFLY	OPEN/CLOSE	8	1,950 cfm	30		AIR		Pipe Gallery
MOV-3390	BUTTERFLY	OPEN/CLOSE	8	1,950 cfm	30		AIR		Pipe Gallery
MOV-3490	BUTTERFLY	OPEN/CLOSE	8	1,950 cfm	30		AIR		Pipe Gallery
MOV-3590	BUTTERFLY	OPEN/CLOSE	8	1,950 cfm	30		AIR		Pipe Gallery
MOV-3690	BUTTERFLY	OPEN/CLOSE	8	1,950 cfm	30		AIR		Pipe Gallery
MOV-3790	BUTTERFLY	OPEN/CLOSE	8	1,950 cfm	30		AIR		Pipe Gallery
MOV-7120	BUTTERFLY	OPEN/CLOSE	10	1,950 cfm	30		AIR		Air Scour Blower Room

ELECTRICALLY OPERATED VALVE SCHEDULE

TAG NO.	VALVE TYPE	OPERATOR TYPE	SIZE (in.)	FLOW	OPERATING PRESSURE (psi)	CLASS	SERVICE	REMARKS	LOCATION
MOV-7453	BUTTERFLY	OPEN/CLOSE	10	1,950 cfm	30		AIR		Air Scour Blower Room
MOV-7450	BUTTERFLY	MODULATING	24	23 MGD	95		BWS		Pipe Gallery
MOV-3180	BUTTERFLY	OPEN/CLOSE	24	19.4 MGD	95		BWS		Pipe Gallery
MOV-3280	BUTTERFLY	OPEN/CLOSE	24	19.4 MGD	95		BWS		Pipe Gallery
MOV-3380	BUTTERFLY	OPEN/CLOSE	24	19.4 MGD	95		BWS		Pipe Gallery
MOV-3480	BUTTERFLY	OPEN/CLOSE	24	19.4 MGD	95		BWS		Pipe Gallery
MOV-3580	BUTTERFLY	OPEN/CLOSE	24	19.4 MGD	95		BWS		Pipe Gallery
MOV-3680	BUTTERFLY	OPEN/CLOSE	24	19.4 MGD	95		BWS		Pipe Gallery
MOV-3780	BUTTERFLY	OPEN/CLOSE	24	19.4 MGD	95		BWS		Pipe Gallery
MOV-3160	BUTTERFLY	MODULATING	12	5.5 MGD	15		FLW		Pipe Gallery
MOV-3260	BUTTERFLY	MODULATING	12	5.5 MGD	15		FLW		Pipe Gallery
MOV-3360	BUTTERFLY	MODULATING	12	5.5 MGD	15		FLW		Pipe Gallery
MOV-3460	BUTTERFLY	MODULATING	12	5.5 MGD	15		FLW		Pipe Gallery
MOV-3560	BUTTERFLY	MODULATING	12	5.5 MGD	15		FLW		Pipe Gallery
MOV-3660	BUTTERFLY	MODULATING	12	5.5 MGD	15		FLW		Pipe Gallery
MOV-3760	BUTTERFLY	MODULATING	12	5.5 MGD	15		FLW		Pipe Gallery
MOV-3150	BUTTERFLY	OPEN/CLOSE	42	23 MGD	15		WWW		Pipe Gallery
MOV-3250	BUTTERFLY	OPEN/CLOSE	42	23 MGD	15		WWW		Pipe Gallery
MOV-3350	BUTTERFLY	OPEN/CLOSE	42	23 MGD	15		WWW		Pipe Gallery
MOV-3450	BUTTERFLY	OPEN/CLOSE	42	23 MGD	15		WWW		Pipe Gallery
MOV-3550	BUTTERFLY	OPEN/CLOSE	42	23 MGD	15		WWW		Pipe Gallery
MOV-3650	BUTTERFLY	OPEN/CLOSE	42	23 MGD	15		WWW		Pipe Gallery
MOV-3750	BUTTERFLY	OPEN/CLOSE	42	23 MGD	15		WWW		Pipe Gallery
MOV-3170	BUTTERFLY	MODULATING	12	5.5 MGD	15		FTW		Pipe Gallery
MOV-3270	BUTTERFLY	MODULATING	12	5.5 MGD	15		FTW		Pipe Gallery
MOV-3370	BUTTERFLY	MODULATING	12	5.5 MGD	15		FTW		Pipe Gallery
MOV-3470	BUTTERFLY	MODULATING	12	5.5 MGD	15		FTW		Pipe Gallery

ELECTRICALLY OPERATED VALVE SCHEDULE

TAG NO.	VALVE TYPE	OPERATOR TYPE	SIZE (in.)	FLOW	OPERATING PRESSURE (psi)	CLASS	SERVICE	REMARKS	LOCATION
MOV-3570	BUTTERFLY	MODULATING	12	5.5 MGD	15		FTW		Pipe Gallery
MOV-3670	BUTTERFLY	MODULATING	12	5.5 MGD	15		FTW		Pipe Gallery
MOV-3770	BUTTERFLY	MODULATING	12	5.5 MGD	15		FTW		Pipe Gallery
MOV-7351	V-NOTCH BALL	MODULATING	2	150 scfm	225		AIR		Saturator Room
MOV-7361	V-NOTCH BALL	MODULATING	2	150 scfm	225		AIR		Saturator Room
MOV-7352	BUTTERFLY	MODULATING	16	4.8 MGD	225		DAFR		Saturator Room
MOV-7362	BUTTERFLY	MODULATING	16	4.8 MGD	225		DAFR		Saturator Room
MOV-4240	BUTTERFLY	OPEN/CLOSE	30	22 MGD	15		FLW		Pipe Gallery
MOV-4340	BUTTERFLY	OPEN/CLOSE	30	22 MGD	15		FLW		Pipe Gallery
MOV-7440	BUTTERFLY	OPEN/CLOSE	30	22 MGD	15		FLW		Pipe Gallery
MOV-7590	BUTTERFLY	MODULATING	12	4 MGD	95		WWR		Raw Water
MOV-4420	BUTTERFLY	OPEN/CLOSE	24	20 MGD	225		FLWT		UV Area
MOV-4520	BUTTERFLY	OPEN/CLOSE	24	20 MGD	225		FLWT		UV Area
MOV-4620	BUTTERFLY	OPEN/CLOSE	24	20 MGD	225		FLWT		UV Area
MOV-4430	BUTTERFLY	MODULATING	24	20 MGD	225		FLWT		UV Area
MOV-4530	BUTTERFLY	MODULATING	24	20 MGD	225		FLWT		UV Area
MOV-4630	BUTTERFLY	MODULATING	24	20 MGD	225		FLWT		UV Area
MOV-5291	BALL VALVE	OPEN/CLOSE	1	2 gpm	47		SH		DAF/Filter Tanks
MOV-5292	BALL VALVE	OPEN/CLOSE	1	2 gpm	47		SH		DAF/Filter Tanks
MOV-5293	BALL VALVE	OPEN/CLOSE	1	2 gpm	47		SH		DAF/Filter Tanks
MOV-5294	BALL VALVE	OPEN/CLOSE	1	2 gpm	47		SH		DAF/Filter Tanks
MOV-5295	BALL VALVE	OPEN/CLOSE	1	2 gpm	47		SH		DAF/Filter Tanks
MOV-5296	BALL VALVE	OPEN/CLOSE	1	2 gpm	47		SH		DAF/Filter Tanks
MOV-5297	BALL VALVE	OPEN/CLOSE	1	2 gpm	47		SH		DAF/Filter Tanks
MOV-6101	PLUG VALVE	OPEN/CLOSE	8	6 gpm	11		FS		Pipe Gallery
MOV-1903	BUTTERFLY	MODULATING	14	15 MGD	160		RW		Raw Water
SLG-6460	STOP/SLIDE GATE	OPEN/CLOSE	15	-	-		-		Dewatering Room

ELECTRICALLY OPERATED VALVE SCHEDULE

TAG NO.	VALVE TYPE	OPERATOR TYPE	SIZE (in.)	FLOW	OPERATING PRESSURE (psi)	CLASS	SERVICE	REMARKS	LOCATION
MOV-6310	PLUG VALVE	OPEN/CLOSE	3	107 gpm	30		CTF		Dewatering Room
MOV-6320	PLUG VALVE	OPEN/CLOSE	3	107 gpm	30		CTF		Dewatering Room

1) Pulse Control - See Specifications 40 05 57 and 40 61 96
2) Provide remote control station as specified in section 40 05 57

MANUAL VALVE SCHEDULE

Service		Size (in)	Quantity	Type	Actuator	Reference Section
SAN	Sanitary Pump Station	4	2	Plug	Manual	Section 40 05 62
SAN	Sanitary Pump Station	4	2	Check	Manual	Section 40 05 65.23
SAN	Sanitary Pump Station	2	1	Air/Vacuum Release	N/A	Section 40 05 68.23
DR	Sanitary Pump Station	3	1	Duckbill Check	N/A	Section 40 05 68.23
RW	Transmission Main	36	2	Butterfly	Manual	Section 40 05 64
RW	Transmission Main	36	1	Gate	Manual	Section 40 05 62
RW	Transmission Main	36	1	Gate	Manual	Section 40 05 62
FLWT	Transmission Main	36	1	Gate	Manual	Section 40 05 62
FLWT	Transmission Main	36	1	Gate	Manual	Section 40 05 62
	Water Main	8	2	Gate	Manual	Section 40 05 62
	Water Main - Hydrant	6	4	Gate	Manual	Section 40 05 62
DAFR	DAF Recycle	6	5	Tilted Disc Check	Manual	Section 40 05 65.23
BWS	Backwash Supply	16	3	Tilted Disc Check	Manual	Section 40 05 65.23
FLWT	Filtered Water Transfer	14	6	Tilted Disc Check	Manual	Section 40 05 65.23
MR	Mixed Residuals	6	2	Swing Check	Manual	Section 40 05 65.23
CTF	Centrifuge Feed	6	2	Swing Check	Manual	Section 40 05 65.23
FST	Floated Solids Transfer	4	2	Swing Check	Manual	Section 40 05 65.23
WWR	Waste Wash Water Recycle	12	2	Plug	Manual	Section 40 05 62
MR	Mixed Residuals	6	8	Plug	Manual	Section 40 05 62
CTF	Centrifuge Feed	4	1	Plug	Manual	Section 40 05 62
FST	Floated Solids Transfer	4	6	Plug	Manual	Section 40 05 62
CEN	Centrate Discharge	6	1	Plug	Manual	Section 40 05 62
CTF	Centrifuge Feed	4	4	Plug	Manual	Section 40 05 62
RD	Residuals Storage Decant	4	2	Telescoping	Manual	Section 40 05 68.23
SH	Sodium Hypochlorite	1	7	Needle	Manual	Section 40 05 68.23
MW	Mixed Water	6	7	Mud	Manual	Section 40 05 68.23
MW	Mixed Water	6	2	Mud	Manual	Section 40 05 68.23
OF	Overflow	4	6	Duckbill Check	Manual	Section 40 05 68.23
OF	Overflow	2	4	Duckbill Check	Manual	Section 40 05 68.23
SA	Sample	1	28	Check	Manual	Section 40 05 65.23
SH	Sodium Hypochlorite	2	1	Diaphragm	Manual	Section 40 05 74.13
CAS	Sodium Hydroxide	2	1	Diaphragm	Manual	Section 40 05 74.13
CI	Corrosion Inhibitor	3/4	1	Diaphragm	Manual	Section 40 05 74.13
AL	Coagulant	3/4	1	Diaphragm	Manual	Section 40 05 74.13
CAS	Hydrofluosilicic Acid	3/4	1	Diaphragm	Manual	Section 40 05 74.13
CAS	Sodium Hydroxide	2	4	Check	Manual	Section 40 05 65.23
AL	Coagulant	2	2	Check	Manual	Section 40 05 65.23

MANUAL VALVE SCHEDULE

Service		Size (in)	Quantity	Type	Actuator	Reference Section
SH	Sodium Hypochlorite	2	2	Check	Manual	Section 40 05 65.23
CI	Corrosion Inhibitor	2	1	Check	Manual	Section 40 05 65.23
HFS	Hydrofluosilicic Acid	2	1	Check	Manual	Section 40 05 65.23
SH	Sodium Hypochlorite	1	1	Check	Manual	Section 40 05 65.23
AL	Coagulant	1	1	Check	Manual	Section 40 05 65.23
CW	Carry Water	1	2	Check	Manual	Section 40 05 65.23
WWW	Waste Wash Water	42	2	Butterfly	Manual	Section 40 05 64
WWR	Waste Wash Water Recycle	30	1	Butterfly	Manual	Section 40 05 64
FLWT	Filtered Water Transfer	24	1	Butterfly	Manual	Section 40 05 64
DAFR	DAF Recycle	16	2	Butterfly	Manual	Section 40 05 64
FLWT	Filtered Water Transfer	4	1	Ball	Manual	Section 40 05 63
FLWT	Filtered Water Transfer	1.5	3	Ball	Manual	Section 40 05 63
DR	Drain	3	4	Ball	Manual	Section 40 05 63
DAFS	DAF Spray	3	1	Ball	Manual	Section 40 05 63
DAFR	DAF Recycle	3/4	4	Ball	Manual	Section 40 05 63
RW	Raw Water	1	2	Ball	Manual	Section 40 05 63
SA	Sample	1	7	Ball	Manual	Section 40 05 63
FLW	Filter Underdrain	2	7	Ball	Manual	Section 40 05 63
AL	Coagulant	3	4	Ball	Manual	Section 40 05 63
CAS	Sodium Hydroxide	3	4	Ball	Manual	Section 40 05 63
	Sump Pump Discharge	3	4	Ball	Manual	Section 40 05 63
CTF	Centrifuge Feed	2.5	2	Ball	Manual	Section 40 05 63
CTF	Centrifuge Feed	2	2	Ball	Manual	Section 40 05 63
CTF	Centrifuge Feed	1.5	4	Ball	Manual	Section 40 05 63
AL	Coagulant	2	27	Ball	Manual	Section 40 05 63
AL	Coagulant	1	1	Ball	Manual	Section 40 05 63
AL	Coagulant	0.5	2	Ball	Manual	Section 40 05 63
HFS	Hydrofluosilicic Acid	2	9	Ball	Manual	Section 40 05 63
HFS	Hydrofluosilicic Acid	1	10	Ball	Manual	Section 40 05 63
HFS	Hydrofluosilicic Acid	0.5	2	Ball	Manual	Section 40 05 63
SH	Sodium Hypochlorite	2	11	Ball	Manual	Section 40 05 63
SH	Sodium Hypochlorite	1	16	Ball	Manual	Section 40 05 63
SH	Sodium Hypochlorite	0.5	2	Ball	Manual	Section 40 05 63
CAS	Sodium Hydroxide	2	10	Ball	Manual	Section 40 05 63
CAS	Sodium Hydroxide	1	16	Ball	Manual	Section 40 05 63
CAS	Sodium Hydroxide	0.5	2	Ball	Manual	Section 40 05 63
CI	Corrosion Inhibitor	2	19	Ball	Manual	Section 40 05 63
CI	Corrosion Inhibitor	0.5	2	Ball	Manual	Section 40 05 63

MANUAL VALVE SCHEDULE						
Service		Size (in)	Quantity	Type	Actuator	Reference Section
CEN	Centrate Discharge	1	2	Ball	Manual	Section 40 05 63
CW	Carry Water	1	2	Ball	Manual	Section 40 05 63
DAP	Dewatering Polymer	1.5	4	Ball	Manual	Section 40 05 63
DAP	Neat Polymer	1	4	Ball	Manual	Section 40 05 63
RD	Residuals Storage Decant	1	4	Ball	Manual	Section 40 05 63
AL	Coagulant	2	2	Ball Check	Manual	Section 40 05 63
CI	Corrosion Inhibitor	2	2	Ball Check	Manual	Section 40 05 63
SH	Sodium Hypochlorite	2	2	Ball Check	Manual	Section 40 05 63
HFS	Hydrofluosilicic Acid	2	2	Ball Check	Manual	Section 40 05 63

40 05 59.23 FABRICATED STAINLESS-STEEL SLIDE GATE SCHEDULE (ANSI/AWWA C561)

TAG NO.	DESCRIPTION	SIZE		DESIGN HEAD[1]		SUBMERGED/ FREE SURFACE	OPEN DIRECTION (UP/DOWN)	GATE MOUNT	GATE CONFIG-URATION	DUAL STEM (YES/NO)	ACTUATOR STAND MOUNT	ACTUATOR TYPE
		WIDTH (ft.)	HEIGHT (ft.)	SEATING (ft.)	UN-SEATING (ft.)							
SLG-4250	FILTERED WATER TRANSFER TANK	4	4	19	19	SUBMERGED	UP	CONCRETE (SURFACE)	NON-SELF-CONTAINED	NO	PEDESTAL	ELECTRIC (OPEN-CLOSE)

1) Design Head is as measured from the gate invert to the maximum WSEL.

STOP LOG SCHEDULE							
TAG NO.	DESCRIPTION	SIZE		DESIGN HEAD[1] (ft.)	CHANNEL INVERT TO OPERATING FLOOR (ft.)	NO. OF STOP LOG FRAMES	NO. OF SETS OF STOP LOGS
		WIDTH (ft.)	HEIGHT (ft.)				
	Mixed Water Channel	3	2	11	14.5	2	1
1) Design Head is as measured from the gate invert to the maximum WSEL.							

END OF SECTION

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PnPID	Dwg Number	Tag	Service Description	Power Req'd	Furnished By	Instrument Type	Panel/ Inst.Detail	Range	Specification Section
76663	I-002	TSH-2101	SCADA SYSTEM PANEL CONDITIONS, RIO-21, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76665	I-002	ZS-2102	SCADA SYSTEM PANEL CONDITIONS, RIO-21, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
76679	I-002	TSH-2201	SCADA SYSTEM PANEL CONDITIONS, RIO-22, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76681	I-002	ZS-2202	SCADA SYSTEM PANEL CONDITIONS, RIO-22, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
76691	I-002	TSH-3101	SCADA SYSTEM PANEL CONDITIONS, RIO-31, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76693	I-002	ZS-3102	SCADA SYSTEM PANEL CONDITIONS, RIO-31, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
76704	I-002	TSH-3201	SCADA SYSTEM PANEL CONDITIONS, RIO-32, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76706	I-002	ZS-3202	SCADA SYSTEM PANEL CONDITIONS, RIO-32, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
76716	I-002	TSH-3301	SCADA SYSTEM PANEL CONDITIONS, RIO-33, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76718	I-002	ZS-3302	SCADA SYSTEM PANEL CONDITIONS, RIO-33, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
76728	I-002	TSH-3401	SCADA SYSTEM PANEL CONDITIONS, RIO-34, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76730	I-002	ZS-3402	SCADA SYSTEM PANEL CONDITIONS, RIO-34, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
76740	I-002	TSH-4001	SCADA SYSTEM PANEL CONDITIONS, RIO-40, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76742	I-002	ZS-4002	SCADA SYSTEM PANEL CONDITIONS, RIO-40, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
76752	I-002	TSH-5001	SCADA SYSTEM PANEL CONDITIONS, RIO-50, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76754	I-002	ZS-5002	SCADA SYSTEM PANEL CONDITIONS, RIO-50, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
84907	I-002	TSH-6001	SCADA SYSTEM PANEL CONDITIONS, RIO-60, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
84909	I-002	ZS-6002	SCADA SYSTEM PANEL CONDITIONS, RIO-60, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
113117	I-002	TSH-7001	SCADA SYSTEM PANEL CONDITIONS, RIO-70, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
113119	I-002	ZS-7002	SCADA SYSTEM PANEL CONDITIONS, RIO-70, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
76764	I-002	TSH-9001	SCADA SYSTEM PANEL CONDITIONS, RIO-MCC2, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76766	I-002	ZS-9002	SCADA SYSTEM PANEL CONDITIONS, RIO-MCC2, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
76776	I-002	TSH-9003	SCADA SYSTEM PANEL CONDITIONS, RIO-MCC2, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76778	I-002	ZS-9004	SCADA SYSTEM PANEL CONDITIONS, RIO-MCC2, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
76841	I-002	TSH-9101	SCADA SYSTEM PANEL CONDITIONS, PLC-RLWFP, PLC TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
76843	I-002	ZS-9102	SCADA SYSTEM PANEL CONDITIONS, PLC-RLWFP, PLC DOOR OPENED		SI	DOOR SWITCH			40 78 00
84676	I-002	TSH-9501	SCADA SYSTEM PANEL CONDITIONS, RIO-MCC1, RIO TEMPERATURE HIGH		SI	TEMPERATURE SWITCH		40 - 140 Deg F	40 78 00
84678	I-002	ZS-9502	SCADA SYSTEM PANEL CONDITIONS, RIO-MCC1, RIO DOOR OPENED		SI	DOOR SWITCH			40 78 00
112040	I-004	FE-1711	RAW WATER FLOW INTO PLANT, STATIC MIXER, RAW WATER FLOW		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
38144	I-004	FIT-1711	RAW WATER FLOW INTO PLANT, STATIC MIXER, RAW WATER FLOW	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	0 - 30 MGD	40 71 13.13
37885	I-004	AE-1811	RAW WATER , RAW WATER, TURBIDITY		SI	TURBIDITY PROBE			40 75 53
37887	I-004	AIT-1811	RAW WATER TURBIDITY INTO PLANT , RAW WATER, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER		0.1 to 2.0 NTU	40 75 53
37889	I-004	AE-1812	RAW WATER , RAW WATER, pH/TEMP		SI	pH PROBE			40 75 13
37891	I-004	AIT-1812	RAW WATER pH/TEMP INTO PLANT, RAW WATER, pH/TEMP	120VAC	SI	pH TRANSMITTER		6 - 8	40 75 13
37924	I-004	AE-1813	RAW WATER , RAW WATER, UV 254		SI	UV ABSORBANCE SENSOR			40 75 80
37926	I-004	AIT-1813	RAW WATER UV254 INTO PLANT, RAW WATER, UV 254	120VAC	SI	UV ABSORBANCE TRANSMITTER		0.01 to 0.1 abs/cm	40 75 80
38168	I-004	AE-1821	WATER TO STATIC MIXER, STATIC MIXER, TURBIDITY		SI				40 75 53
38170	I-004	AIT-1821	TOTAL WATER TURBIDITY INTO PLANT, STATIC MIXER, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER		0.1 to 2.0 NTU	40 75 53
38172	I-004	AE-1822	WATER TO STATIC MIXER, STATIC MIXER, pH		SI	pH PROBE			40 75 13
38174	I-004	AIT-1822	TOTAL WATER pH INTO PLANT, STATIC MIXER, pH	120VAC	SI	pH TRANSMITTER		6 - 8	40 75 13
38037	I-004	AE-1823	WATER TO STATIC MIXER, STATIC MIXER, UV 254		SI	UV ABSORBANCE SENSOR			40 75 80
38039	I-004	AIT-1823	TOTAL WATER UV254 INTO PLANT, STATIC MIXER, UV 254	120VAC	SI	UV ABSORBANCE TRANSMITTER		0.01 to 0.1 abs/cm	40 75 80
76605	I-004	LE-1901	MIXED WATER CHANNEL, STATIC MIXER, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0217		40 72 13
76607	I-004	LIT-1901	MIXED WATER CHANNEL, STATIC MIXER, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0217	417.01 - 417.04	40 72 13
76601	I-004	LE-1902	MIXED WATER CHANNEL, STATIC MIXER, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0217		40 72 13
76603	I-004	LIT-1902	MIXED WATER CHANNEL, STATIC MIXER, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0217	417.01 - 417.04	40 72 13
38568	I-004	AE-1911	MIXED WATER pH TO FLOCCULATORS, STATIC MIXER, pH		SI	pH PROBE			40 75 13
38449	I-004	AIT-1911	MIXED WATER pH TO FLOCCULATORS, STATIC MIXER, pH	120VAC	SI	pH TRANSMITTER		6 - 8	40 75 13
38487	I-004	AE-1912	MIXED WATER SCD TO FLOCCULATORS, STATIC MIXER, SCD		SI	SPECIFIC CONDUCITIVITY PROBE		-1000 to +1000 SCV	40 75 54
38358	I-004	AIT-1912	MIXED WATER SCD TO FLOCCULATORS, STATIC MIXER, SCD	120VAC	SI	SPECIFIC CONDUCTIVITY TRANSMITTER			40 75 54
67951	I-005	AE-3312	DAF UNDER FILTER TURBIDITY, T-3300, TURBIDITY		SI	TURBIDITY ANALYZER PROBE	I-40-0902		40 75 53
67907	I-005	AIT-3312	DAF UNDER FILTER TURBIDITY, T-3300, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER	I-40-0902	0 - 0.5 NTU	40 75 53
67963	I-005	AE-3612	DAF UNDER FILTER TURBIDITY, T-3600, TURBIDITY		SI	TURBIDITY ANALYZER PROBE	I-40-0902		40 75 53
67919	I-005	AIT-3612	DAF UNDER FILTER TURBIDITY, T-3600, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER	I-40-0902	0 - 0.5 NTU	40 75 53
67973	I-006	AE-3113	DAF FILTER DISCHARGE TURBIDITY, T-3100, TURBIDITY		SI	TURBIDITY ANALYZER PROBE			40 75 53

67892	I-006	AIT-3113	DAF FILTER DISCHARGE TURBIDITY, T-3100, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER		0 - 0.5 NTU	40 75 53
67975	I-006	AE-3114	DAF FILTER DISCHARGE CHLORINE, T-3100, CHLORINE		SI	CHLORINE ANALZER PROBE			40 75 21
67894	I-006	AIT-3114	DAF FILTER DISCHARGE CHLORINE, T-3100, CHLORINE	120VAC	SI	CHLORINE TRANSMITTER		0 - 2.0 mg/L	40 75 21
67888	I-006	PIT-3117	FILTER DISCHARGE PRESSURE, T-3100, DISCHARGE PRESSURE		SI	PRESSURE TRANSMITTER	I-40-0302	0-30 PSIG	40 73 20
112004	I-006	FE-3118	DAF FILTER DISCHARGE FLOW, T-3100, DAFF FLOW DISHARGE		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
67886	I-006	FIT-3118	DAF FILTER DISCHARGE FLOW, T-3100, DAFF FLOW DISHARGE	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	1 - 5.5 MGD	40 71 13.13
67884	I-006	LE-3119	DAFF TANK BACKUP LEVEL, T-3100, LEVEL TRANSMITTER		SI	SUBMERSIBLE LEVEL TRANSMITTER	I-40-0215	398.00 - 417.00	40 73 29.13
79821	I-006	AE-3213	DAF FILTER DISCHARGE TURBIDITY, T-3200, TURBIDITY		SI	TURBIDITY ANALYZER PROBE			40 75 53
79827	I-006	AIT-3213	DAF FILTER DISCHARGE TURBIDITY, T-3200, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER		0 - 0.5 NTU	40 75 53
79823	I-006	AE-3214	DAF FILTER DISCHARGE CHLORINE, T-3200, CHLORINE		SI	CHLORINE ANALZER PROBE			40 75 21
79829	I-006	AIT-3214	DAF FILTER DISCHARGE CHLORINE, T-3200, CHLORINE	120VAC	SI	CHLORINE TRANSMITTER		0 - 2.0 mg/L	40 75 21
79835	I-006	PIT-3217	FILTER DISCHARGE PRESSURE, T-3200, DISCHARGE PRESSURE		SI	PRESSURE TRANSMITTER	I-40-0302	0-30 PSIG	40 73 20
112007	I-006	FE-3218	DAF FILTER DISCHARGE FLOW, T-3200, DAFF FLOW DISHARGE		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
79833	I-006	FIT-3218	DAF FILTER DISCHARGE FLOW, T-3200, DAFF FLOW DISHARGE	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	1 - 5.5 MGD	40 71 13.13
79831	I-006	LE-3219	DAFF TANK BACKUP LEVEL, T-3200, LEVEL TRANSMITTER		SI	SUBMERSIBLE LEVEL TRANSMITTER	I-40-0215	398.00 - 417.00	40 73 29.13
79871	I-006	AE-3313	DAF FILTER DISCHARGE TURBIDITY, T-3300, TURBIDITY		SI	TURBIDITY ANALYZER PROBE			40 75 53
79877	I-006	AIT-3313	DAF FILTER DISCHARGE TURBIDITY, T-3300, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER		0 - 0.5 NTU	40 75 53
79873	I-006	AE-3314	DAF FILTER DISCHARGE CHLORINE, T-3300, CHLORINE		SI	CHLORINE ANALZER PROBE			40 75 21
79879	I-006	AIT-3314	DAF FILTER DISCHARGE CHLORINE, T-3300, CHLORINE	120VAC	SI	CHLORINE TRANSMITTER		0 - 2.0 mg/L	40 75 21
79885	I-006	PIT-3317	FILTER DISCHARGE PRESSURE, T-3300, DISCHARGE PRESSURE		SI	PRESSURE TRANSMITTER	I-40-0302	0-30 PSIG	40 73 20
112010	I-006	FE-3318	DAF FILTER DISCHARGE FLOW, T-3300, DAFF FLOW DISHARGE		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
79883	I-006	FIT-3318	DAF FILTER DISCHARGE FLOW, T-3300, DAFF FLOW DISHARGE	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	1 - 5.5 MGD	40 71 13.13
79881	I-006	LE-3319	DAFF TANK BACKUP LEVEL, T-3300, LEVEL TRANSMITTER		SI	SUBMERSIBLE LEVEL TRANSMITTER	I-40-0215	398.00 - 417.00	40 73 29.13
79922	I-006	AE-3413	DAF FILTER DISCHARGE TURBIDITY, T-3400, TURBIDITY		SI	TURBIDITY ANALYZER PROBE			40 75 53
79928	I-006	AIT-3413	DAF FILTER DISCHARGE TURBIDITY, T-3400, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER		0 - 0.5 NTU	40 75 53
79924	I-006	AE-3414	DAF FILTER DISCHARGE CHLORINE, T-3400, CHLORINE		SI	CHLORINE ANALZER PROBE			40 75 21
79930	I-006	AIT-3414	DAF FILTER DISCHARGE CHLORINE, T-3400, CHLORINE	120VAC	SI	CHLORINE TRANSMITTER		0 - 2.0 mg/L	40 75 21
79936	I-006	PIT-3417	FILTER DISCHARGE PRESSURE, T-3400, DISCHARGE PRESSURE		SI	PRESSURE TRANSMITTER	I-40-0302	0-30 PSIG	40 73 20
112013	I-006	FE-3418	DAF FILTER DISCHARGE FLOW, T-3400, DAFF FLOW DISHARGE		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
79934	I-006	FIT-3418	DAF FILTER DISCHARGE FLOW, T-3400, DAFF FLOW DISHARGE	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	1 - 5.5 MGD	40 71 13.13
79932	I-006	LE-3419	DAFF TANK BACKUP LEVEL, T-3400, LEVEL TRANSMITTER		SI	SUBMERSIBLE LEVEL TRANSMITTER	I-40-0215	398.00 - 417.00	40 73 29.13
79972	I-006	AE-3513	DAF FILTER DISCHARGE TURBIDITY, T-3500, TURBIDITY		SI	TURBIDITY ANALYZER PROBE			40 75 53
79978	I-006	AIT-3513	DAF FILTER DISCHARGE TURBIDITY, T-3500, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER		0 - 0.5 NTU	40 75 53
79974	I-006	AE-3514	DAF FILTER DISCHARGE CHLORINE, T-3500, CHLORINE		SI	CHLORINE ANALZER PROBE			40 75 21
79980	I-006	AIT-3514	DAF FILTER DISCHARGE CHLORINE, T-3500, CHLORINE	120VAC	SI	CHLORINE TRANSMITTER		0 - 2.0 mg/L	40 75 21
79986	I-006	PIT-3517	FILTER DISCHARGE PRESSURE, T-3500, DISCHARGE PRESSURE		SI	PRESSURE TRANSMITTER	I-40-0302	0-30 PSIG	40 73 20
112016	I-006	FE-3518	DAF FILTER DISCHARGE FLOW, T-3500, DAFF FLOW DISHARGE		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
79984	I-006	FIT-3518	DAF FILTER DISCHARGE FLOW, T-3500, DAFF FLOW DISHARGE	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	1 - 5.5 MGD	40 71 13.13
79982	I-006	LE-3519	DAFF TANK BACKUP LEVEL, T-3500, LEVEL TRANSMITTER		SI	SUBMERSIBLE LEVEL TRANSMITTER	I-40-0215	398.00 - 417.00	40 73 29.13
80023	I-006	AE-3613	DAF FILTER DISCHARGE TURBIDITY, T-3600, TURBIDITY		SI	TURBIDITY ANALYZER PROBE			40 75 53
80029	I-006	AIT-3613	DAF FILTER DISCHARGE TURBIDITY, T-3600, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER		0 - 0.5 NTU	40 75 53
80025	I-006	AE-3614	DAF FILTER DISCHARGE CHLORINE, T-3600, CHLORINE		SI	CHLORINE ANALZER PROBE			40 75 21
80031	I-006	AIT-3614	DAF FILTER DISCHARGE CHLORINE, T-3600, CHLORINE	120VAC	SI	CHLORINE TRANSMITTER		0 - 2.0 mg/L	40 75 21
80037	I-006	PIT-3617	FILTER DISCHARGE PRESSURE, T-3600, DISCHARGE PRESSURE		SI	PRESSURE TRANSMITTER	I-40-0302	0-30 PSIG	40 73 20
112019	I-006	FE-3618	DAF FILTER DISCHARGE FLOW, T-3600, DAFF FLOW DISHARGE		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
80035	I-006	FIT-3618	DAF FILTER DISCHARGE FLOW, T-3600, DAFF FLOW DISHARGE	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	1 - 5.5 MGD	40 71 13.13
80033	I-006	LE-3619	DAFF TANK BACKUP LEVEL, T-3600, LEVEL TRANSMITTER		SI	SUBMERSIBLE LEVEL TRANSMITTER	I-40-0215	398.00 - 417.00	40 73 29.13
80073	I-006	AE-3713	DAF FILTER DISCHARGE TURBIDITY, T-3700, TURBIDITY		SI	TURBIDITY ANALYZER PROBE			40 75 53
80079	I-006	AIT-3713	DAF FILTER DISCHARGE TURBIDITY, T-3700, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER		0 - 0.5 NTU	40 75 53
80075	I-006	AE-3714	DAF FILTER DISCHARGE CHLORINE, T-3700, CHLORINE		SI	CHLORINE ANALZER PROBE			40 75 21
80081	I-006	AIT-3714	DAF FILTER DISCHARGE CHLORINE, T-3700, CHLORINE	120VAC	SI	CHLORINE TRANSMITTER		0 - 2.0 mg/L	40 75 21
80087	I-006	PIT-3717	FILTER DISCHARGE PRESSURE, T-3700, DISCHARGE PRESSURE		SI	PRESSURE TRANSMITTER	I-40-0302	0-30 PSIG	40 73 20
112022	I-006	FE-3718	DAF FILTER DISCHARGE FLOW, T-3700, DAFF FLOW DISHARGE		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
80085	I-006	FIT-3718	DAF FILTER DISCHARGE FLOW, T-3700, DAFF FLOW DISHARGE	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	1 - 5.5 MGD	40 71 13.13
80083	I-006	LE-3719	DAFF TANK BACKUP LEVEL, T-3700, LEVEL TRANSMITTER		SI	SUBMERSIBLE LEVEL TRANSMITTER	I-40-0215	398.00 - 417.00	40 73 29.13
14606	I-006	PG-7211	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7210, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
104911	I-006	PSL-7211	DAFF RECYLE PUMP SUCTION PRESSURE, P-7210, PRESSURE		SI	LOW PRESSURE SWITCH	I-40-0302	0-30 PSIG	40 73 13
104718	I-006	PG-7212	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7210, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13

104753	I-006	PSH-7212	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7210, PRESSURE		SI	HIGH PRESSURE SWITCH	I-40-0302	0-150 PSIG	40 73 13
15332	I-006	PG-7221	DAFF RECYLE PUMP SUCTION PRESSURE, P-7220, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
104914	I-006	PSL-7221	DAFF RECYLE PUMP SUCTION PRESSURE, P-7210, PRESSURE		SI	LOW PRESSURE SWITCH	I-40-0302	0-30 PSIG	40 73 13
104724	I-006	PG-7222	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7220, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
104764	I-006	PSH-7222	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7210, PRESSURE		SI	HIGH PRESSURE SWITCH	I-40-0302	0-150 PSIG	40 73 13
15365	I-006	PG-7231	DAFF RECYLE PUMP SUCTION PRESSURE, P-7230, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
104916	I-006	PSL-7231	DAFF RECYLE PUMP SUCTION PRESSURE, P-7210, PRESSURE		SI	LOW PRESSURE SWITCH	I-40-0302	0-30 PSIG	40 73 13
104730	I-006	PG-7232	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7230, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
104769	I-006	PSH-7232	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7210, PRESSURE		SI	HIGH PRESSURE SWITCH	I-40-0302	0-150 PSIG	40 73 13
15398	I-006	PG-7241	DAFF RECYLE PUMP SUCTION PRESSURE, P-7240, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
104918	I-006	PSL-7241	DAFF RECYLE PUMP SUCTION PRESSURE, P-7210, PRESSURE		SI	LOW PRESSURE SWITCH	I-40-0302	0-30 PSIG	40 73 13
15432	I-006	PG-7251	DAFF RECYLE PUMP SUCTION PRESSURE, P-7250, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
104920	I-006	PSL-7251	DAFF RECYLE PUMP SUCTION PRESSURE, P-7210, PRESSURE		SI	LOW PRESSURE SWITCH	I-40-0302	0-30 PSIG	40 73 13
104742	I-006	PG-7252	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7250, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
104779	I-006	PSH-7252	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7210, PRESSURE		SI	HIGH PRESSURE SWITCH	I-40-0302	0-150 PSIG	40 73 13
104736	I-006	PG-7342	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7240, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
104774	I-006	PSH-7342	DAFF RECYLE PUMP DISCHARGE PRESSURE, P-7210, PRESSURE		SI	HIGH PRESSURE SWITCH	I-40-0302	0-150 PSIG	40 73 13
17533	I-007	PG-7337	PRESSURE GUAGE, T-7330, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
17539	I-007	PG-7338	PRESSURE GUAGE, T-7330, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
17654	I-007	LE-7350	SATURATOR 1, T-7350, LEVEL SENSOR		SI	LEVEL ELEMENT/CHAMBER			40 72 53
111561	I-007	LG-7350	SATURATOR 1, T-7350, LEVEL INDICATOR		SI	MAGNETIC LEVEL GAUGE			40 72 53
17656	I-007	LIT-7350	SATURATOR 1, T-7350, SATURATOR LEVEL		SI	GUIDED WAVE RADAR LEVEL TRANSMITTER			40 72 53
17587	I-007	PG-7350	PRESSURE GUAGE, T-7350, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
17341	I-007	PIT-7350	SATURATOR AIR PRESSURE, T-7350, SATURATOR PRESSURE		SI	PRESSURE TRANSMITTER	I-40-0302	0-150 PSIG	40 73 20
17581	I-007	PG-7353	PRESSURE GUAGE, T-7350, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
17650	I-007	LE-7360	SATURATOR 2, T-7360, LEVEL SENSOR		SI	LEVEL ELEMENT/CHAMBER			40 72 53
111558	I-007	LG-7360	SATURATOR 2, T-7360, LEVEL INDICATOR		SI	MAGNETIC LEVEL GAUGE			40 72 53
17652	I-007	LIT-7360	SATURATOR 2, T-7360, SATURATOR LEVEL		SI	GUIDED WAVE RADAR LEVEL TRANSMITTER			40 72 53
17628	I-007	PG-7360	PRESSURE GUAGE, T-7360, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
17347	I-007	PIT-7360	SATURATOR AIR PRESSURE, T-7360, SATURATOR PRESSURE		SI	PRESSURE TRANSMITTER	I-40-0302	0-150 PSIG	40 73 20
17634	I-007	PG-7363	PRESSURE GUAGE, T-7360, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
112001	I-007	FE-7370	DAFF RECYCLE, T-7350/T-7360, FLOW TO STATURATORS		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
39413	I-007	FIT-7370	DAFF RECYCLE, T-7350/T-7360, FLOW TO STATURATORS	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	0.36 - 4.8 MGD	40 71 13.13
47601	I-009	AE-4111	FILTERED WATER TO STORAGE TURBIDITY, SP-4110, TURBIDITY		SI	TURBIDITY ANALYZER			40 75 53
47603	I-009	AIT-4111	FILTERED WATER TO STORAGE TURBIDITY, SP-4110, TURBIDITY	120VAC	SI	TURBIDITY TRANSMITTER		0 - 0.5 NTU	40 75 53
107703	I-009	AE-4112	FILTERED WATER TO STORAGE TURBIDITY, SP-4110, UV TRANSMITTANCE		SI	UV TRANSMITTANCE ELEMENT			40 75 80
107705	I-009	AIT-4112	FILTERED WATER TO STORAGE TURBIDITY, SP-4110, UV TRANSMITTANCE	120VAC	SI	UV TRANSMITTANCE		0.01 TO 0.1 abs/cm	40 75 80
47637	I-009	AE-4113	FILTERED WATER TO STORAGE CHLORINE, SP-4110, CHLORINE		SI	CHLORINE ANALZER PROBE			40 75 21.01
47639	I-009	AIT-4113	FILTERED WATER TO STORAGE CHLORINE, SP-4110, CHLORINE	120VAC	SI	CHLORINE TRANSMITTER		0 to 2.0 mg/L	40 75 21.01
47252	I-009	LE-4201	FILTERED WATER TANK 2 LEVEL, T-4200, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0211		40 72 13
47254	I-009	LIT-4201	FILTERED WATER TANK 1 LEVEL, T-4200, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0211	390.00 - 401.42	40 72 13
47256	I-009	LSH-4202	FILTERED WATER TANK 1 HIGH LEVEL, T-4200, LEVEL SWITCH HIGH		SI	FLOAT LEVEL SWITCH	I-40-0206	ON/OFF	40 72 76.26
47219	I-009	PG-4211	FILTERED WATER PUMP, P-4210, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
47178	I-009	PG-4221	FILTERED WATER PUMP, P-4220, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
47201	I-009	PG-4231	FILTERED WATER PUMP, P-4230, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
46643	I-009	LE-4301	FILTERED WATER TANK 2 LEVEL, T-4300, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0211		40 72 13
46645	I-009	LIT-4301	FILTERED WATER TANK 2 LEVEL, T-4300, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0211	390.00 - 401.42	40 72 13
46792	I-009	LSH-4302	FILTERED WATER TANK 2 HIGH LEVEL, T-4300, LEVEL SWITCH HIGH		SI	FLOAT LEVEL SWITCH	I-40-0206	ON/OFF	40 72 76.26
46647	I-009	PG-4311	FILTERED WATER PUMP, P-4310, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
46657	I-009	PG-4321	FILTERED WATER PUMP, P-4320, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
46679	I-009	PG-4331	FILTERED WATER PUMP, P-4330, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
46639	I-009	LE-7401	BACKWASH SUPPLY TANK LEVEL, T-7400, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0211		40 72 13
46641	I-009	LIT-7401	BACKWASH SUPPLY TANK LEVEL, T-7400, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0211	390.00 - 402.00	40 72 13
46794	I-009	LSH-7402	BACKWASH SUPPLY TANK HIGH LEVEL, T-7400, LEVEL SWITCH HIGH		SI	FLOAT LEVEL SWITCH	I-40-0206	ON/OFF	40 72 76.26
112028	I-009	FE-7403	BACKWASH SUPPLY HEADER FLOW, T-7400, FLOW		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
46627	I-009	FIT-7403	BACKWASH SUPPLY HEADER FLOW, T-7400, FLOW	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	3.2 - 23 MGD	40 71 13.13
85728	I-009	PG-7404	BACKWASH SUPPLY PUMP, T7400, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
85708	I-009	PIT-7404	FILTER BACKWASH PRESSURE, PIT-7404, BACKWASH SUPPLY PRESSURE		SI	PRESSURE TRANSMITTER	I-40-0302	0-150 PSIG	40 73 20

46994	I-009	PG-7411	BACKWASH SUPPLY PUMP, P-7410, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
46764	I-009	PG-7421	BACKWASH SUPPLY PUMP, P-7420, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
47061	I-009	PG-7431	BACKWASH SUPPLY PUMP, P-7430, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-150 PSIG	40 73 13
19131	I-010	LE-7511	COMBINED WASH WATER TANK 1 LEVEL, T-7500, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0217		40 72 13
19133	I-010	LIT-7511	COMBINED WASH WATER TANK 1 LEVEL, T-7510, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0211	374.25 - 390.42	40 72 13
19165	I-010	LSH-7512	COMBINED WASH WATER TANK 1 HIGH LEVEL, T-7510, LEVEL SWITCH HIGH		SI	FLOAT LEVEL SWITCH	I-40-0206	ON/OFF	40 72 76.26
20020	I-010	LE-7551	COMBINED WASH WATER TANK 2 LEVEL, T-7510, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0217		40 72 13
20022	I-010	LIT-7551	COMBINED WASH WATER TANK 2 LEVEL, T-7550, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0211	374.25 - 390.42	40 72 13
20002	I-010	LSH-7552	COMBINED WASH WATER TANK 2 HIGH LEVEL, T-7550, LEVEL SWITCH HIGH		SI	FLOAT LEVEL SWITCH	I-40-0206	ON/OFF	40 72 76.26
112025	I-010	FE-7591	RECYCLE FLOW BACK TO HEAD OF PLANT, MOV-7590, FLOW		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
36686	I-010	FIT-7591	RECYCLE FLOW BACK TO HEAD OF PLANT, MOV-7590, FLOW	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	0.3 - 4.0 MGD	40 71 13.13
36708	I-011	LIT-6111	FLOATED SOLIDS BUFFER TANK LEVEL, T-6110, LEVEL TRANSMITTER		SI	FLANGE MTD LEVEL TRANSMITTER	I-40-0305	385.00 - 390.30	40 73 20
17977	I-011	PG-6121	FLOATED SOLIDS TRANSFER PUMP SUCTION PRESSURE, P-6120, SUCTION PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
102163	I-011	PSL-6121	FLOATING SOLIDS TRANSFER PUMP, P-6120, SUCTION PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-30 PSIG	40 73 36
17975	I-011	PG-6122	FLOATED SOLIDS TRANSFER PUMP DISCHARGE PRESSURE, P-6120, DISCHARGE PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
102186	I-011	PSL-6122	FLOATING SOLIDS TRANSFER PUMP, P-6120, DISCHARGE PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-30 PSIG	40 73 36
18744	I-011	PG-6131	FLOATED SOLIDS TRANSFER PUMP SUCTION PRESSURE, P-6130, SUCTION PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
18742	I-011	PG-6132	FLOATED SOLIDS TRANSFER PUMP DISCHARGE PRESSURE, P-6130, DISCHARGE PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
18728	I-011	LE-6211	RESIDUAL STORAGE TANK 1 LEVEL, T-6210, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0211		40 72 13
18734	I-011	LIT-6211	RESIDUAL STORAGE TANK 1 LEVEL, T-6210, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0211	384.00 - 416.00	40 72 13
25632	I-011	PG-6221	RESIDUALS STORAGE MIXING PUMP SUCTION PRESSURE, P-6220, SUCTION PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-60 PSIG	40 73 13
102048	I-011	PSL-6221	RESIDUALS STORAGE MIXING PUMP PRESSURE, P-6220, SUCTION PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-60 PSIG	40 73 36
19045	I-011	PG-6222	RESIDUALS STORAGE MIXING PUMP DISCHARGE PRESSURE, P-6220, DISCHARGE PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-60 PSIG	40 73 13
102028	I-011	PSH-6222	RESIDUALS STORAGE MIXING PUMP PRESSURE, P-6220, DISCHARGE PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-60 PSIG	40 73 36
25613	I-011	PG-6231	DEWATERING FEED PUMP SUCTION PRESSURE, P-6230, SUCTION PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-60 PSIG	40 73 13
102038	I-011	PSL-6231	DEWATERING FEED PUMP PRESSURE, P-6230, SUCTION PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-60 PSIG	40 73 36
102173	I-011	PSL-6231	FLOATING SOLIDS TRANSFER PUMP, P-6230, SUCTION PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-30 PSIG	40 73 36
19019	I-011	PG-6232	DEWATERING FEED PUMP DISCHARGE PRESSURE, P-6230, DISCHARGE PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-60 PSIG	40 73 13
102018	I-011	PSH-6232	DEWATERING FEED PUMP PRESSURE, P-6230, DISCHARGE PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-60 PSIG	40 73 36
102194	I-011	PSL-6232	FLOATING SOLIDS TRANSFER PUMP, P-6230, DISCHARGE PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-30 PSIG	40 73 36
18187	I-011	LE-6251	RESIDUAL STORAGE TANK 2 LEVEL, T-6250, LEVEL SENSOR		SI	ULTRASONIC LEVEL	I-40-0211		40 72 13
18189	I-011	LIT-6251	RESIDUAL STORAGE TANK 2 LEVEL, T-6250, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0211	384.00 - 416.00	40 72 13
25593	I-011	PG-6261	RESIDUALS STORAGE MIXING PUMP PRESSURE, P-6260, SUCTION PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-60 PSIG	40 73 13
102058	I-011	PSL-6261	RESIDUALS STORAGE MIXING PUMP PRESSURE, P-6260, SUCTION PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-60 PSIG	40 73 36
18944	I-011	PG-6262	RESIDUALS STORAGE MIXING PUMP PRESSURE, P-6260, DISCHARGE PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-60 PSIG	40 73 13
101997	I-011	PSH-6262	RESIDUALS STORAGE MIXING PUMP PRESSURE, P-6260, DISCHARGE PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-60 PSIG	40 73 36
25574	I-011	PG-6271	DEWATERING FEED PUMP SUCTION PRESSURE, P-6270, SUCTION PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-60 PSIG	40 73 13
102068	I-011	PSL-6271	DEWATERING FEED PUMP PRESSURE, P-6270, SUCTION PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-60 PSIG	40 73 36
18975	I-011	PG-6272	DEWATERING FEED PUMP DISCHARGE PRESSURE, P-6270, DISCHARGE PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-60 PSIG	40 73 13
102011	I-011	PSH-6272	DEWATERING FEED PUMP PRESSURE, P-6270, DISCHARGE PRESSURE		SI	PRESSURE SWITCH	I-40-0302	0-60 PSIG	40 73 36
89408	I-012	PG-6301	DEWATERING FEED PUMPS PRESSURE, FIELD, RESIDUAL TRUCK LOADING PRESSURE		SI	PRESSURE GAUGE	I-40-0302	0-60 PSIG	40 73 13
112034	I-012	FE-6311	RESIDUALS TO CENTRIFUGE, CENT-6310, FLOW		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
68399	I-012	FIT-6311	RESIDUALS TO CENTRIFUGE, CENT-6310, FLOW	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	0-175 GPM	40 71 13.13
112037	I-012	FE-6321	RESIDUALS TO CENTRIFUGE, CENT-6320, FLOW		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13.13
68532	I-012	FIT-6321	RESIDUALS TO CENTRIFUGE, CENT-6320, FLOW	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106	0-175 GPM	40 71 13.13
21190	I-014	LSH-5100	COAGULANT CONTAINMENT LEAK, COAGULANT CONTAINMENT LEAK, LEAK DETECTION	120VAC	SI	POINT CAPACITIANCE SWITCH	I-40-0219	ON/OFF	40 72 76.39
21184	I-014	LE-5111	BULK TANK LEVEL, T-5110, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
21186	I-014	LIT-5111	COAGULANT BULK STORAGE TANK, T-5110, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 417.6	40 72 13
30806	I-014	LSHH-5112	COAGULANT BULK STORAGE TANK, T-5110, LEVEL SWITCH HIGH HIGH	120VAC	SI	POINT LEVEL SWTICH	I-40-0216	ON/OFF at 417.6	40 72 76.39
21225	I-014	LE-5121	BULK TANK LEVEL, T-5120, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
21227	I-014	LIT-5121	COAGULANT BULK STORAGE TANK, T-5120, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 417.6	40 72 13
30803	I-014	LSHH-5122	COAGULANT BULK STORAGE TANK, T-5120, LEVEL SWITCH HIGH HIGH	120VAC	SI	POINT LEVEL SWTICH	I-40-0216	ON/OFF at 417.6	40 72 76.39
21671	I-014	PG-5131	TRANSFER PUMPS, P-5130, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
21679	I-014	PG-5141	TRANSFER PUMPS, P-5140, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
21425	I-014	LE-5151	DAY TANK LEVEL, T-5150, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
21427	I-014	LIT-5151	DAY TANK LEVEL, T-5150, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 413.1	40 72 13
53105	I-014	LSH-5151	COAGULANT DAY TANK, T-5150, LEVEL SWITCH HIGH		SI	LEVEL SWITCH MODULE		ON/OFF at 413.1	40 72 13
41749	I-015	LSH-5200	HYPOCHLORITE CONTAINMENT AREA LEAK, HYPOCHLORITE CONTAINMENT LEAK, LEAK DETECTION	120VAC	SI	POINT CAPACITIANCE SWITCH	I-40-0219	ON/OFF	40 72 76.39

85232	I-015	AE-5204	AMBIENT CHLORINE MONITOR, HYPOCHLORITE CONTAINMENT LEAK, CHLORINE		SI	AMBIENT CHLORINE PROBE	I-40-0506		40 76 21
85211	I-015	AIT-5204	AMBIENT CHLORINE MONITOR, HYPOCHLORITE CONTAINMENT LEAK, CHLORINE	120VAC	SI	AMBIENT CHLORINE DETECTOR	I-40-0506	0 - 5 PPM	40 76 21
41743	I-015	LE-5211	HYPOCHLORITE BULK STORAGE TANK 1, T-5210, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
41745	I-015	LIT-5211	HYPOCHLORITE BULK STORAGE TANK 1, T-5210, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 414.4	40 72 13
74023	I-015	LSHH-5212	HYPOCHLORITE BULK STORAGE TANK, T-5210, LEVEL SWITCH HIGH HIGH	120VAC	SI	POINT LEVEL SWTICH	I-40-0216	ON/OFF at 413.1	40 72 76.39
41828	I-015	LE-5221	HYPOCHLORITE BULK STORAGE TANK 2, T-5220, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
41830	I-015	LIT-5221	HYPOCHLORITE BULK STORAGE TANK 2, T-5220, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 414.4	40 72 13
74019	I-015	LSHH-5222	HYPOCHLORITE BULK STORAGE TANK, , LEVEL SWITCH HIGH HIGH	120VAC	SI	POINT LEVEL SWTICH	I-40-0216	ON/OFF at 413.1	40 72 76.39
87501	I-015	PG-5231	PUMP PRESSURE GUAGE, P-5230, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
87510	I-015	PG-5241	PUMP PRESSURE GUAGE, P-5240, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
41916	I-015	LE-5251	SODIUM HYPOCHLORITE DAY TANK LEVEL, T-5230, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
41918	I-015	LIT-5251	SODIUM HYPOCHLORITE DAY TANK LEVEL, T-5250, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 413.1	40 72 13
53133	I-015	LSH-5251	SODIUM HYPOCHLORITE DAY TANK LEVEL, T-5250, LEVEL SWITCH HIGH		SI	LEVEL SWITCH MODULE		ON/OFF at 413.1	40 72 13
102432	I-015	PG-5292	DILUTION WATER SODIUM HYPOCHLORITE, , PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-100 PSIG	40 73 13
74926	I-016	LSH-5300	SODIUM HYDROXIDE CONTAINMENT AREA LEAK, SODIUM HYDROXIDE CONTAINMENT AREA, LEAK DETECTION	120VAC	SI	POINT CAPACITIANCE SWITCH	I-40-0219	ON/OFF	40 72 76.39
74922	I-016	LE-5311	SODIUM HYDROXIDE BULK STORAGE TANK 1, T-5310, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
74924	I-016	LIT-5311	SODIUM HYDROXIDE BULK STORAGE TANK 1, T-5310, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 419.7	40 72 13
74592	I-016	LSHH-5312	SODIUM HYDROXIDE BULK STORAGE TANK 1, T-5310, LEVEL SWITCH HIGH HIGH	120VAC	SI	POINT LEVEL SWTICH	I-40-0216	ON/OFF at 419.7	40 72 76.39
74728	I-016	LE-5321	SODIUM HYDROXIDE BULK STORAGE TANK 2, T-5320, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
74730	I-016	LIT-5321	SODIUM HYDROXIDE BULK STORAGE TANK 2, T-5320, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 419.7	40 72 13
74590	I-016	LSHH-5322	SODIUM HYDROXIDE BULK STORAGE TANK 2, T-5320, LEVEL SWITCH HIGH HIGH	120VAC	SI	POINT LEVEL SWTICH	I-40-0216	ON/OFF at 419.7	40 72 76.39
87537	I-016	PG-5331	SODIUM HYDROXIDE TRANSFER PUMP 1, P-5330, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
87550	I-016	PG-5341	SODIUM HYDROXIDE TRANSFER PUMP 2, P-5340, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
74675	I-016	LE-5351	DAY TANK LEVEL, T-5330, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
74677	I-016	LIT-5351	SODIUM HYDROXIDE DAY TANK LEVEL, T-5350, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 415.9	40 72 13
74982	I-016	LSH-5351	SODIUM HYPOCHLORITE DAY TANK LEVEL, T-5350, LEVEL SWITCH HIGH		SI	LEVEL SWITCH MODULE		ON/OFF at 415.9	40 72 13
49069	I-017	LSH-5400	CORROSION INHIBITOR CONTAINMENT LEAK, CORROSION INHIBITOR CONTAINMENT, LEAK DETECTION	120VAC	SI	POINT CAPACITIANCE SWITCH	I-40-0219	ON/OFF	40 72 76.39
49172	I-017	LE-5411	DAY TANK LEVEL, T-5410, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
49174	I-017	LIT-5411	BULK TANK LEVEL, T-5410, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 417.2	40 72 13
75412	I-017	LSHH-5412	CORROSION INHIBITOR BULK STORAGE TANK LEVEL, T-5410, LEVEL SWITCH HIGH HIGH	120VAC	SI	POINT LEVEL SWTICH	I-40-0216	ON/OFF at 417.2	40 72 76.39
87571	I-017	PG-5431	CORROSION INHIBITOR TRANSFER PUMP 1, P-5430, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
87580	I-017	PG-5441	CORROSION INHIBITOR TRANSFER PUMP 2, P-5440, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0-30 PSIG	40 73 13
49184	I-017	LE-5451	BULK TANK LEVEL, T-5450, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR	I-40-0215		40 72 13
49186	I-017	LIT-5451	CORROSION INHIBITOR DAY TANK LEVEL, T-5450, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER	I-40-0215	407.5 - 412.7	40 72 13
53173	I-017	LSH-5451	CORROSION INHIBITOR DAY TANK, T-5450, LEVEL SWITCH HIGH		SI	LEVEL SWITCH MODULE		ON/OFF at 412.7	40 72 13
43367	I-018	LSH-5500	INSIDE HYDROFLUOROSILICIC ACID CONTAINMENT, T-5510, LEAK DETECTION	120VAC	SI	POINT CAPACITIANCE SWITCH	I-40-0219		40 72 76.39
43476	I-018	LE-5511	HYDROFLUOROSILICIC ACID BULK TANK, T-5510, LEVEL SENSOR		SI	ULTRASONIC LEVEL SENSOR			40 72 13
43478	I-018	LIT-5511	HYDROFLUROSILICIC ACID BULK TANK, T-5510, LEVEL TRANSMITTER	120VAC	SI	ULTRASONIC LEVEL TRANSMITTER		407.5 - 417.9	40 72 13
75666	I-018	LSHH-5512	HYDROFLUOROSILICIC ACID BULK TANK, T-5510, LEVEL SWITCH HIGH HIGH	120VAC	SI	POINT LEVEL SWTICH	I-40-0216	ON/OFF at 417.9	40 72 76.39
43466	I-018	LG-5513	HYDROFLUROSILICIC ACID BULK TANK, T-5510, LEVEL GAUGE		SI	SIGHT GLASS			40 72 TBD
87589	I-018	PG-5531	HYDROFLUOROSILICIC ACID TRANSFER PUMP 1, P-5530, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0 - 30 PSIG	40 73 13
87598	I-018	PG-5541	HYDROFLUOROSILICIC ACID TRANSFER PUMP 2, P-5540, PRESSURE		SI	PRESSURE/DP GAUGE	I-40-0302	0 - 30 PSIG	40 73 13
43763	I-018	WIT-5551	HYDROFLUROSILICIC ACID DAY TANK WEIGHT, T-5550, WEIGHT	120VAC	SI	PLATFORM SCALE		407.5 - 412.9	40 79 10
53218	I-018	WSH-5551	WEIGHT SWTICH MODULE, T-5550, HIGH WEIGHT		SI	HIGH WEIGHT SWITCH MODULE		ON/OFF at 412.9	40 79 10
Addendum 5	**I-019**	**FE-4412 [(1)]**	**Magnetic Flowmeter, UV SYSTEM, UV-4410, INLET FLOW**		**SI**	**MAGMETER FLOWTUBE**	**I-40-0106**		**40 71 13 13**
Addendum 5	**I-019**	**FIT-4412 [(1)]**	**Magnetic Flowmeter, UV SYSTEM, UV-4410, INLET FLOW**	**120VAC**	**SI**	**MAGMETER FLOW TRANSMITTER**	**I-40-0106**	**1 to 20 MGD**	**40 71 13 13**
Addendum 5	**I-019**	**FE-4512 [(1)]**	**Magnetic Flowmeter, UV SYSTEM, UV-4510, INLET FLOW**		**SI**	**MAGMETER FLOWTUBE**	**I-40-0106**		**40 71 13 13**
Addendum 5	**I-019**	**FIT-4512 [(1)]**	**Magnetic Flowmeter, UV SYSTEM, UV-4510, INLET FLOW**	**120VAC**	**SI**	**MAGMETER FLOW TRANSMITTER**	**I-40-0106**	**1 to 20 MGD**	**40 71 13 13**
Addendum 5	**I-019**	**FE-4412 [(1)]**	**Magnetic Flowmeter, UV SYSTEM, UV-4610, INLET FLOW**		**SI**	**MAGMETER FLOWTUBE**	**I-40-0106**		**40 71 13 13**
Addendum 5	**I-019**	**FIT-4412 [(1)]**	**Magnetic Flowmeter, UV SYSTEM, UV-4610, INLET FLOW**	**120VAC**	**SI**	**MAGMETER FLOW TRANSMITTER**	**I-40-0106**	**1 to 20 MGD**	**40 71 13 13**
83028	I-019	AE-4712	FILTERED WATER TO UV SYSTEM, FILTERED WATER, UV TRANSMITTANCE		SI	UV TRANSMISSION ELEMENT			40 75 80
83030	I-019	AIT-4712	FILTERED WATER TO UV SYSTEM, FILTERED WATER, UV TRANSMITTANCE	120VAC	SI	UV TRANSMISSION MONITOR		0 - 100% UVT	40 75 80
82640	I-019	AE-4792	FILTERED WATER CHEMICAL ADDITION, FILTERED WATER, pH		SI	pH PROBE	I-40-0902		40 75 13
82642	I-019	AIT-4792	FILTERED WATER CHEMICAL ADDITION, FILTERED WATER, pH	120VAC	SI	pH TRANSMITTER	I-40-0902	6 - 8	40 75 13
82672	I-019	AIT-4793	FILTERED WATER CHEMICAL ADDITION, FILTERED WATER, CHLORINE	120VAC	SI	CHLORINE TRANSMITTER	I-40-0902	0 to 2.0 mg/L	40 75 21
82951	I-019	AE-4794	FILTERED WATER CHEMICAL ADDITION, FILTERED WATER, FLUORINE		SI	FLURIDE ELEMENT	I-40-0902		40 75 33
82953	I-019	AIT-4794	FILTERED WATER CHEMICAL ADDITION, FILTERED WATER, FLUORINE	120VAC	SI	FLUORIDE TRANSMITTER	I-40-0902	0 to 0.7 mg/L	40 75 33
83006	I-019	AE-4795	FILTERED WATER CHEMICAL ADDITION, FILTERED WATER, PHOSPHATE ANALYZER		SI	PHOSPHATE PROBE	I-40-0902		40 75 69

83008	I-019	AIT-4795	FILTERED WATER CHEMICAL ADDITION, FILTERED WATER, PHOSPHATE ANALYZER	120VAC	SI	PHOSPHATE TRANSMITTER	I-40-0902	1.3 to 3.0 mg/L	40 75 69
112031	I-021	FE-7702	Magnetic Flowmeter, SANITARY LIFT STATION, SANITARY FLOW		SI	MAGMETER FLOWTUBE	I-40-0106		40 71 13 13
87251	I-021	FIT-7702	Magnetic Flowmeter, SANITARY LIFT STATION, SANITARY FLOW	120VAC	SI	MAGMETER FLOW TRANSMITTER	I-40-0106		40 71 13 13

Attachment B – Revised Drawings

GENERAL NOTES:

1. SITE INFORMATION TAKEN FROM SITE SURVEY CONDUCTED BY GEORGE J. MOTTARELLA, PE, LS, PC, DATED 7-21-2021.

2. HORIZONTAL CONTROL IS REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83). VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

3. CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND DIMENSIONS WHERE NEW WORK WILL MATCH EXISTING. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE COMMENCEMENT OF WORK.

4. CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FROM THE APPROPRIATE AUTHORITIES, DEPARTMENTS, AND/OR AGENCIES HAVING JURISDICTION PRIOR TO COMMENCING WORK.

5. CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED. ANY DAMAGE TO EXISTING PAVEMENT, TREES, VEGETATION, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

6. UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE GIS INFORMATION, RECORD DRAWINGS, AND SITE SURVEY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE TO THEM. THE CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK AT PHONE NUMBER 811 OR 1-800-962-7962 TO REQUEST UNDERGROUND UTILITY LOCATION MARK-OUT AT LEAST TWO (2) WORKING DAYS BUT NO MORE THAN TEN (10) WORKING DAYS PRIOR TO BEGINNING EXCAVATION, INCLUDING SOIL DRILLING. THE CONTRACTOR SHALL ALSO CONTACT AND REQUEST UTILITY LOCATION MARK-OUT FROM BURIED UTILITY OWNERS WITH UTILITIES ON THE PROJECT SITE THAT ARE NOT PARTICIPANTS OF DIG SAFELY NEW YORK.

7. WHERE PROPOSED WORK IS IN THE VICINITY OF UTILITY POLES, SUCH THAT SUPPORT OF THE POLE(S) WILL BE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY OF THE WORK. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE UTILITY FOR SUPPORT OF THE POLE.

8. WHERE OVERHEAD POWER LINES ARE PRESENT, CONTRACTOR MUST CONTACT THE UTILITY PRIOR TO CONSTRUCTION ACTIVITIES TO DETERMINE THE MINIMUM REQUIRED EQUIPMENT CLEARANCE (MEC) DISTANCE BASED UPON LINE STRENGTH.

9. DURING STRUCTURAL EXCAVATION AND PLACEMENT OF UTILITIES THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS, INCLUDING BUT NOT LIMITED TO 29 CFR 1926 SUBPART P EXCAVATIONS AND NYS CR 753 DIG SAFELY NY REGULATIONS, AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL SHEET PILING, SHORING AND/OR BRACING DESIGNS, PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW YORK, AS MAY BE NECESSARY TO COMPLY WITH THESE REGULATIONS.

10. GROUNDWATER FROM ALL DEWATERING OPERATIONS SHALL BE DISCHARGED THROUGH AN APPROVED SEDIMENT FILTERING DEVICE TO AN ENVIRONMENTALLY ACCEPTABLE LOCATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER.

11. ALL TEMPORARY FACILITIES ARE SUBJECT TO THE SAME HEALTH AND SAFETY REQUIREMENTS AS PERMANENT FACILITIES, AS SPECIFIED IN THE CONTRACT DOCUMENTS AND HEALTH SAFETY PLAN (HASP).

12. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS GENERATED DURING THE PROJECT OFF SITE AT A PROPERLY PERMITTED DISPOSAL FACILITY.

13. CONTRACTOR SHALL MAKE EVERY EFFORT TO SAVE AND MAINTAIN ALL PROPERTY IRONS, MONUMENTS, OTHER PERMANENT POINTS AND LINES OF REFERENCE AND CONSTRUCTION STAKES. A STATE OF NEW YORK REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE SHALL REPLACE PROPERTY IRONS, MONUMENTS, AND OTHER PERMANENT POINTS OF REFERENCE DESTROYED BY THE CONTRACTOR.

14. CONTRACTOR IS REQUIRED TO UTILIZE HAND DIGGING OR HYDROEXCAVATION TO A DEPTH OF 4 FEET IN AREAS WHERE UNDERGROUND UTILITIES ARE PRESENT.

ABBREVIATIONS

ACF	ANNUAL CHANCE FLOOD	FP	FIRE PROTECTION	OF	OVERFLOW	SAN	SANITARY DRAIN
BFV	BUTTERFLY VALVE	FUD	FOUNDATION UNDERDRAIN	OHE	OVERHEAD ELECTRIC	SD	STORM DRAIN
℄	CENTER LINE	G	GAS	ℙ	PROPERTY LINE	SHWT	SEASONALLY HIGH WATER TABLE
CMP	CORRUGATED METAL PIPE	GD	GALLERY DRAIN	PP	POWER POLE	TP	TEST PIT
DIP	DUCTILE IRON PIPE	GV	GATE VALVE	PPE	POLYPROPYLENE	UGE	UNDERGROUND ELECTRIC
EOP	EDGE OF PAVEMENT	HP	HIGH POINT (1)	PVC	POLYVINYL CHLORIDE	W	WATER
FDC	FIRE DEPARTMENT CONNECTION	LF	LINEAR FEET	PW	POTABLE WATER	WCA	WESTCHESTER COUNTY AIRPORT
FLWT	FILTERED WATER TRANSFER (1)	LOC	LIMITS OF CONSTRUCTION	RCP	REINFORCED CONCRETE PIPE	WWR	WASHWATER RECYLE
FM	FORCE MAIN	LP	LIGHT POLE / LOW POINT (1)	RECM	ROLLED EROSION CONTROL MATTING	WWW	WASTE WASHWATER
FOC	FIBER OPTIC CABLE	MH	MANHOLE				

LEGEND

SYMBOLS

- TP-1 — TEST BORING LOCATION
- B-3 — SOIL BORING LOCATION
- EXISTING FIRE HYDRANT
- YARD VALVE
- P — SUMP PUMP
- PST — PORTABLE SEDIMENT TANK
- INLET PROTECTION

NEW	DEMO	EXISTING	
			BUILDING/STRUCTURE
			BITUMINOUS PAVEMENT
			CONCRETE CURB AND GUTTER
			CONCRETE PAD/PAVING
			CONCRETE SIDEWALK
x		x	CHAIN LINK FENCE LINE
			ORNAMENTAL FENCE LINE
			AIRPORT FENCE LINE

NEW	EXISTING	
300	300	CONTOUR
×302.00	302.00 ×	SPOT ELEVATION
		PROPERTY LINE
OHE	OHE	OVERHEAD ELECTRIC
W	W	WATER PIPING
		ELECTRIC DUCTBANK
	UGT	UNDERGROUND COMMUNICATION
	UGE	UNDERGROUND ELECTRIC
GAS		GAS LINE
SD		STORM LINE

NEW	DEMO	EXISTING	
			APPROXIMATE WOODLINE
			YARD PIPING
			MANHOLE
			YARD INLET
			FLARED END SECTION
			CURB INLET
			STORM DRAIN LINE

	EXISTING DITCH LINE
	EXISTING WETLAND AREA
	WETLAND OR DITCH BUFFER
	STABILIZED OUTLET FOR SILT FENCE
	YARD INLET PROTECTION
	GRAVEL CONSTRUCTION ENTRANCE
SF	SILT FENCE
TPF	TREE PROTECTION FENCE
LOD	LIMITS OF DISTURBANCE

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

PROJECT ENGINEER: R. FROST
DESIGNED BY: J. TANNER
DRAWN BY: J. TANNER
CHECKED BY: D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"

BID SET

STATE OF NEW YORK · DANIEL JAMES SHEERAN · 088955 · LICENSED PROFESSIONAL ENGINEER

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
GENERAL NOTES, LEGEND AND ABBREVIATIONS

DATE: FEB 2025
HAZEN NO.: 90388-000
CONTRACT NO.: A1364-A
DRAWING NUMBER: C-001

File: C:\USERS\JTANNER\DOCAOCDOCS\HAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-001 Saved by JTANNER Save date: 5/16/2025 4:53 PM
PLOT DATE: 5/20/2025 9:41 AM BY: JTANNER

SEE MATCHLINE DWG C-103 (1)

SEE MATCHLINE - THIS DWG

SEE MATCHLINE - THIS DWG

AIRPORT ACCESS RD.

PURCHASE STREET

BILLONE, JOSEPH
0971-9

QUAKER MEETING PURCHASE
0971-6

EXISTING CHAIN LINK FENCE

EXISTING STREAM TO RYE LAKE

100' SIDE YARD SETBACK

EXISTING ACCESS ROAD DEMOLITION LIMITS

EXISTING AIRPORT CHAIN LINK FENCE TO BE REMOVED SEE NOTE 10

REMOVE TREE, TYP

EXISTING WETLAND

50' STREAM BUFFER

EXISTING ACCESS ROAD

100' WETLAND BUFFER

100' PURCHASE STREET BUFFER

CONCRETE BARRIER BY OTHERS, TYP

LIMITS OF TREE CLEARING, TYP

LIMITS OF DISTURBANCE, TYP

TREE PROTECTION FENCE SEE NOTE 9

50' FRONT YARD SETBACK

EXISTING STONE WALL AND COLUMNS TO BE REMOVED (SEE NOTE 11, THIS DWG)

PLUG VALVES, TYP

PROPERTY LINE

36" x 36" TEE, TYP

EXISTING 36" TRANSMISSION LINE DEMO EXTENTS (SEE YARD PIPING PLAN)

EXISTING 8" CAPPED DIP WATER MAIN BY OTHERS

EDGE OF PAVEMENT

36" BUTTERFLY VALVE, TYP

36" FOSTER ADAPTER, TYP

SOLID SLEEVE CONNECTION, TYP

EXISTING 36" WATER TRANSMISSION MAIN

EXISTING 20" WATER MAIN

EXISTING ROCK WALL, DEMOLISH AS REQUIRED AT LIMITS OF DISTURBANCE

EXISTING 8" CAPPED DIP WATER MAIN BY OTHERS

TEST PIT, TYP SEE NOTE 8

BORING LOCATION, TYP SEE NOTE 7

TP-1 TP-2 TP-3 TP-4 TP-5 TP-6 TP-7 TP-8 TP-10

B-1 B-2 B-3 B-4 B-5 B-6 B-7 B-8 B-9 B-10 B-11 B-12 B-13 B-14 B-15 B-16 B-18 B-21 B-22 B-24 B-25 B-26

CP1 CP2

100.0'

50.0'

AREA OF TREE PLANTING AND VEGETATIVE INFILL ONLY SEE LANDSCAPE DWGS

SEE MATCHLINE - THIS DWG

SCALE: 1" = 30'

30 15 0 30'

EXISTING CONDITION AND DEMOLITION NOTES:

1. TREES REMOVED UNDER SEPARATE CONTRACT. CONTRACTOR SHALL REMOVE REMAINING STUMPS AND ROOTS. SEE SPECIFICATION SECTION 31 10 00 - CLEARING, GRUBBING, AND SITE PREPARATION.
2. GROUND COVER WITHIN LIMIT OF DISTURBANCE IS APPROXIMATELY SIX INCHES OF WOODCHIPS. CONTRACTOR SHALL REMOVE WOOD AND DISPOSE OF THEM OFFSITE AS REQUIRED TO COMPLETE THEIR CONSTRUCTION ACTIVITIES.
3. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES PRIOR TO START OF WORK.
4. BASE MAPPING INFORMATION BASED ON SITE SURVEY PERFORMED BY GEORGE J. MOTARELLA, PE, PS, PC DATED 7-21-2021
5. ALL TREES ROOTED WITHIN THE LIMITS OF DISTURBANCE ARE TO BE CLEARED AND GRUBBED.
6. ALL DEMOLITION WORK MUST BE PERFORMED IN ACCORDANCE WITH 29 CFR 1926 SUBPART T DEMOLITION AND 1926.1153 RESPIRABLE CRYSTALLINE SILICA.
7. SOIL BORINGS PERFORMED BY GZA MAY AND JUNE 2021.
8. TEST PITS 1-6 PERFORMED IN AUGUST 2021 AND TEST PITS 7-13 PERFORMED IN NOVEMBER 2021 BY GZA.
9. CONTRACTOR SHALL USE AREA OF TREE PLANTING AND VEGETATIVE INFILL FOR THE WORK SHOWN ON THE LANDSCAPE DWGS ONLY. HAND DIGGING SHALL BE PREFORMED WITHIN THE LIMITS OF THE TREE PROTECTION ZONE. USE FOR ANY OTHER CONSTRUCTION ACTIVITIES IS PROHIBITED.
10. EXISTING AIRPORT FENCE SHALL NOT BE REMOVED UNTIL RELOCATED FENCE HAS BEEN INSTALLED. SEE DWGS C-121, C-141, AND C-142.
11. THE CONTRACTOR SHALL ASSUME THE STONE WALL IS MADE UP OF 18"-24" DIAMETER BOULDERS WITH A WALL HEIGHT OF APPROXIMATELY THREE FEET. TWO STONE MASONRY COLUMNS, APPROXIMATELY TWO FEET WIDE, TWO FEET LONG, AND FOUR FEET TALL SHALL BE REMOVED

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0 1/2" 1")

PROJECT ENGINEER:	R. FROST
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WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
EXISTING CONDITIONS AND DEMOLITION PLAN - AREA 1

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-102

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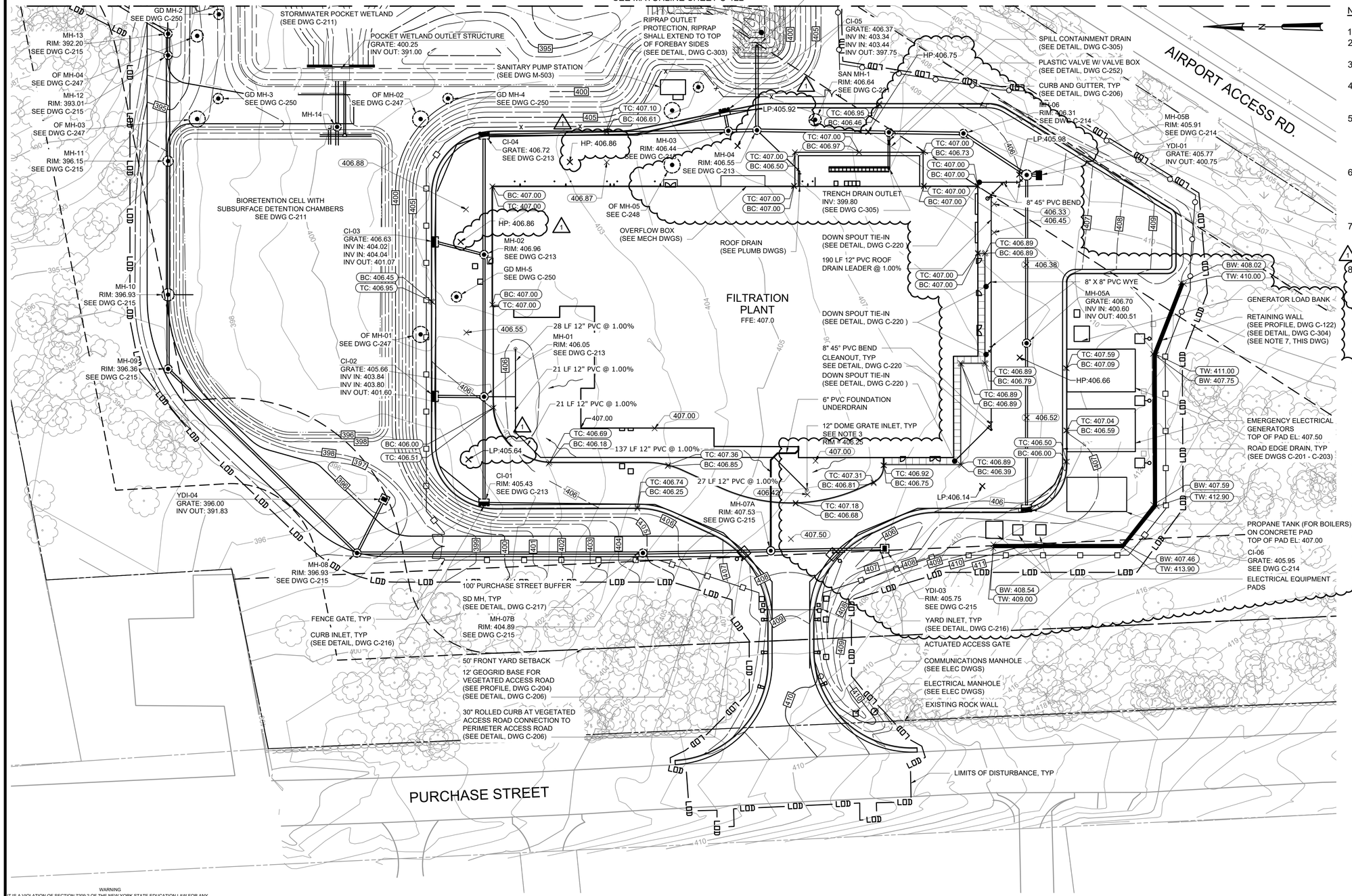
PLOT DATE: 5/21/2025 11:10 AM BY: JTANNER



NOTES:

1. SEE DWG C-131 FOR YARD PIPING.
2. REFER TO DWG C-213 THROUGH C-215 FOR STORM DRAIN PROFILES.
3. INLET SHALL CONSIST OF A NYLOPLAST INLINE DRAIN WITH 12" DOME GRATE COVER, OR APPROVED EQUAL.
4. DIP STORM DRAIN PIPING SHALL BE OF GRADE 70 50 05 DUCTILE IRON IN ACCORDANCE WITH ANSI A21.51 (AWWA C151) AND BE LEAKAGE TESTED TO 50 PSI MIN.
5. HDPE STORM DRAIN PIPING AND FITTINGS SHALL BE SMOOTH LINED CORRUGATED WATERTIGHT HIGH-DENSITY POLYETHYLENE PIPE, AS MANUFACTURED BY HANCOR, INC., N-12 WT IB (WATERTIGHT) PIPE BY ADS, OR APPROVED EQUAL.
6. REINFORCED CONCRETE PIPE (RCP) FOR STORM DRAINS SHALL CONFIRM TO ASTM STANDARD C76, CLASS III, WALL THICKNESS B. PIPE JOINTS SHALL BE DESIGNED PER ASTM C-443-19A AND ASTM C-1628-19. PIPE SHALL BE PROVIDED WITH BELL AND SPIGOT ENDS.
7. TOP AND BOTTOM OF WALL ELEVATIONS IN PLAN VIEW REPRESENT THE GRADE AT THE TOP AND BOTTOM OF WALL AND NOT THE TOP AND BOTTOM OF THE STRUCTURE. SEE PROFILE ON DWG C-122 AND DETAIL ON DWG C-304.
8. HIGH POINT (HP) AND LOW POINT (LP) ELEVATIONS REPRESENT THE HIGH AND LOW POINTS ALONG THE CENTERLINE OF THE FACILITY ACCESS DRIVEWAY ALIGNMENT. SEE PROFILE DWGS C-201 TO C-203.

PLAN
SCALE: 1" = 30'

SCALE: 1" = 30'
30 15 0 30'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0 1/2" 1")

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	C. MCNICOL
DRAWN BY:	J. TANNER
CHECKED BY:	D. SHEERAN

BID SET

STATE OF NEW YORK · MICHAEL JAMES SHEERAN · 088955 · LICENSED PROFESSIONAL ENGINEER

Hazen

HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
GRADING AND DRAINAGE PLAN - AREA 1

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-121

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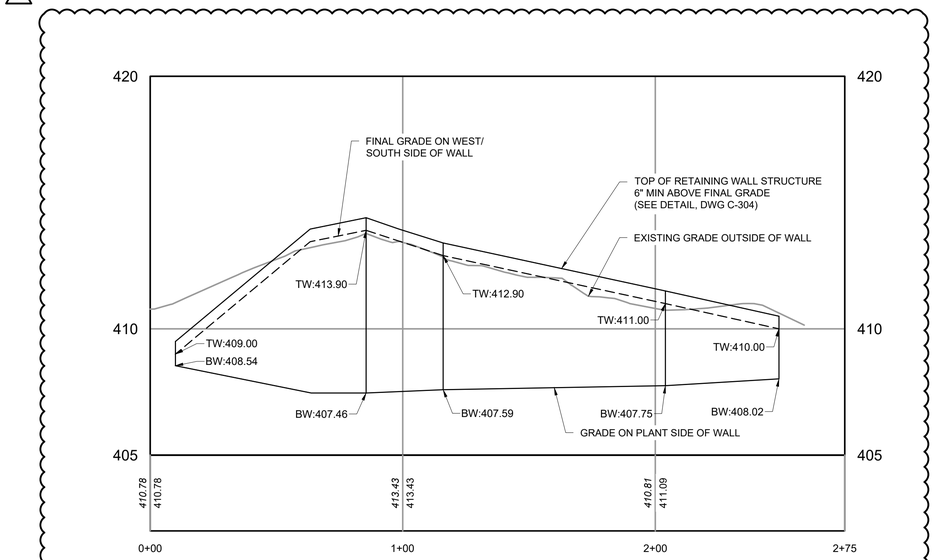
PLOT DATE: 5/20/2025 6:01 PM BY: JTANNER

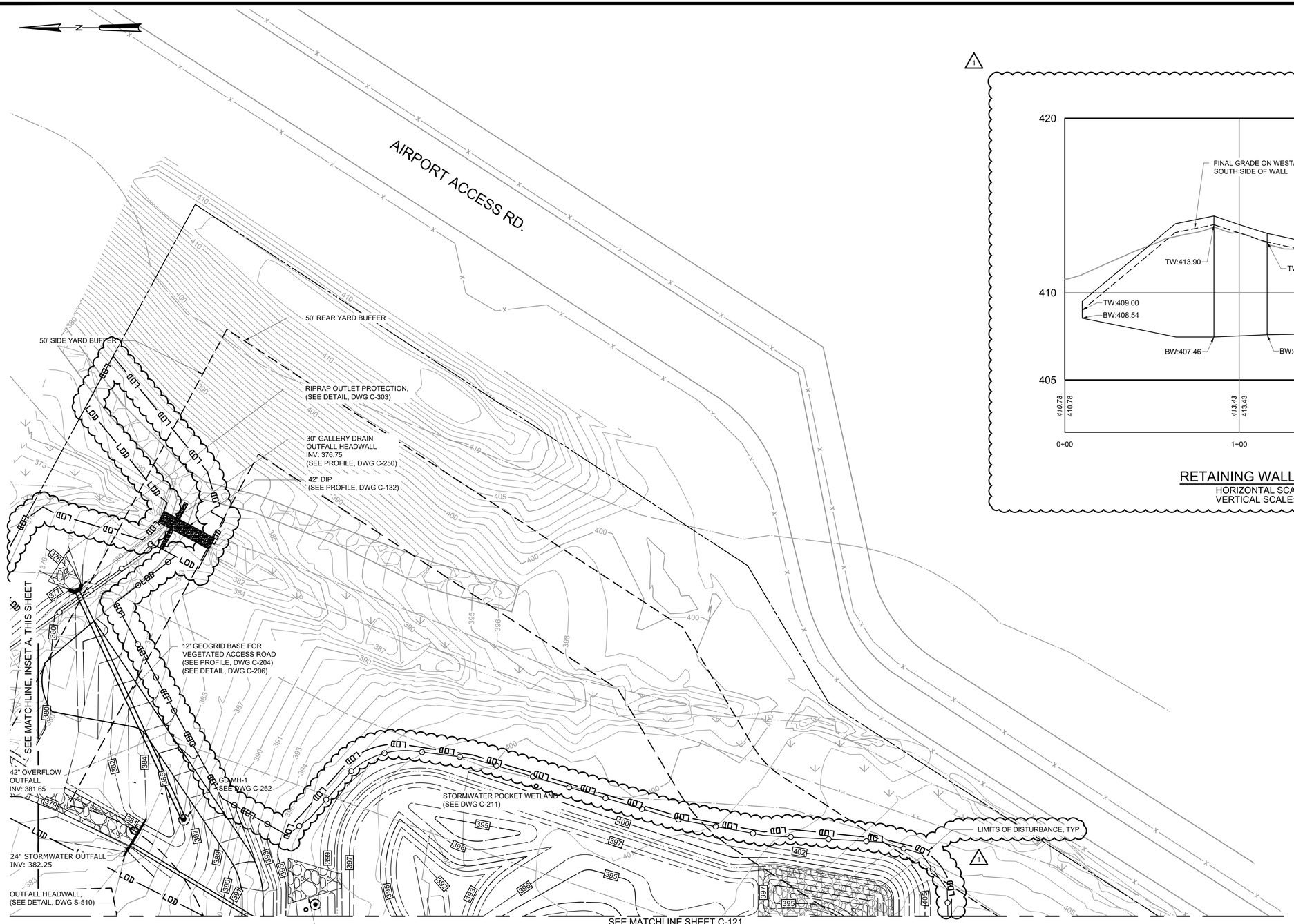
NOTES:

1. SEE DWG C-132 FOR YARD PIPING
2. REFER TO DWG C-213 THROUGH C-215 FOR STORM DRAIN PROFILES.



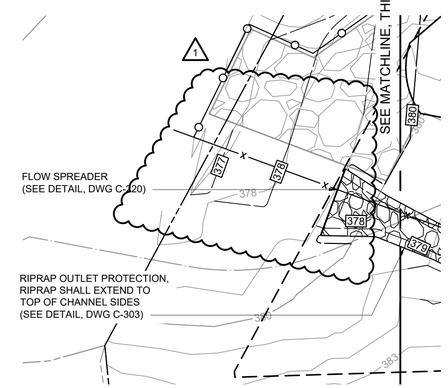
RETAINING WALL PROFILE

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1" = 3'



PLAN

SCALE: 1" = 30'



INSET A

SCALE: 1" = 30'

SCALE: 1" = 30'

30 15 0 30'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	C. MCNICOL
DRAWN BY:	J. TANNER
CHECKED BY:	D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0 1/2" 1")

BID SET

STATE OF NEW YORK — DANIEL JAMES SHEERAN — 088955 — LICENSED PROFESSIONAL ENGINEER

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
GRADING AND DRAINAGE PLAN - AREA 2

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-122

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PLOT DATE: 5/21/2025 11:35 AM BY: JTANNER

SEE MATCHLINE SHEET C-132

SANITARY PUMP STATION (SEE DWGS M-503 & M-504)

STORMWATER POCKET WETLAND (SEE DWG C-211)

CONCRETE PIPE COLLAR (SEE DETAIL, DWG C-216)

8" PVC SAN DRAIN (SEE PROFILE DWG C-231)

FIRE HYDRANT WITH VALVE (SEE DETAIL DWG C-252)

4" PVC SAN FM (SEE PROFILE DWGS C-232 & C-233)

WETLAND OUTLET STRUCTURE, (SEE DWG C-211)

15" SD

8" SD

18" SD

30" GD

30" GD

2 - 45° BEND

42" DIP OF

16" SD

22.5° BEND

CHEMICAL CONNECTION, TYP (SEE MECH DWGS)

90° BEND

OVERFLOW BOX (SEE MECH DWGS)

42" DIP OF

4" PVC SS

8" PVC SS

2 - 45° BEND

ELECTRICAL DUCTBANK

FIRE HYDRANT WITH VALVE (SEE DETAIL, DWG C-252)

18" SD

18" SD

CONCRETE ENCASEMENT, TYP (SEE DETAIL, DWG C-251)

AIRPORT ACCESS RD

100' WETLAND BUFFER

BIORETENTION CELL WITH SUBSURFACE DETENTION CHAMBERS (SEE DWG C-211)

30" DIP OF

FILTRATION PLANT

FFE: 407.0

FDC

6" DIP FP (SEE PROFILE DWG C-245)

4" DIP PW (SEE PROFILE DWG C-245)

8" X 6" TEE

8" X 4" TEE

ELECTRICAL DUCT BANK (TYP)

PORTABLE GENERATOR DOCKING PAD

RETAINING WALL

GENERATOR LOAD BANK

EMERGENCY ELECTRICAL GENERATORS

PROPANE TANK (FOR BOILERS) ON CONCRETE PAD

OF MH, TYP (SEE DETAIL, DWG C-234)

SD MH, TYP (SEE DETAIL, DWG C-217)

14" SD

42" DIP WWW (SEE PROFILE DWG C-246)

12" DIP WWR (SEE PROFILE DWG C-244)

2 - 45° BEND

FIRE HYDRANT WITH VALVE (SEE DETAIL, DWG C-252)

45° BEND

90° BEND

90° BEND

42" DIP OF

18" SD

2 - 45° BEND

2 - 45° BEND

GAS

2 - 45° BEND

12" BLOW-OFF (SEE DETAIL, DWG C-241)

48" DIP FLWT TRANSMISSION MAIN (SEE PROFILE DWGS C-242 & C-243)

ACTUATED ACCESS GATE

48" DIP RAW WATER TRANSMISSION MAIN (SEE PROFILE DWG C-241)

36" DIP RAW WATER TRANSMISSION MAIN

VALVE BOX, TYP (SEE DETAIL DWG C-252)

LIMITS OF DISTURBANCE, TYP

CONNECT TO EXISTING 8" WATER MAIN

CONNECT TO EX. 36" BFV (SEE NOTE 3, THIS DWG)

VEGETATED ACCESS ROAD (SEE DWG C-204)

SEE GRADING AND DRAINAGE PLANS C-121 AND C-122 FOR STORM DRAIN PIPING

2 - 45° BEND

ELECTRICAL EQUIPMENT

FIRE HYDRANT WITH VALVE (SEE DETAIL, DWG C-252)

24" W x 24" H ELECTRICAL DUCTBANK (SEE DETAIL B, DWG E-601)

4" PPE PROPANE LINE

16" W x 8" H COMMUNICATIONS DUCTBANK (SEE DETAIL D, DWG E-601)

6" BLOW-OFF (SEE DETAIL, DWG C-243)

COMMUNICATIONS MANHOLE (SEE ELEC DWGS)

ELECTRICAL MANHOLE (SEE ELEC DWGS)

EXISTING ROCK WALL

36" DIP FLWT TRANSMISSION MAIN

CONNECT TO EX. 36" BFV (SEE NOTE 3, THIS DWG)

SEE ENLARGED PLAN (THIS DWG)

8" DIP WATER MAIN (SEE PROFILE DWG C-244)

CONNECTION TO EXISTING 20" WATER MAIN BY OTHERS

PURCHASE STREET

EX. 36" WATER MAIN

8" DIP WATER MAIN (SEE PROFILE DWG C-244)

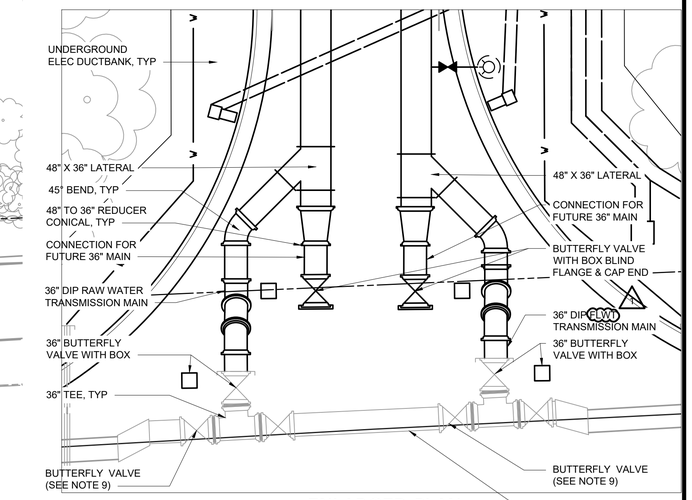
EX. 20" DIP WATER MAIN

SCALE: 1" = 30'

30 15 0 30'

PLAN

SCALE: 1" = 30'



SCALE: 1" = 10'

10 5 0 10'

ENLARGED PLAN

SCALE: 1" = 10'

NOTES:

1. EXISTING AND FINAL CONTOURS NOT SHOWN FOR CLARITY. SEE DWG C-121 FOR CONTOURS.
2. REFER TO DWGS C-121, C-213-C-215, & C-211 FOR STORM DRAINAGE SYSTEM INFORMATION. STORM DRAINAGE SHOWN ON THIS SHEET SCREENED FOR INFORMATION ONLY.
3. CONTRACTOR SHALL REMOVE EXISTING CAPS AND CONNECT TRANSMISSION MAINS TO EXISTING BUTTERFLY VALVES.
4. REFER TO MECHANICAL DRAWINGS FOR YARD PIPING CONNECTIONS AT STRUCTURES.
5. ALL VALVES SHALL BE GATE UNLESS OTHERWISE NOTED.
6. GATE VALVES ON TRANSMISSION MAINS SHALL BE INSTALLED HORIZONTALLY. SEE DETAIL SHEET C-252.
7. ALL DIP SHALL BE SPECIAL THICKNESS CLASS 53 WITH MECHANICAL JOINT FITTINGS AND RESTRAINED JOINTS GLANDS. ALL JOINTS SHALL BE RESTRAINED. ALL DIP SHALL BE DOUBLE CEMENT LINED ON THE INSIDE.
8. UPON ACCEPTANCE OF THE WATER MAIN INSTALLATION AND PRIOR TO STARTUP, CONTRACTOR SHALL REMOVE THE 36" BUTTERFLY VALVES AND CONNECTING LENGTH OF PIPE AND INSTALL PLUGS ON THE EXPOSED SIDE OF THE 36"x36" TEES. THE RAW WATER AND FINISHED WATER TRANSMISSION MAINS SHALL NOT BE USED UNTIL THE INTERCONNECTION HAS BEEN REMOVED.

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

PROJECT ENGINEER: R. FROST
DESIGNED BY: J. TANNER
DRAWN BY: J. TANNER
CHECKED BY: D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"

BID SET

STATE OF NEW YORK — MICHAEL JAMES SHEERAN — 088955 — LICENSED PROFESSIONAL ENGINEER

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
YARD PIPING PLAN - AREA 1

DATE: FEB 2025
HAZEN NO.: 90388-000
CONTRACT NO.: A1364-A
DRAWING NUMBER: C-131

File: C:\USERS\JTANNER\DACCDOCS\HAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-131 Saved by JTANNER Save date: 5/21/2025 10:58 AM
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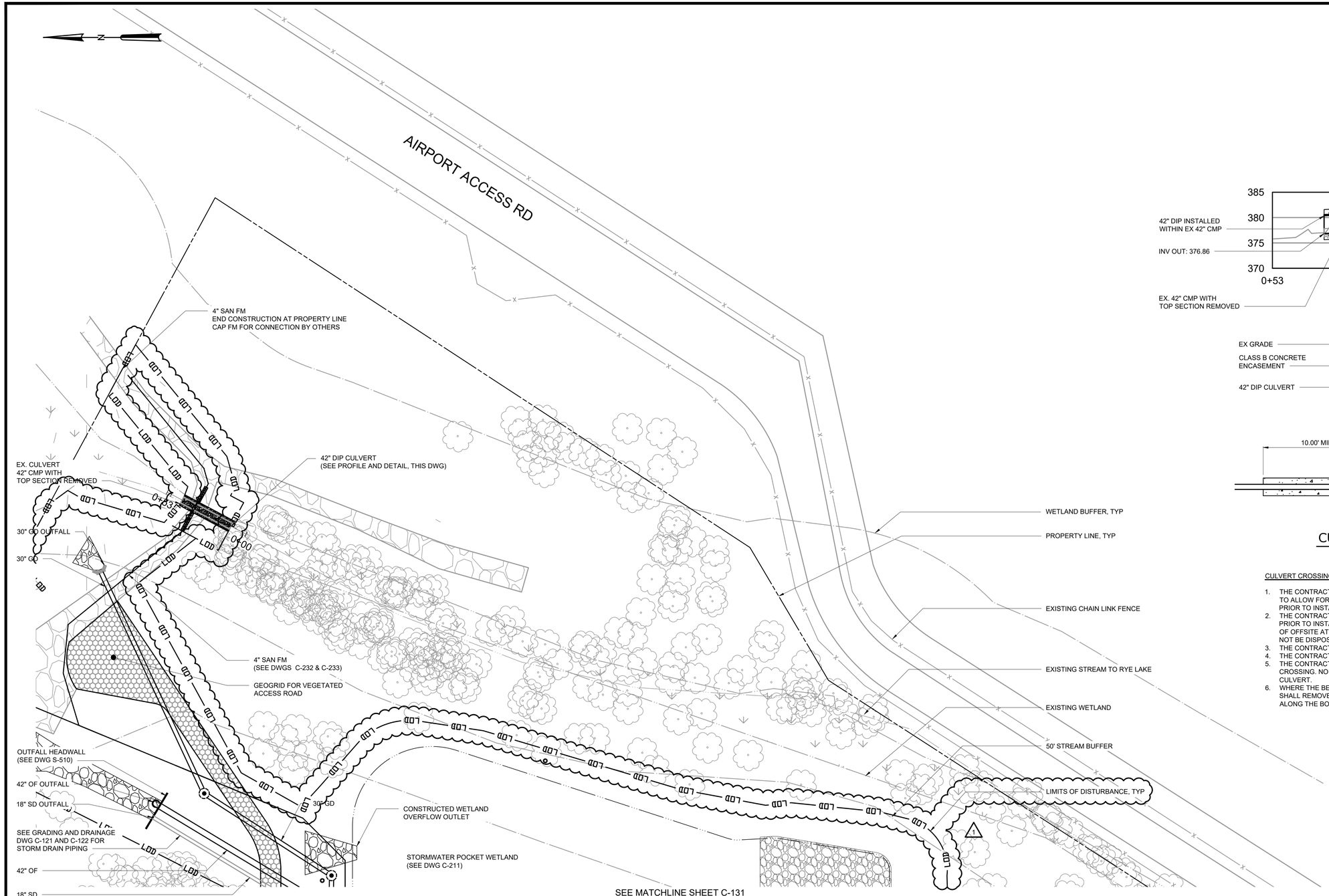
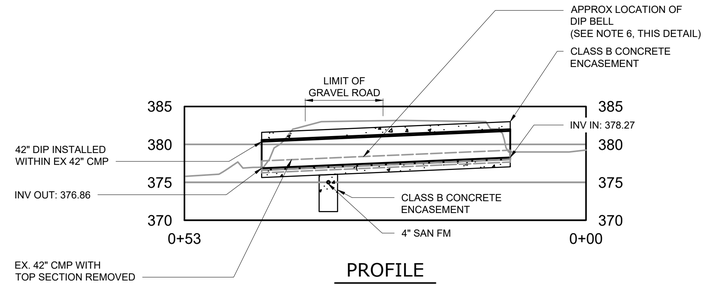


PLAN

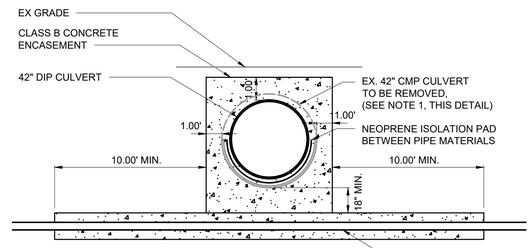
SCALE: 1" = 30'

NOTES:

1. EXISTING AND FINAL CONTOURS NOT SHOWN FOR CLARITY. SEE DWG C-122 FOR CONTOURS.
2. REFER TO DWG C-122, C-213-C-215, & C-211 FOR STORM DRAINAGE SYSTEM INFORMATION.



PROFILE



SECTION

CULVERT CROSSING DETAIL

SCALE: NTS

CULVERT CROSSING NOTES:

1. THE CONTRACTOR SHALL HAND DIG EXISTING CULVERT AND REMOVE CROWN OF CMP TO ALLOW FOR INSTALLATION OF DIP CULVERT. DIP CULVERT SHALL BE INSTALLED PRIOR TO INSTALLATION OF SANITARY FORCE MAIN.
2. THE CONTRACTOR SHALL REMOVE ALL DEBRIS AND SEDIMENT FROM THE CULVERT PRIOR TO INSTALLATION OF DIP CULVERT. DEBRIS AND SEDIMENT SHALL BE DISPOSED OF OFFSITE AT THE APPLICABLE DISPOSAL FACILITIES. DEBRIS AND SEDIMENT SHALL NOT BE DISPOSED OF WITHIN ADJACENT WETLANDS.
3. THE CONTRACTOR SHALL MAINTAIN FLOW THROUGH THE CULVERT AT ALL TIMES.
4. THE CONTRACTOR SHALL PERFORM WORK ON CULVERT DURING DRY WEATHER ONLY.
5. THE CONTRACTOR SHALL INSTALL ONE FILL LENGTH OF PIPE CENTERED ON THE CROSSING. NO PIPE JOINTS OR FITTINGS SHALL BE INSTALLED UNDERNEATH THE CULVERT.
6. WHERE THE BELL OF THE DIP CULVERT INTERFACES WITH THE CMP, THE CONTRACTOR SHALL REMOVE A SECTION OF THE CMP TO ALLOW PLACEMENT OF THE DIP FLUSH ALONG THE BOTTOM OF THE EXISTING CULVERT TO MATCH THE EXISTING SLOPE.

SCALE: 1" = 30'

30 15 0 30'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

PROJECT ENGINEER: R. FROST
DESIGNED BY: J. TANNER
DRAWN BY: J. TANNER
CHECKED BY: D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"

BID SET

STATE OF NEW YORK DANIEL JAMES SHEERAN 088955 LICENSED PROFESSIONAL ENGINEER

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
YARD PIPING PLAN - AREA 2

DATE: FEB 2025
HAZEN NO.: 90388-000
CONTRACT NO.: A1364-A
DRAWING NUMBER: C-132

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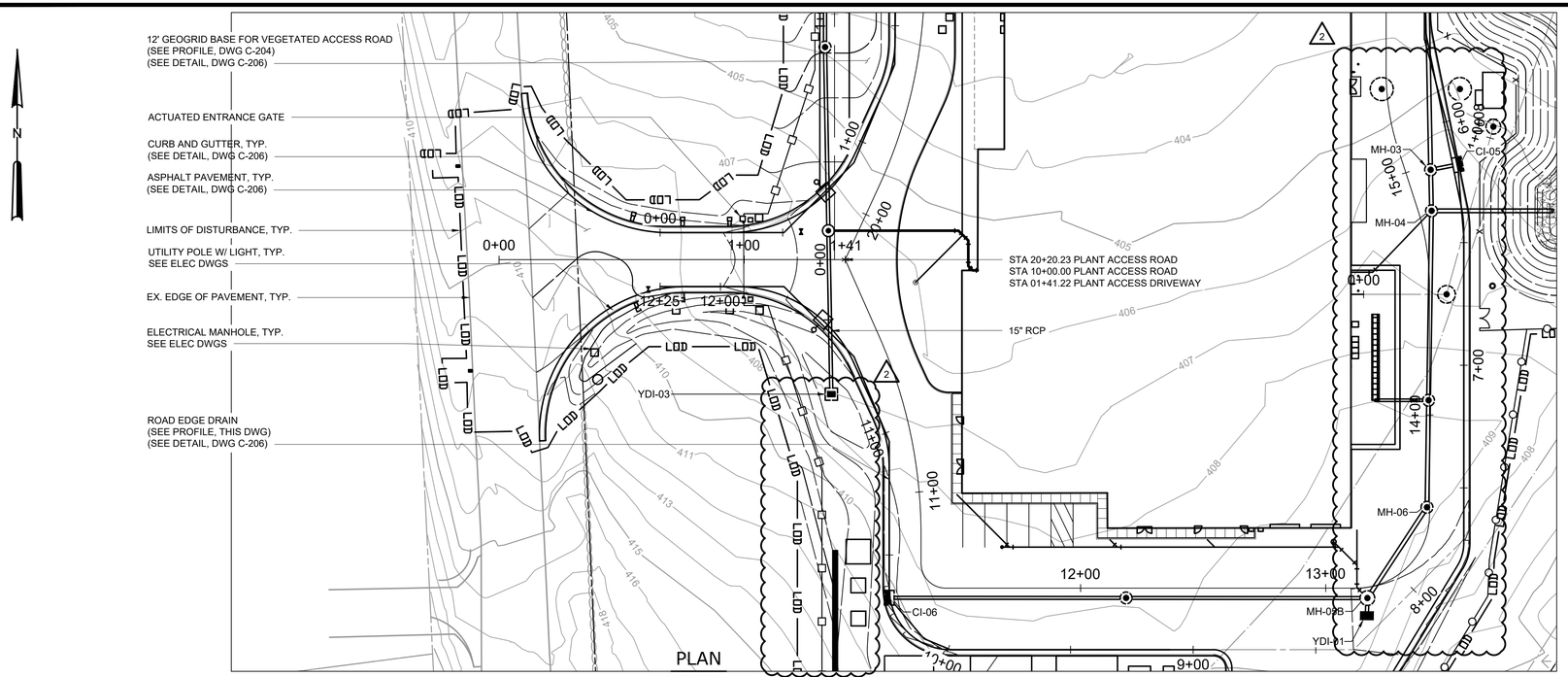
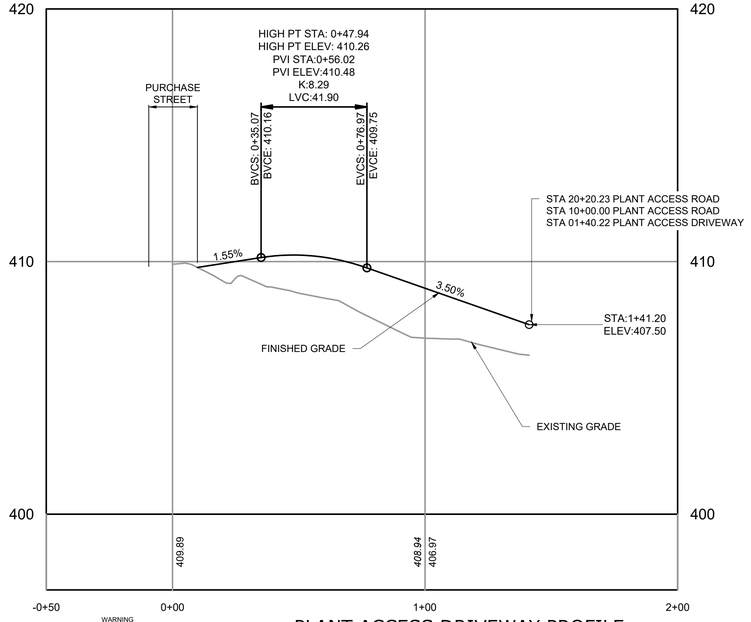


PLAN

SCALE: 1" = 30'

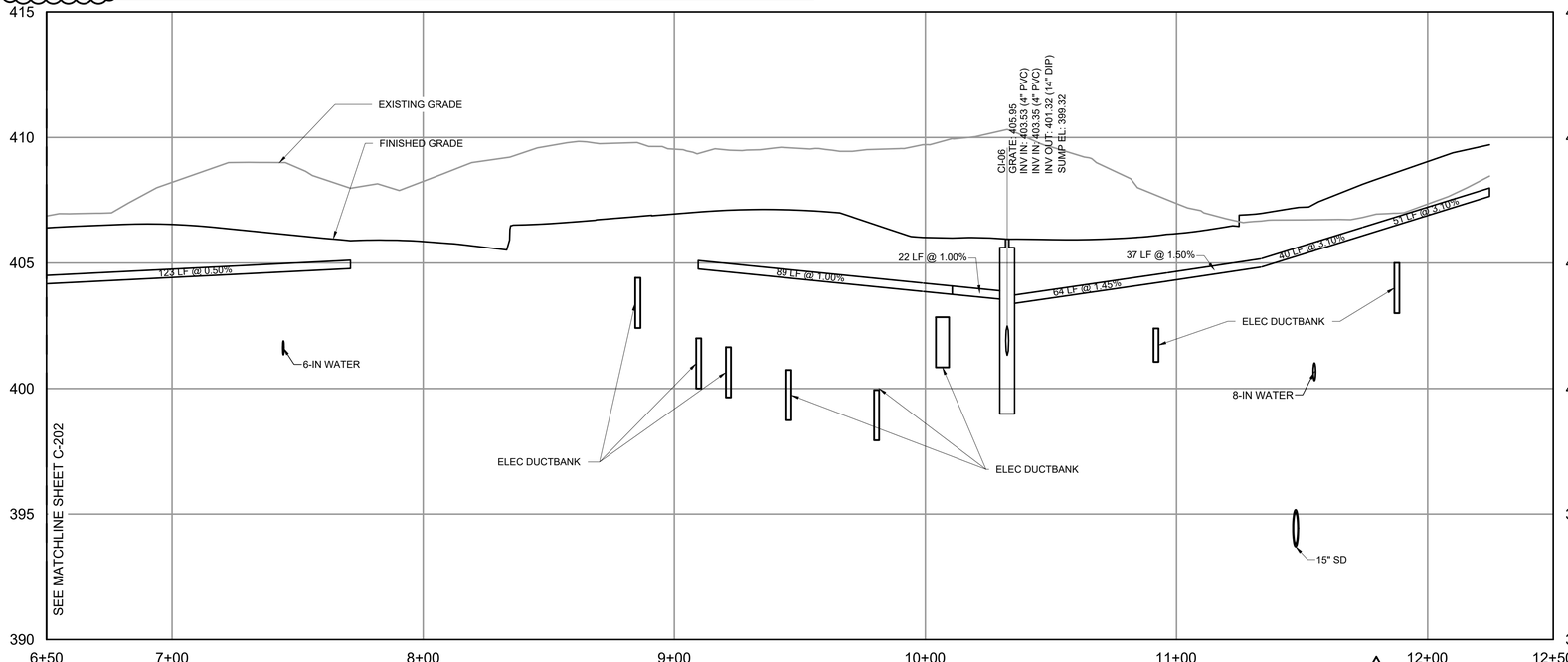
NOTES:

1. YARD PIPING NOT SHOWN FOR CLARITY. SEE DWGS C-131 & C-132 FOR BELOW GRADE PIPING AND STRUCTURES.
2. ROAD EDGE DRAINS SHALL CONSIST OF 4" PERFORATED PVC PIPE.



PLANT ACCESS DRIVEWAY PROFILE

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1"= 3'



ROAD EDGE DRAIN PROFILE

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1"= 3'

HORIZONTAL SCALE: 1" = 30'

VERTICAL SCALE: 1" = 3'

REV	ISSUED FOR	DATE	BY
2	ADDENDUM NO. 5	MAY 25	DJS
1	ADDENDUM NO. 4	MAY 25	DJS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0, 1/2", 1")

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. TANNER
DRAWN BY:	J. TANNER
CHECKED BY:	D. SHEERAN

BID SET

STATE OF NEW YORK — RACHEL JAMES SHEER — 088955 — LICENSED PROFESSIONAL ENGINEER

Hazen

HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
PLANT ACCESS DRIVEWAY PLAN AND PROFILE

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-201

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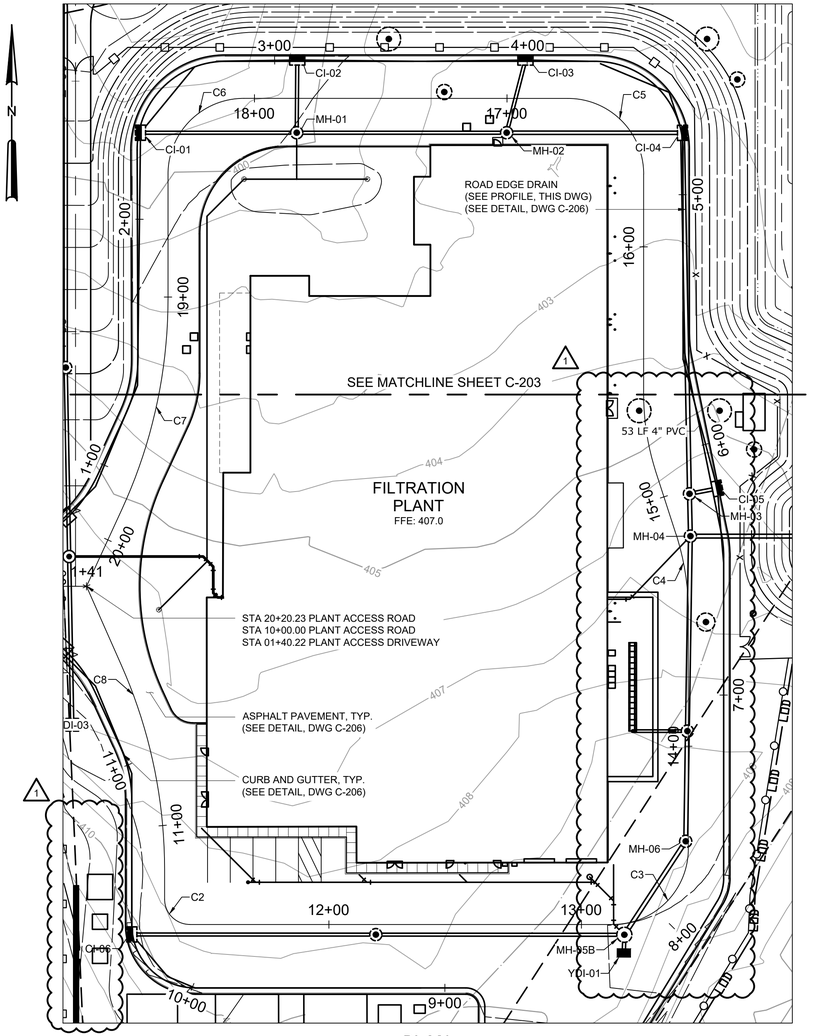
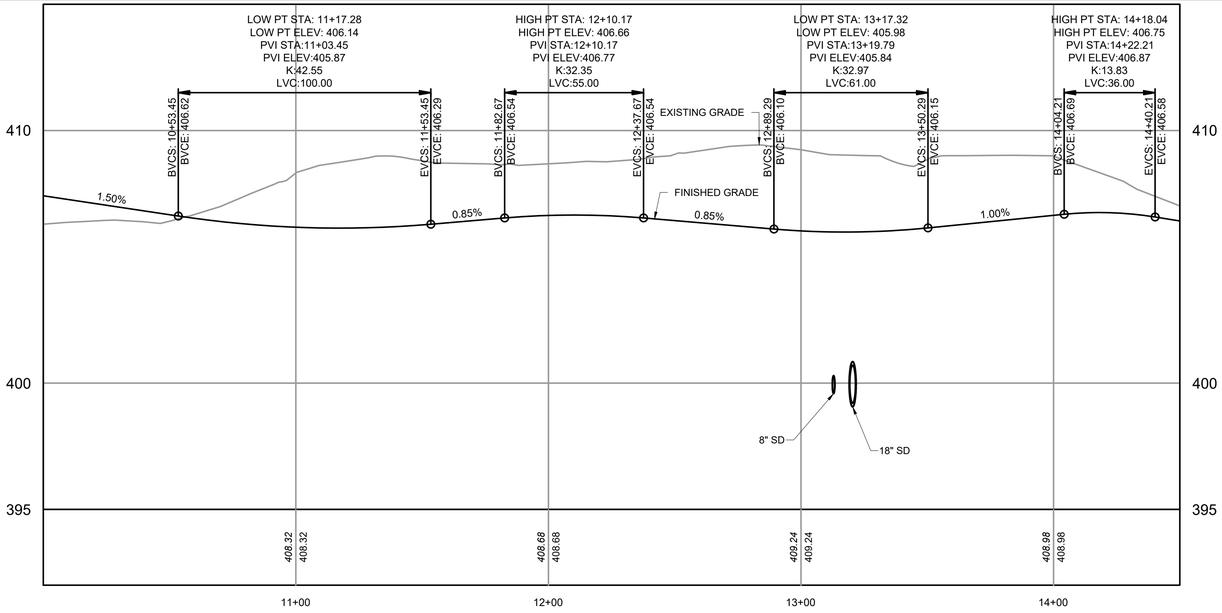
PLOT DATE: 5/20/2025 2:14 PM BY: JTANNER



PLAN

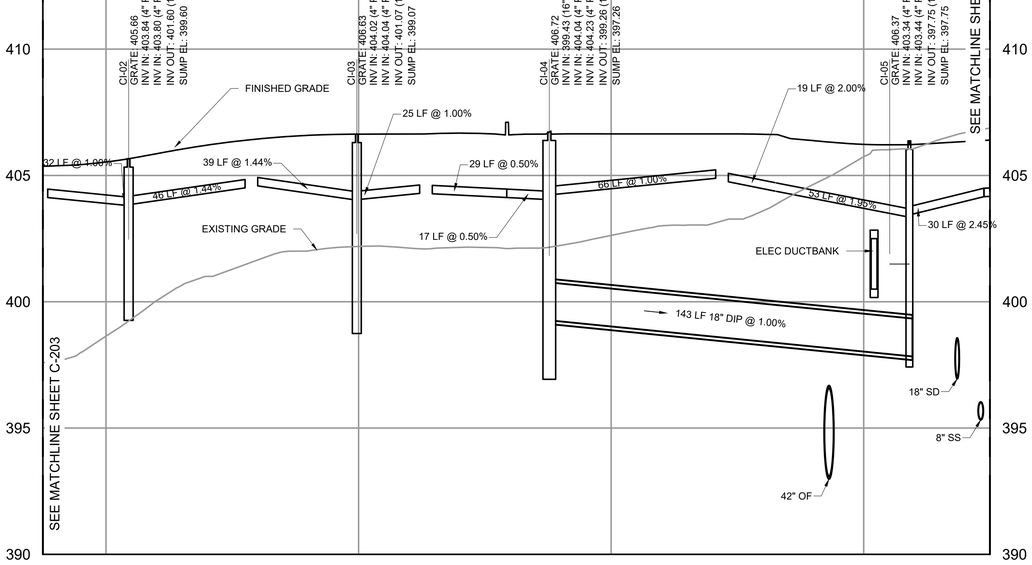
SCALE: 1" = 30'

Curve Table: Alignments					
Curve #	Radius	Length	Chord Direction	Start Point	End Point
C2	10.00	15.71	S45° 00' 00.00"E	(707603.15,813339.89)	(707613.15,813329.89)
C3	30.00	47.12	N45° 00' 00.00"E	(707780.50,813329.89)	(707810.50,813359.89)
C4	100.00	31.27	N8° 57' 28.31"W	(707810.50,813453.64)	(707805.65,813484.40)
C5	30.00	47.12	N44° 59' 38.56"W	(707792.83,813626.97)	(707762.84,813656.97)
C6	30.00	47.13	S45° 00' 21.44"W	(707634.52,813657.00)	(707604.51,813627.00)
C7	200.00	86.23	S12° 21' 05.65"W	(707604.51,813577.78)	(707586.21,813494.19)
C8	200.00	83.26	S11° 55' 35.85"E	(707586.06,813432.52)	(707603.15,813351.65)



PLANT ACCESS ROAD PROFILE

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1"= 3'



ROAD EDGE DRAIN PROFILE

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"= 3'

NOTES:

1. YARD PIPING NOT SHOWN FOR CLARITY. SEE DWGS C-131 & C-132 FOR BELOW GRADE PIPING AND STRUCTURES.
2. ROAD EDGE DRAINS SHALL CONSIST OF 4" PERFORATED PVC PIPE.

HORIZONTAL SCALE: 1" = 30'
30 15 0 30'
3 1.5 0 3
VERTICAL SCALE: 1" = 3'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

PROJECT ENGINEER: R. FROST
DESIGNED BY: J. TANNER
DRAWN BY: J. TANNER
CHECKED BY: D. SHEERAN
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"

BID SET

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

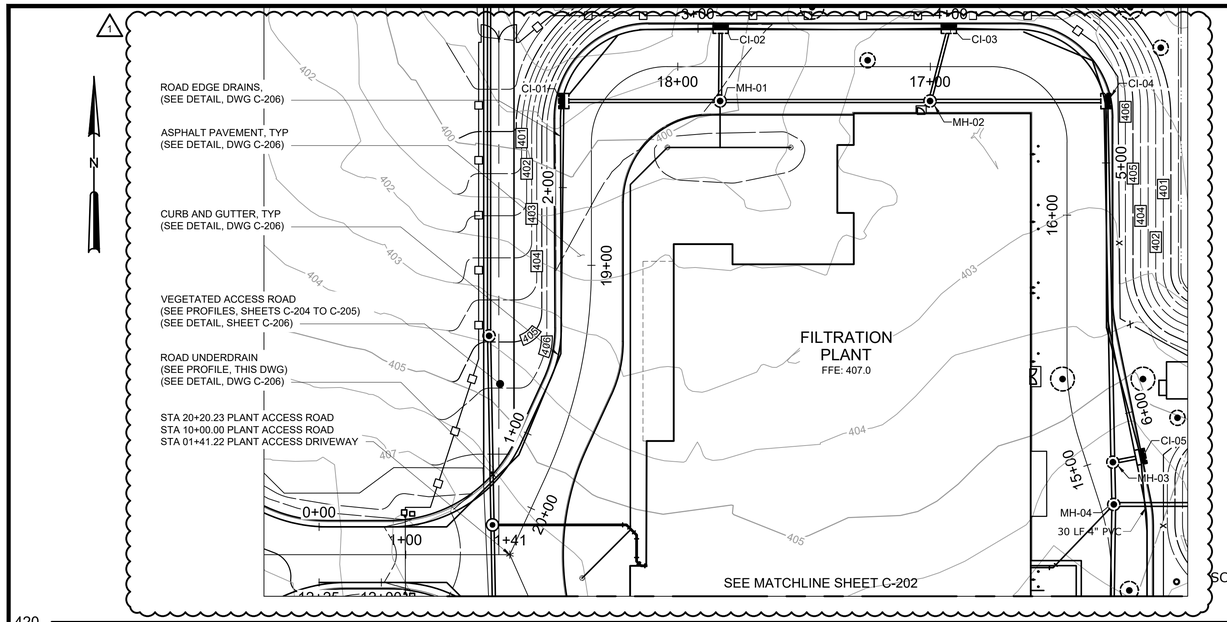
WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
PLANT ACCESS ROAD PLAN AND PROFILE - STA 10+00 TO STA 14+50

DATE: FEB 2025
HAZEN NO.: 90388-000
CONTRACT NO.: A1364-A
DRAWING NUMBER: C-202

File: C:\USERS\JTANNER\DCACCDOCS\HAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-202 Saved by JTANNER Save date: 5/21/2025 11:05 AM
PLOT DATE: 5/21/2025 11:07 AM BY: JTANNER

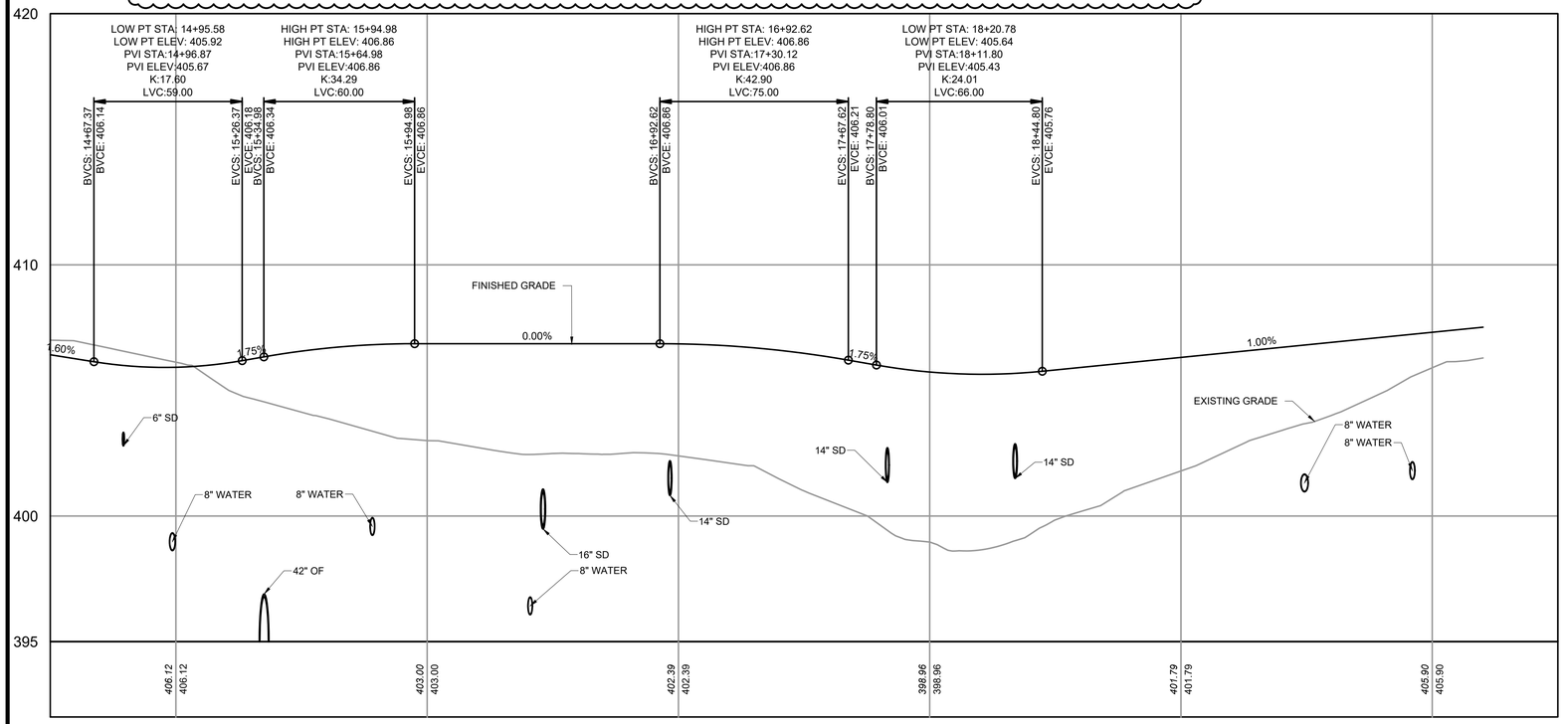


PLAN

SCALE: 1" = 30'

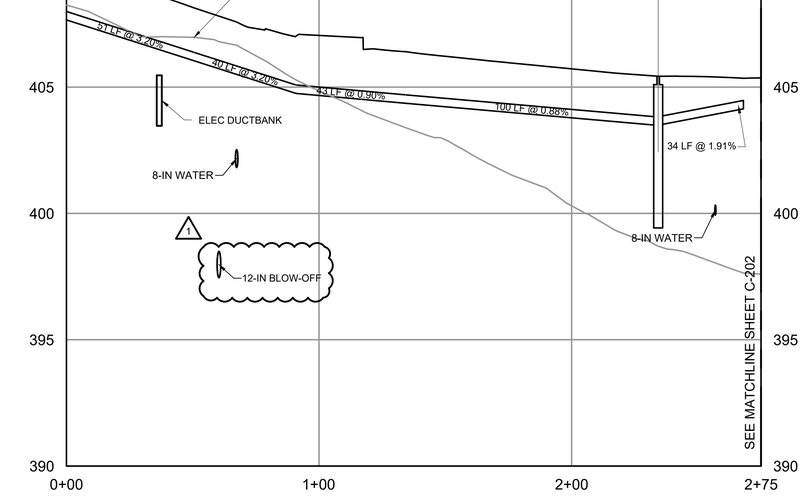
NOTE:

1. YARD PIPING NOT SHOWN FOR CLARITY. SEE DWGS C-131 & C-132 FOR BELOW GRADE PIPING AND STRUCTURES.
2. ROAD EDGE DRAINS SHALL CONSIST OF 4" PERFORATED PVC PIPE.



PLANT ACCESS ROAD PROFILE

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"= 3'



ROAD EDGE DRAIN PROFILE

HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"= 3'

HORIZONTAL SCALE: 1" = 30'

30 15 0 30'

3 1.5 0 3

VERTICAL SCALE: 1"=3'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. TANNER
DRAWN BY:	J. TANNER
CHECKED BY:	D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"

BID SET

STATE OF NEW YORK — DANIEL JAMES SHEERAN — 088955 — LICENSED PROFESSIONAL ENGINEER

Hazen

HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

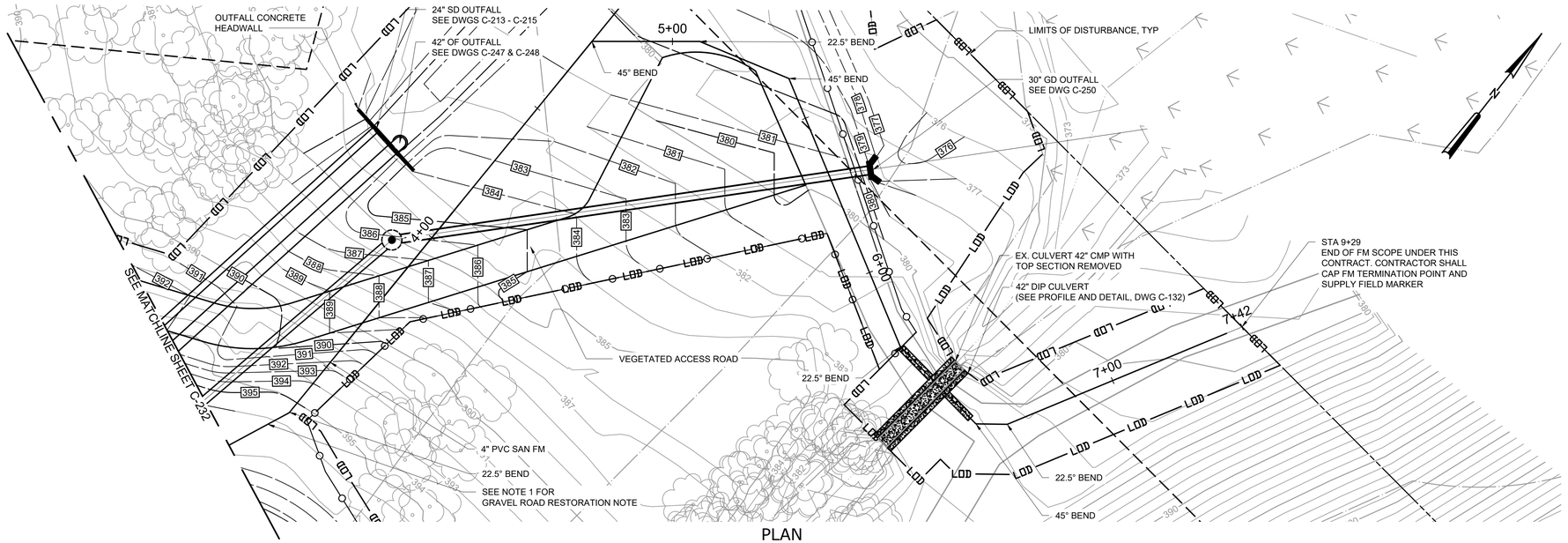
WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
PLANT ACCESS ROAD PLAN AND PROFILE - STA 14+50 TO STA 20+20

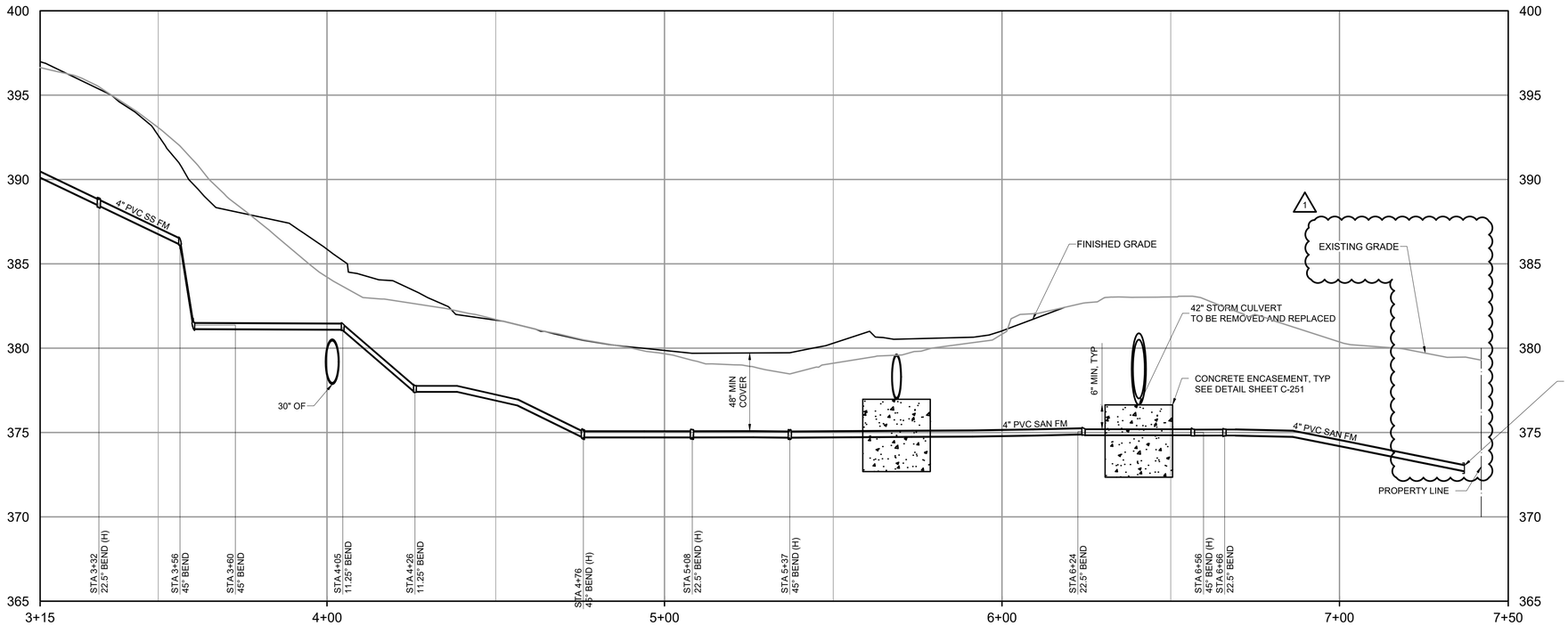
DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-203

File: C:\USERS\JTANNER\DCACCDOCS\HAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-203 Saved by JTANNER Save date: 5/20/2025 4:15 PM
PLOT DATE: 5/20/2025 4:15 PM BY: JTANNER



PLAN

SCALE: 1" = 20'



PROFILE

HORIZONTAL SCALE 1"=20'
VERTICAL SCALE: 1"=4'

HORIZONTAL SCALE: 1" = 20'

20 10 0 20'

4 2 0 4

VERTICAL SCALE: 1"=4'

NOTES:

1. RESTORE GRAVEL ROAD TO EXISTING TYPE AND DEPTH OF MATERIAL AS REQUIRED FOR FORCEMAIN INSTALLATION.

WCDOH NOTE:

THE SANITARY FORCE MAIN DESIGN WILL BE SUBMITTED UNDER SEPARATE COVER AS PART OF THE WESTCHESTER COUNTY AIRPORT SEWER PROJECT.

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

PROJECT ENGINEER: R. FROST
DESIGNED BY: J. TANNER
DRAWN BY: J. TANNER
CHECKED BY: D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"

BID SET

STATE OF NEW YORK · DANIEL JAMES SHEERAN · 088955 · LICENSED PROFESSIONAL ENGINEER

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

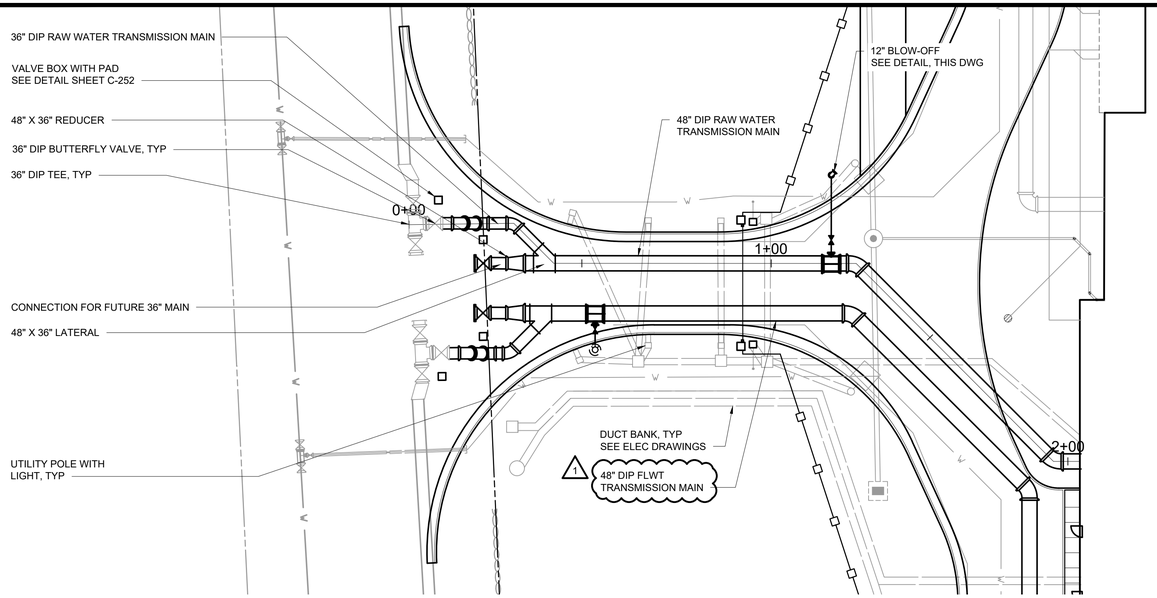
WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
SANITARY FM
(SHEET 2 OF 2)

DATE: FEB 2025
HAZEN NO.: 90388-000
CONTRACT NO.: A1364-A
DRAWING NUMBER: C-233

File: C:\USERS\JTANNER\DCACCDOCS\HAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-232 Saved by JTANNER Save date: 5/20/2025 1:04 PM
PLOT DATE: 5/20/2025 1:13 PM BY: JTANNER



PLAN

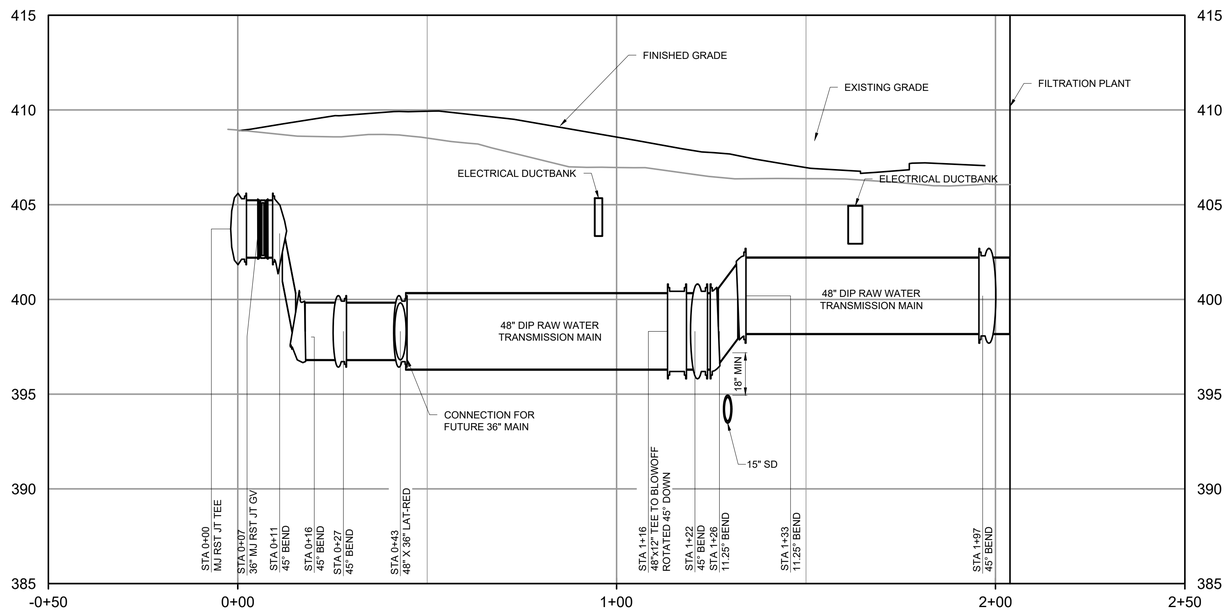
SCALE: 1" = 20'

FILTRATION PLANT
FFE: 407.0

N

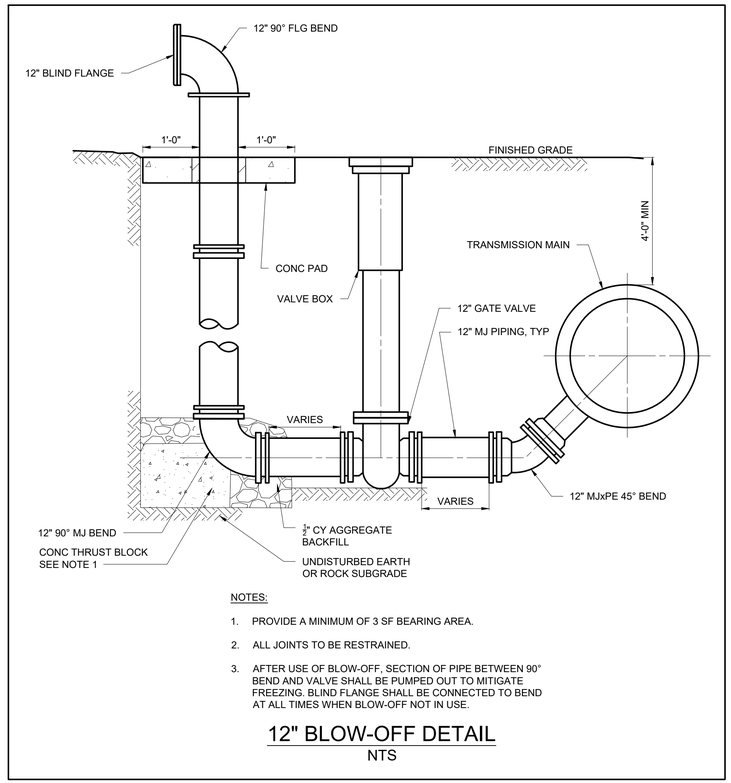
NOTES:

1. ALL VALVES SHALL BE GATE UNLESS OTHERWISE NOTED.
2. GATE VALVES ON TRANSMISSION MAINS SHALL BE INSTALLED HORIZONTALLY. SEE DETAIL SHEET C-252.
3. CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING OR JOINT RESTRAINT TO PROTECT EXISTING TRANSMISSION MAIN. BYPASS LINE SHALL BE 36".
4. ALL DIP SHALL BE SPECIAL THICKNESS CLASS 53 WITH MECHANICAL JOINT FITTINGS AND RESTRAINED JOINTS GLANDS. ALL JOINTS SHALL BE RESTRAINED. ALL DIP PIPES SHALL BE DOUBLE CEMENT LINED ON THE INSIDE.
5. THE TEMPORARY 36" BUTTERFLY VALVES AND CONNECTING DIP BETWEEN THE RAW WATER AND FINISHED WATER TRANSMISSION HAVE BEEN REMOVED FOR CLARITY. SEE DRAWING C-131 FOR ADDITIONAL INFORMATION.



PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1"=4'



NOTES:

1. PROVIDE A MINIMUM OF 3 SF BEARING AREA.
2. ALL JOINTS TO BE RESTRAINED.
3. AFTER USE OF BLOW-OFF, SECTION OF PIPE BETWEEN 90° BEND AND VALVE SHALL BE PUMPED OUT TO MITIGATE FREEZING. BLIND FLANGE SHALL BE CONNECTED TO BEND AT ALL TIMES WHEN BLOW-OFF NOT IN USE.

12" BLOW-OFF DETAIL

NTS

HORIZONTAL SCALE: 1" = 20'
20 10 0 20'
4 2 0 4
VERTICAL SCALE: 1"=4'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0 1/2" 1")

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. TANNER
DRAWN BY:	J. TANNER
CHECKED BY:	D. SHEERAN

BID SET

STATE OF NEW YORK — DANIEL JAMES SHEERAN — 088955 — LICENSED PROFESSIONAL ENGINEER

Hazen

HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

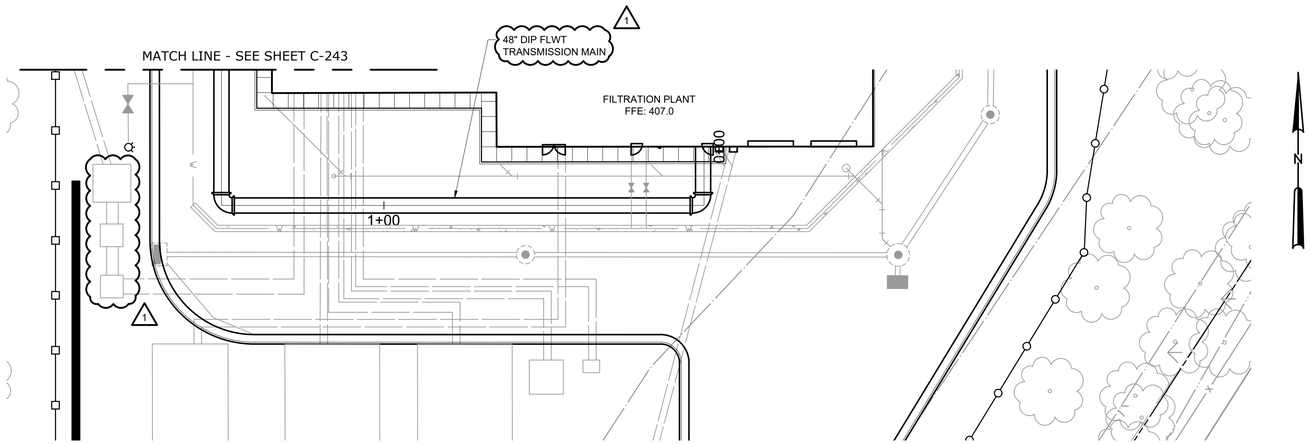
CIVIL
RAW WATER TRANSMISSION MAIN
PLAN AND PROFILE

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-241

File: C:\USERS\JTANNER\DOCUMENTS\ACCDOCS\HAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-241 Saved by LWALLACE Save date: 3/27/2025 12:39 PM
PLOT DATE: 5/20/2025 1:09 PM BY: JTANNER

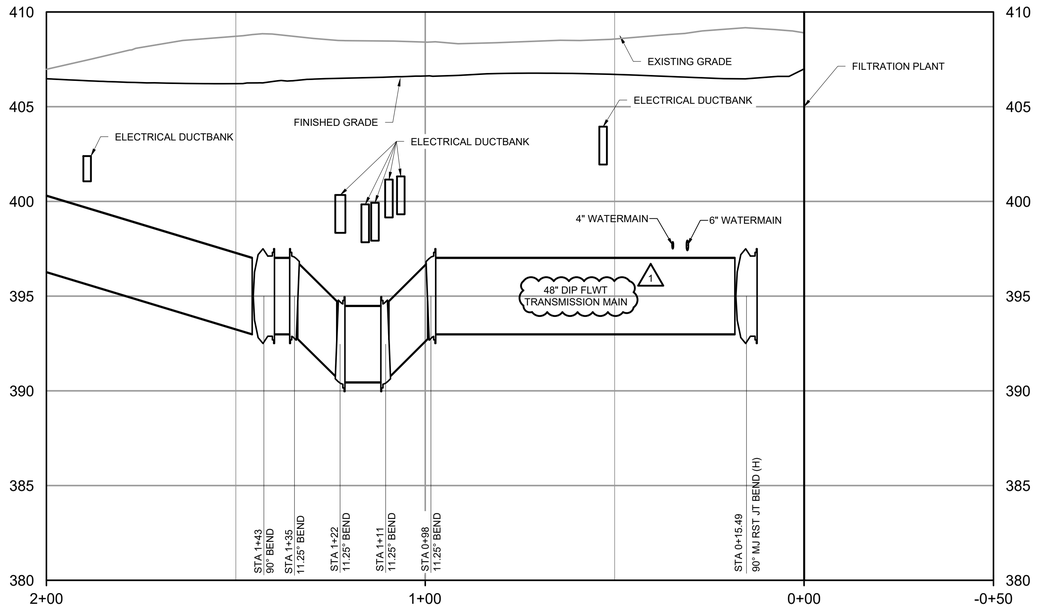
NOTES:

1. ALL VALVES SHALL BE GATE UNLESS OTHERWISE NOTED.
2. GATE VALVES ON TRANSMISSION MAINS SHALL BE INSTALLED HORIZONTALLY. SEE DETAIL SHEET C-252.
3. CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING OR JOINT RESTRAINT TO PROTECT EXISTING TRANSMISSION MAIN. BYPASS LINE SHALL BE 36".
4. ALL DIP SHALL BE SPECIAL THICKNESS CLASS 53 WITH MECHANICAL JOINT FITTINGS AND RESTRAINED JOINTS GLANDS. ALL JOINTS SHALL BE RESTRAINED. ALL DIP PIPES SHALL BE DOUBLE CEMENT LINED ON THE INSIDE.



PLAN

SCALE: 1" = 20'



PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1"=4'

HORIZONTAL SCALE: 1" = 20'

20 10 0 20'

4 2 0 4

VERTICAL SCALE: 1"=4'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. TANNER
DRAWN BY:	M. SEEBOLD
CHECKED BY:	D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0 1/2" 1")

BID SET

STATE OF NEW YORK · DANIEL JAMES SHEERAN · 088955 · LICENSED PROFESSIONAL ENGINEER

Hazen

HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
FILTERED WATER TRANSFER (FLWT)
TRANSMISSION MAIN PLAN AND PROFILE -
SHEET 1 OF 2

1

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-242

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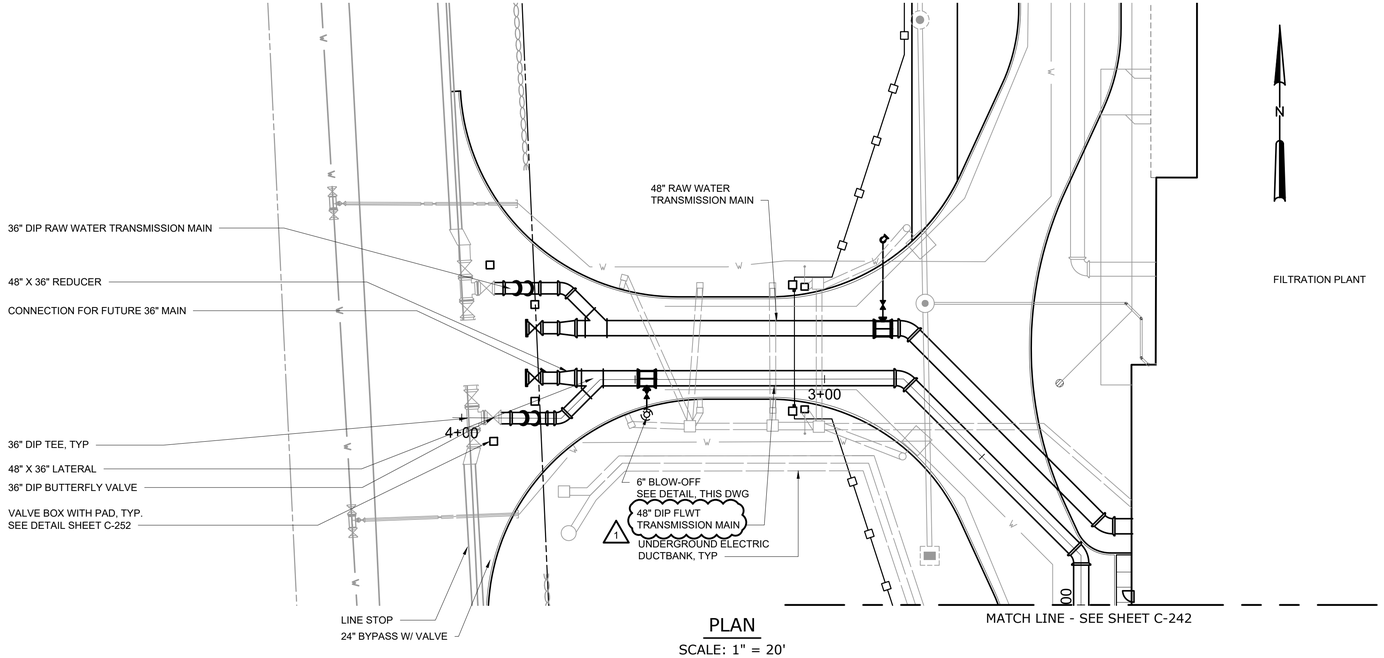
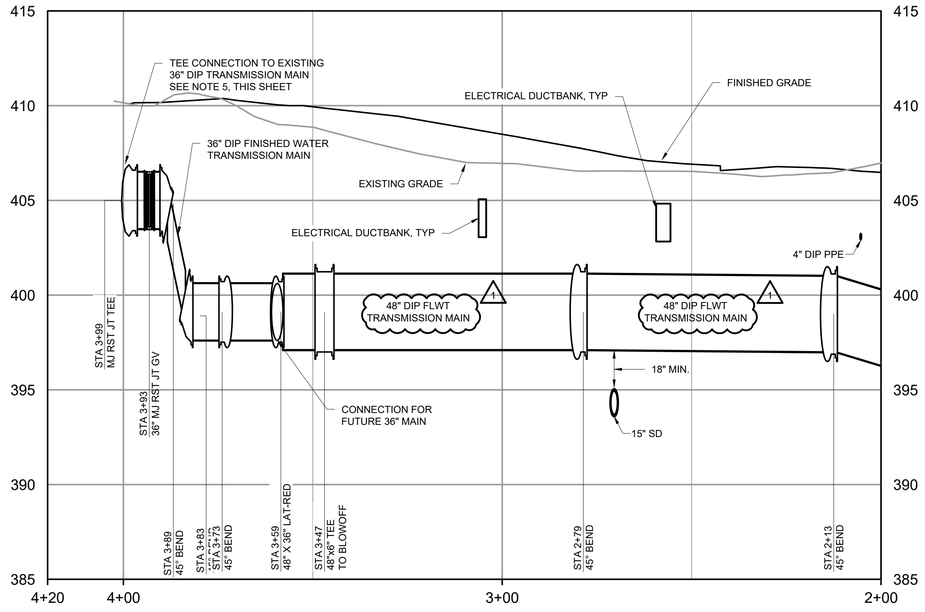


PLAN

SCALE: 1" = 20'

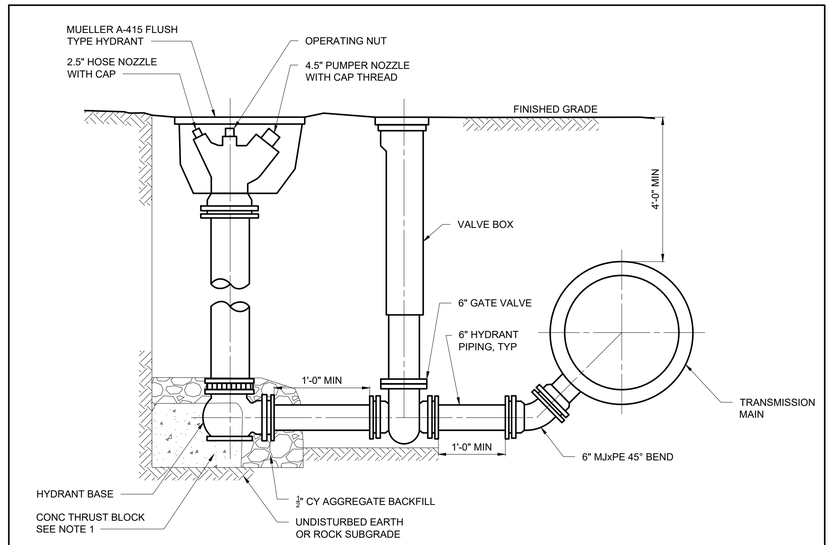


PROFILE

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1"=4'

NOTES:

1. ALL VALVES SHALL BE GATE UNLESS OTHERWISE NOTED.
2. GATE VALVES ON TRANSMISSION MAINS SHALL BE INSTALLED HORIZONTALLY. SEE DETAIL SHEET C-252.
3. CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING OR JOINT RESTRAINT TO PROTECT EXISTING TRANSMISSION MAIN. BYPASS LINE SHALL BE 36".
4. ALL DIP SHALL BE SPECIAL THICKNESS CLASS 53 WITH MECHANICAL JOINT FITTINGS AND RESTRAINED JOINTS GLANDS. ALL JOINTS SHALL BE RESTRAINED. ALL DIP PIPES SHALL BE DOUBLE CEMENT LINED ON THE INSIDE.
5. SEE YARD PIPING PLAN C-131 FOR LINESTOP AND BYPASS REQUIREMENTS FOR CONNECTION TO EXISTING 36" TRANSMISSION MAIN.
6. THE TEMPORARY 36" BUTTERFLY VALVES AND CONNECTING DIP BETWEEN THE RAW WATER AND FINISHED WATER TRANSMISSION HAVE BEEN REMOVED FOR CLARITY. SEE DRAWING C-131 FOR ADDITIONAL INFORMATION.



NOTES:

1. PROVIDE A MINIMUM OF 3 SF BEARING AREA.
2. ALL JOINTS TO BE RESTRAINED.

6" BLOW-OFF DETAIL

NTS

HORIZONTAL SCALE: 1" = 20'

20 10 0 20'

4 2 0 4

VERTICAL SCALE: 1"=4'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0, 1/2", 1")

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. TANNER
DRAWN BY:	M. SEEBOLD
CHECKED BY:	D. SHEERAN

BID SET

STATE OF NEW YORK — MICHAEL JAMES SHEERAN — 088955 — LICENSED PROFESSIONAL ENGINEER

Hazen

HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
FILTERED WATER TRANSFER (FLWT)
TRANSMISSION MAIN PLAN AND PROFILE - SHEET 2 OF 2

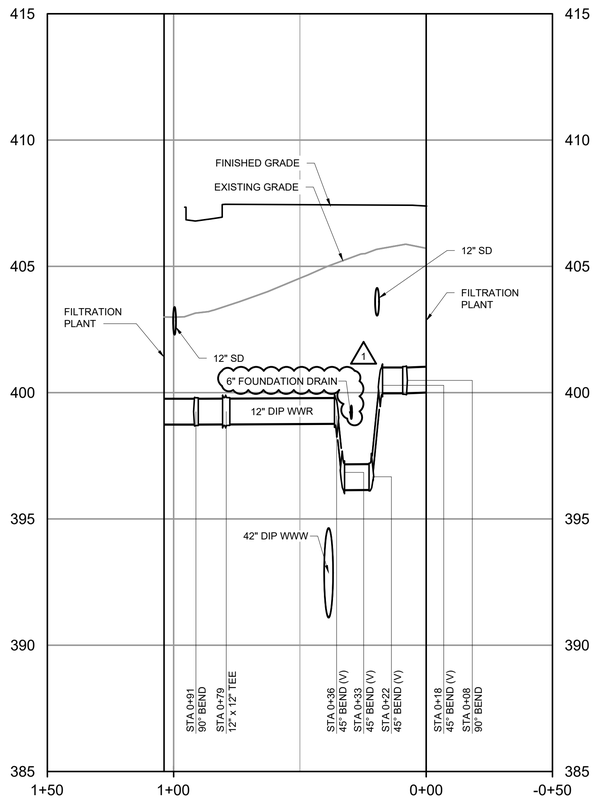
1

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-243

File: C:\USERS\JTANNER\DOCS\DOCSHAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-243 Saved by JTANNER Save date: 5/20/2025 3:23 PM
PLOT DATE: 5/20/2025 3:24 PM BY: JTANNER

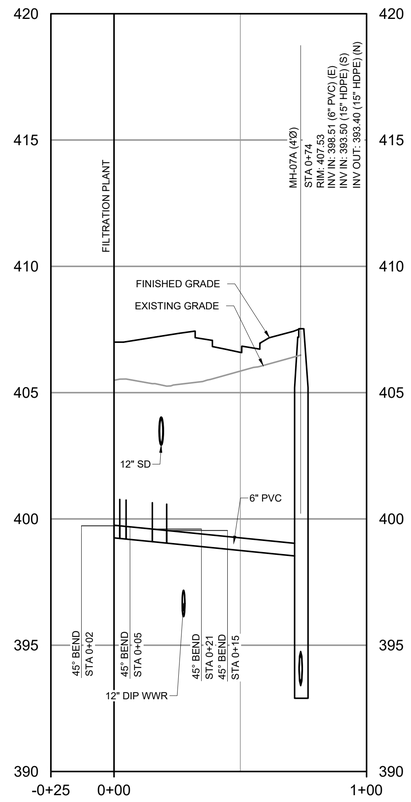
NOTES:

1. FOR PLAN INFORMATION SEE DWG C-131



WASHWATER RECYLE (WWR) PROFILE

HORIZONTAL SCALE: 1"= 30'
VERTICAL SCALE: 1"= 3'



FOUNDATION UNDERDRAIN PROFILE

HORIZONTAL SCALE: 1"= 30'
VERTICAL SCALE: 1"= 3'

HORIZONTAL SCALE: 1" = 30'
30 15 0 30'
VERTICAL SCALE: 1"=3'
3 1.5 0 3

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0 1/2" 1")

PROJECT ENGINEER: R. FROST
DESIGNED BY: J. TANNER
DRAWN BY: J. TANNER
CHECKED BY: D. SHEERAN

BID SET

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

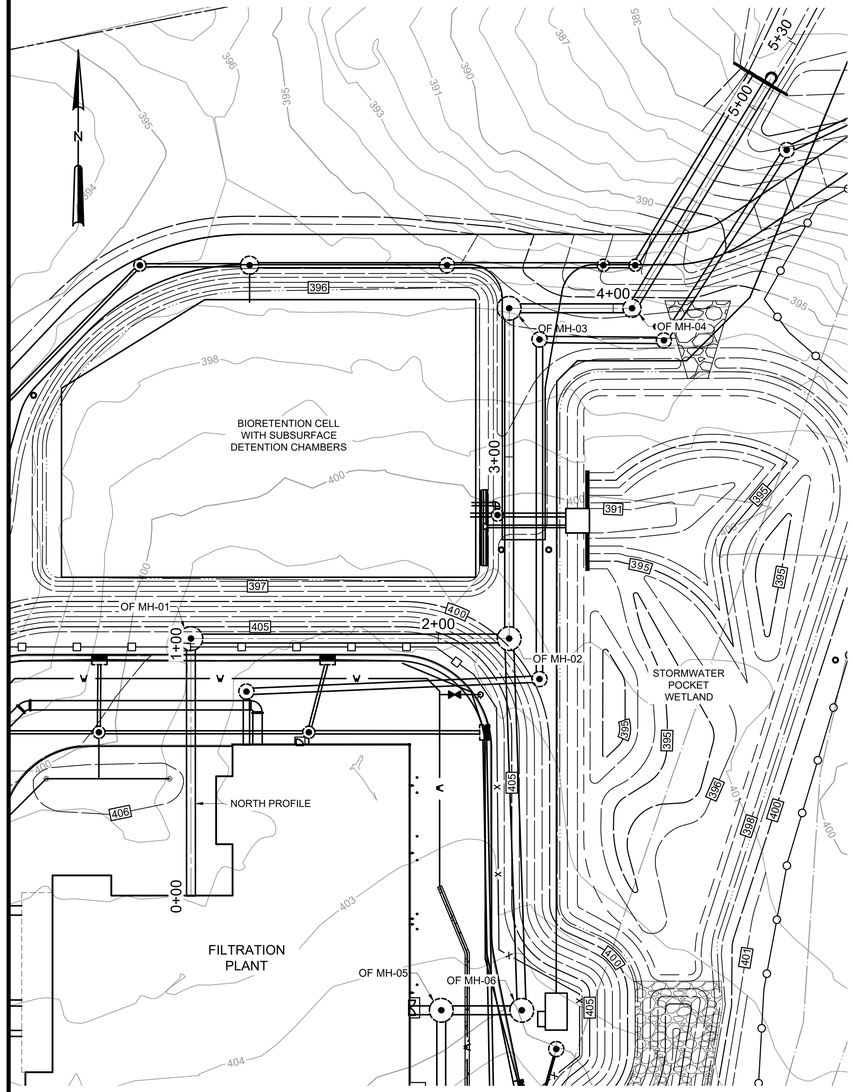
CIVIL
WWR AND FUD PROFILE

DATE: FEB 2025
HAZEN NO.: 90388-000
CONTRACT NO.: A1364-A
DRAWING NUMBER: C-246

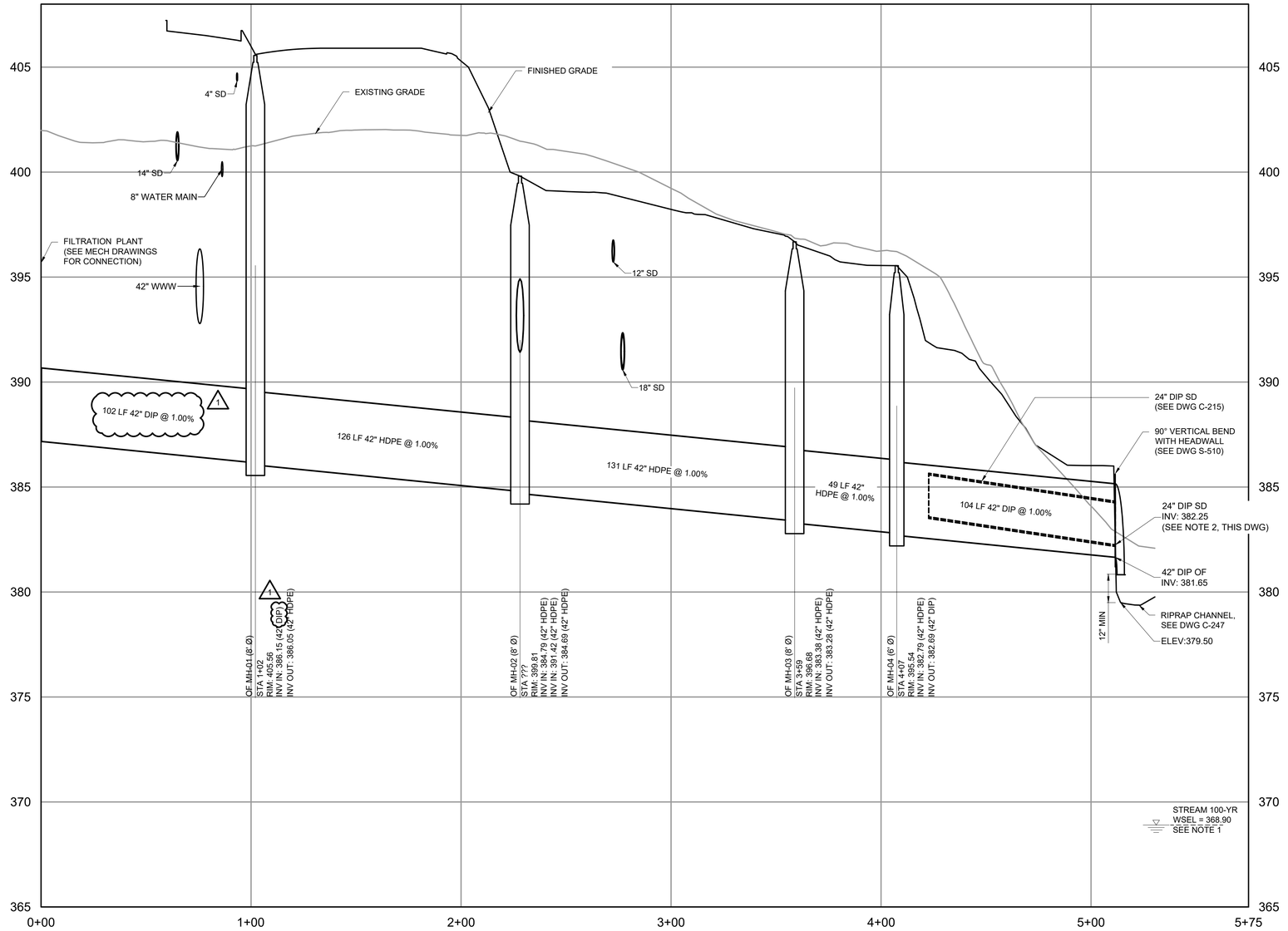
File: C:\USERS\JTANNER\DOCUMENTS\HAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-246 Saved by JTANNER Save date: 5/13/2025 3:06 PM
PLOT DATE: 5/20/2025 4:02 PM BY: JTANNER

NOTES:

1. STREAM CENTERLINE IS LOCATED 260 FT FROM OVERFLOW OUTFALL.
2. PROVIDE REMOVABLE 24 MESH SSTL SCREEN TO OUTFALL PIPE.



PLAN
SCALE: 1" = 30'



PROFILE - NORTH

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1"= 3'

HORIZONTAL SCALE: 1" = 30'
30 15 0 30'
3 1.5 0 3
VERTICAL SCALE: 1"=3'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. TANNER
DRAWN BY:	J. TANNER
CHECKED BY:	D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0 1/2" 1")

BID SET

STATE OF NEW YORK · DANIEL JAMES SHEERAN · 088955 · LICENSED PROFESSIONAL ENGINEER

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

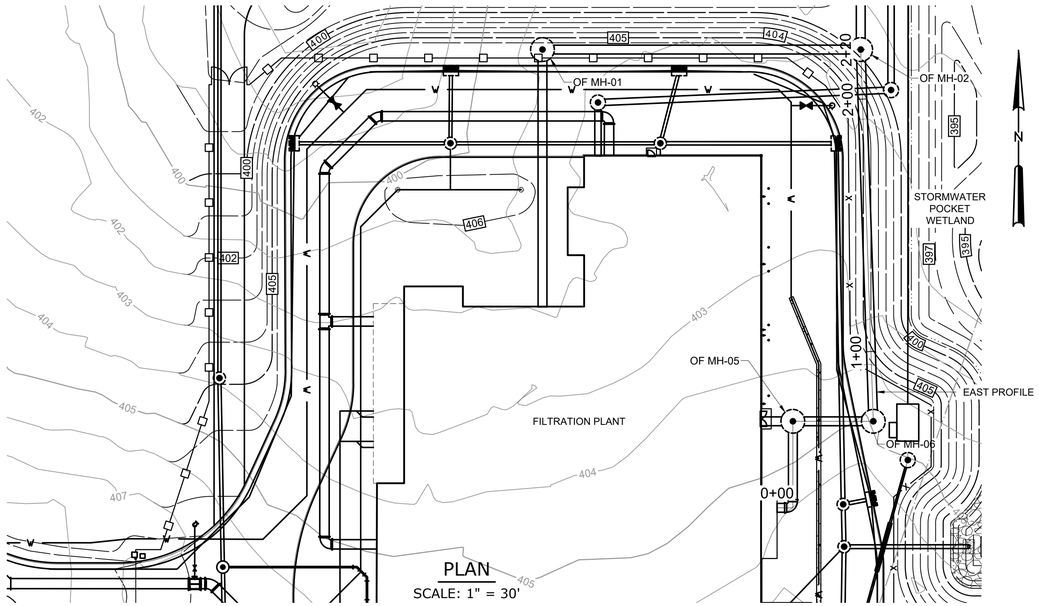
WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
OVERFLOW PROFILE - SHEET 1 OF 2

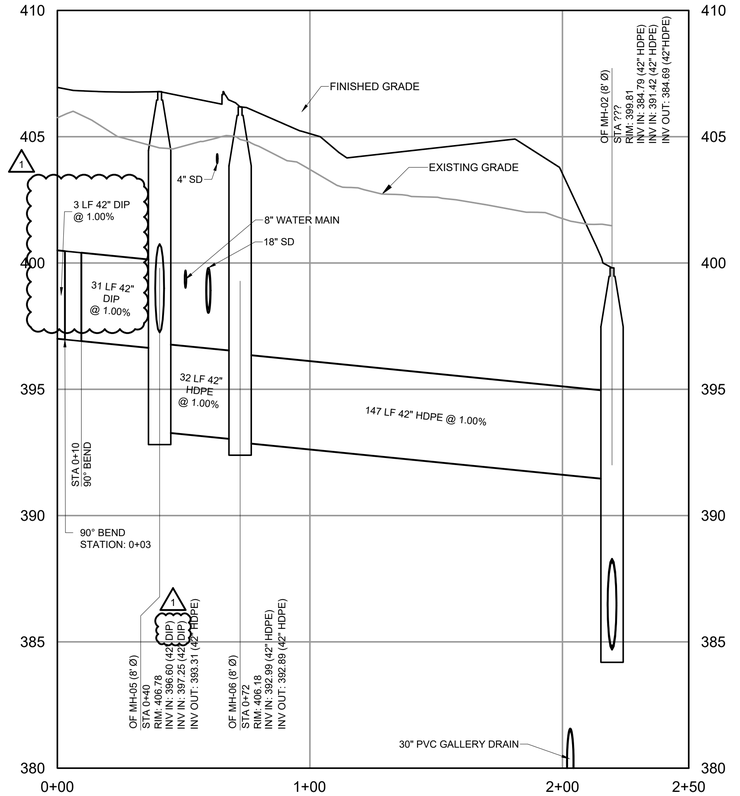
DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-247

File: C:\USERS\JTANNER\DCACDOCS\HAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-247 Saved by LWALLACE Save date: 3/27/2025 10:40 AM
PLOT DATE: 5/20/2025 1:49 PM BY: JTANNER



PLAN

SCALE: 1" = 30'



PROFILE - EAST

HORIZONTAL SCALE: 1" = 30'
VERTICAL SCALE: 1"= 3'

HORIZONTAL SCALE: 1" = 30'

30 15 0 30'

3 1.5 0 3

VERTICAL SCALE: 1"=3'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0, 1/2", 1")

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. TANNER
DRAWN BY:	J. TANNER
CHECKED BY:	D. SHEERAN

BID SET

STATE OF NEW YORK — DANIEL JAMES SHEERAN — 088955 — LICENSED PROFESSIONAL ENGINEER

Hazen

HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

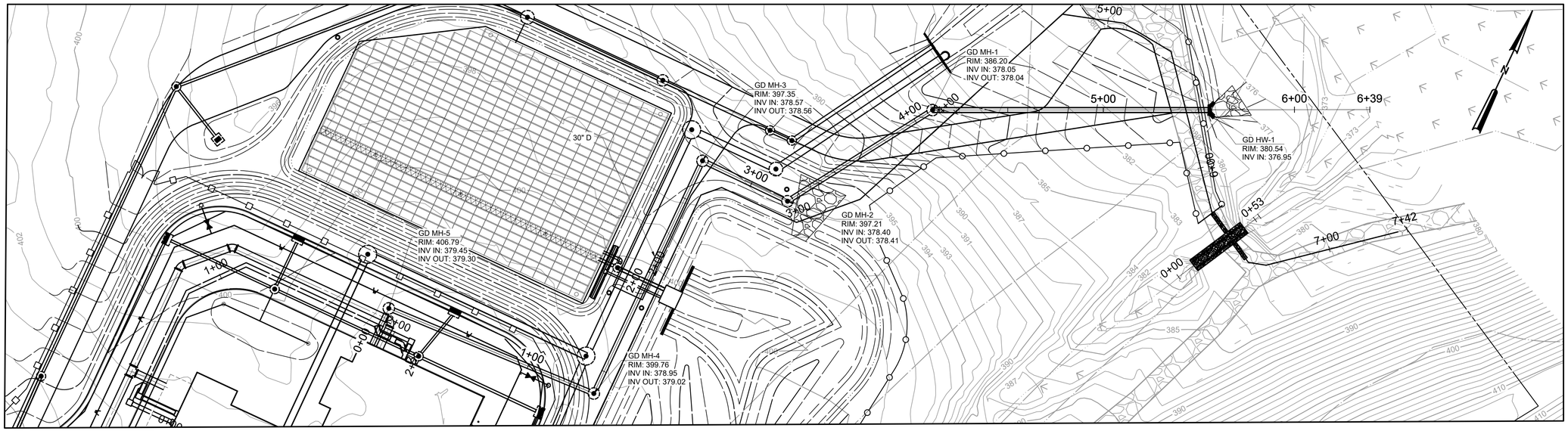
WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
OVERFLOW PROFILE - SHEET 2 OF 2

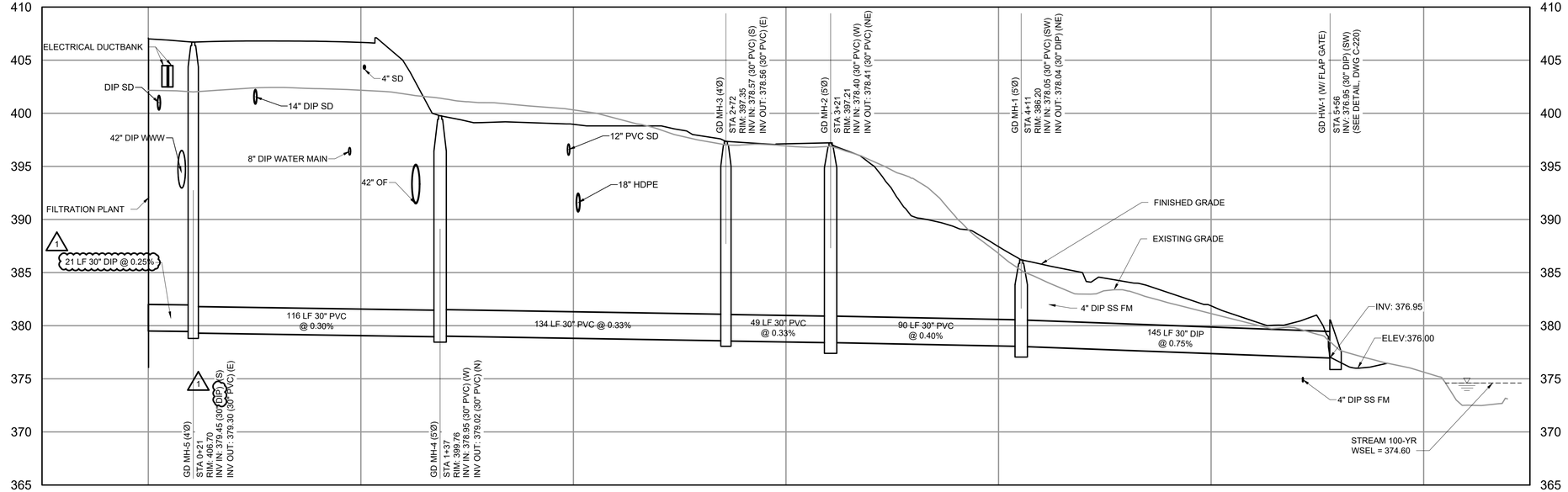
DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-248

File: C:\USERS\JTANNER\DCACCDOCS\HAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-248 Saved by LWALLACE Save date: 3/27/2025 11:04 AM
PLOT DATE: 5/20/2025 1:55 PM BY: JTANNER



PLAN

SCALE 1" = 30'



PROFILE

HORIZONTAL SCALE 1" = 30'
VERTICAL SCALE: 1" = 6'

HORIZONTAL SCALE: 1" = 30'
30 15 0 30'
6 3 0 6
VERTICAL SCALE: 1"=6'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

PROJECT ENGINEER: R. FROST
DESIGNED BY: J. TANNER
DRAWN BY: J. TANNER
CHECKED BY: D. SHEERAN

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"

BID SET

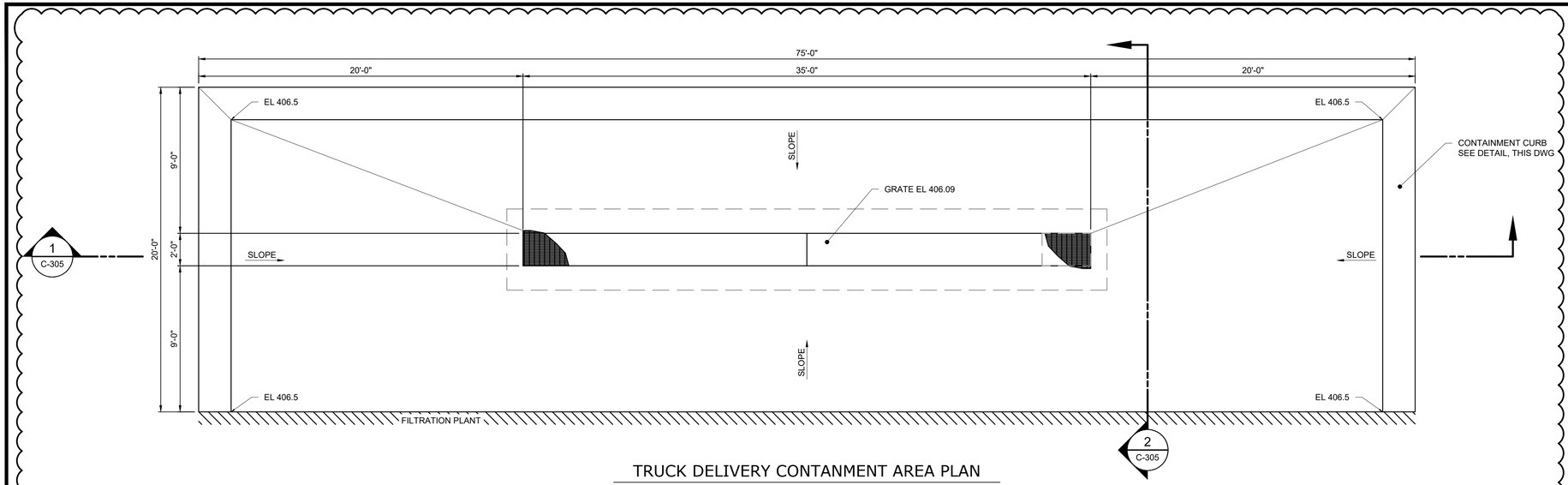
Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
GALLERY DRAIN PROFILE

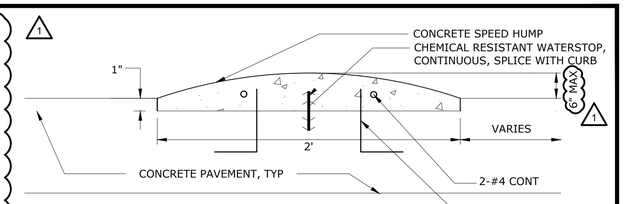
DATE: FEB 2025
HAZEN NO.: 90388-000
CONTRACT NO.: A1364-A
DRAWING NUMBER: C-250



TRUCK DELIVERY CONTANMENT AREA PLAN

1/4"=1'=0"

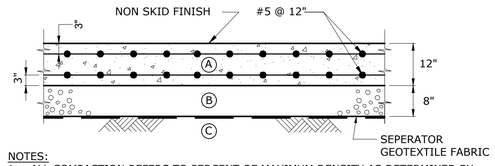
NOTES:
1. SEE DWG C-121 FOR BOTTOM OF CURB (BC) ELEVATIONS ALONG THE OUTER EDGE OF CONTAINMENT CURB.



NOTES:
1. USE CURB AND CURB & GUTTER MEETING THE MATERIAL AND CONSTRUCTION REQUIREMENTS OF SECTION 609 OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.

CONTAINMENT CURB

NTS

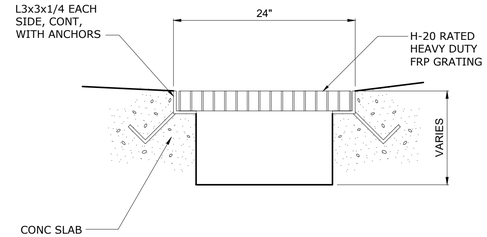


NOTES:
1. ALL COMPACTION REFERS TO PERCENT OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 METHOD D, SEE NOTES.
2. CONCRETE SHALL BE 4,500 PSI.
3. REINFORCING SHALL BE #5 @ 12" C/C AT DEPTH OF 3" FROM TOP OF COURSE AND 3" FROM BOTTOM OF COURSE.

KEY: (A) = CONCRETE PAVEMENT
(B) = BASE COURSE COMPACTED TO 95%
(C) = SUBGRADE COMPACTED TO 95%

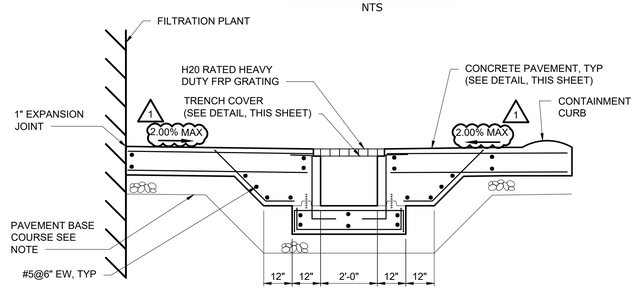
CONCRETE PAVEMENT SECTION

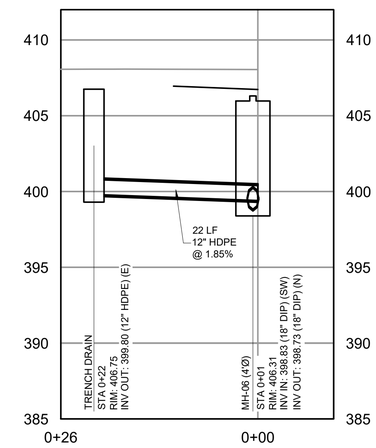
NTS



TRENCH COVER

NTS





TRENCH DRAIN OUTLET PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

SECTION 1 / C-352

NTS

NOTE:
1. APPLY CONCRETE TOPPING ON ALL CONCRETE SURFACES WITHIN THE AREA ENCLOSED BY SPEED HUMPS AND EDGE OF BUILDING AS PART OF THE SECONDARY CONTAINMENT AREA IN ACCORDANCE WITH SPECIFICATION 099700 - SPECIAL COATINGS.
2. PAVEMENT BASE COURSE SHALL BE PER SPECIFICATION 321000 - PAVING AND SURFACING.
3. PIPE PENETRATION SHALL BE SEALED USING A LINK-SEAL, AS MANUFACTURED BY GPT, OR APPROVED EQUAL.

SECTION 2 / C-352

NTS

SCALE: 1" = 5'
SCALE: 1" = 10'

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	MAY 25	DJS

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE (0 — 1/2" — 1")

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	J. TANNER
DRAWN BY:	J. TANNER
CHECKED BY:	D. SHEERAN

BID SET

STATE OF NEW YORK — DANIEL JAMES SHEERAN — 088955 — LICENSED PROFESSIONAL ENGINEER

Hazen

HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

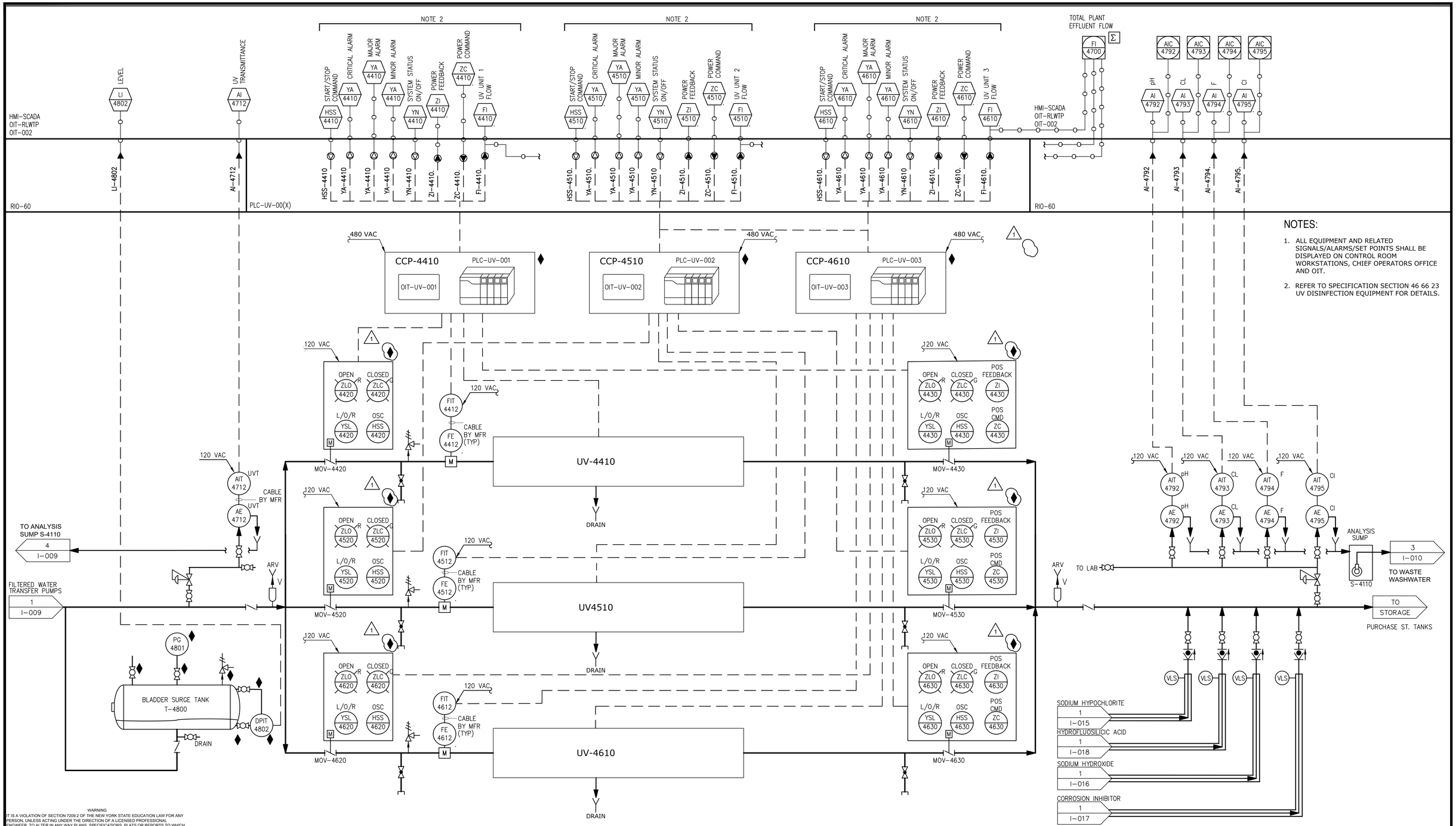
WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

CIVIL
TRUCK DELIVERY CONTAINMENT DETAIL

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	C-305

File: C:\USERS\JTANNER\DC\ACCDOCS\HAZEN AND SAWYER\90388-000_RYE_LAKE_FILTRATION\PROJECT FILES\PROJECTWISE\CIVIL\C-305 Saved by: JTANNER Save date: 5/20/2025 3:21 PM
PLOT DATE: 5/20/2025 3:25 PM BY: JTANNER



NOTES:

1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
2. REFER TO SPECIFICATION SECTION 46 66 23 UV DISINFECTION EQUIPMENT FOR DETAILS.

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	05/25	DE

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	F.BEATY
DRAWN BY:	F.BEATY
CHECKED BY:	G.MARKOU

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"

BID SET

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

UV AND FINAL CHEMICAL ADDITION INSTRUMENTATION PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-019

File: C:\USERS\BWALLISCH\APPDATA\LOCAL\AUTODESK\AUTOCAD PLANT 3D\COLLABORATION\CACHERYE LAKE\PID DWG\I-019 FINAL CHEMICAL ADDITION Saved by BWALLISCH Save date: 2/10/2025 12:14 PM
PLOT DATE: 5/15/2025 2:23 PM BY: BWALLISCH

PIPING SYSTEM SCHEDULE

SYSTEM	SYSTEM TYPE	LOCATION	PIPE	FITTING	JOINT	COATING	INSULATION	JACKET	SPECIFICATION REFERENCE	NOTES
CLW	CLEARWATER DRAIN	ABOVE GROUND	CAST IRON - ASTM A888 AND CISPI 301	CAST IRON ASTM A888 AND CISPI 301	HUBLESS COUPLING - ASTM C1277 / CISPI 310	OIL-BASED ENAMEL	-	-	22 13 16	-
CLW	CLEARWATER DRAIN	BELOW GROUND	CAST IRON - ASTM A74	CAST IRON ASTM A74	COMPRESSION GASKET - ASTM C564	OIL-BASED ENAMEL	-	-	22 13 16	-
FPW	FIRE PROTECTION	ABOVE GROUND	CARBON STEEL - ASTM A795 - SCH 40	DUCTILE IRON - ASTM A536	GROOVED COUPLING - DUCTILE IRON - ASTM A536	FUSION-BONDED EPOXY	-	-	21 13 13	1, 2
FPW	FIRE PROTECTION	BELOW GROUND	DUCTILE IRON - AWWA C151	DUCTILE IRON - AWWA C110	FLANGE - ASME B16.1 - CLASS 125	FUSION-BONDED EPOXY	-	-	21 13 13	1
FPW	FIRE PROTECTION	CHEMICAL AREAS	AUSTENTITIC STAINLESS STEEL - ASTM A312 - GRADE 304, 304L, 316 OR 316L - SCH 40	WROT AUSTENTITIC STAINLESS STEEL - ASTM A403 - GRADE 304, 304L, 316 OR 316L	THREADED - ASME B1.20.1	-	-	-	21 13 13	1
FUD	SUBSOIL DRAIN	ALL	PVC PERFORATED SEWER PIPE - ASTM D2729	PVC - ASTM D2665	TWO-PART SOLVENT CEMENT - ASTM F656 AND D2855	-	-	-	22 13 16	-
HWR	HOT WATER RETURN	ALL	COPPER TUBE - TYPE L - ASTM B88	WROT COPPER - ASME B16.22	SOLDER	FUSION-BONDED EPOXY	CELLULAR GLASS - ASTM C 552, TYPE II, CLASS 2	PVC - ASTM C 921, TYPE I	22 11 13	3, 4
HWS	HOT WATER SUPPLY	CHEMICAL AREAS	CPVC - ASTM F441 - SCH 40	CPVC - ASTM F438 - SCH 40	TWO-PART SOLVENT CEMENT - ASTM F493 AND D2846	-	CELLULAR GLASS - ASTM C 552, TYPE II, CLASS 2	PVC - ASTM C 921, TYPE I	22 11 13	3, 4
HWS	HOT WATER SUPPLY	NON-CHEMICAL AREAS	COPPER TUBE - TYPE L - ASTM B88	WROT COPPER - ASME B16.22	SOLDER	FUSION-BONDED EPOXY	CELLULAR GLASS - ASTM C 552, TYPE II, CLASS 2	PVC - ASTM C 921, TYPE I	22 11 13	3, 4
NPW	NON-POTABLE WATER	CHEMICAL AREAS	CPVC - ASTM F441 - SCH 40	CPVC - ASTM F438 - SCH 40	TWO-PART SOLVENT CEMENT - ASTM F493 AND D2846	-	CELLULAR GLASS - ASTM C 552, TYPE II, CLASS 2	PVC - ASTM C 921, TYPE I	22 11 13	3, 4
NPW	NON-POTABLE WATER	NON-CHEMICAL AREAS	COPPER TUBE - TYPE L - ASTM B88	WROT COPPER - ASME B16.22	SOLDER	FUSION-BONDED EPOXY	CELLULAR GLASS - ASTM C 552, TYPE II, CLASS 2	PVC - ASTM C 921, TYPE I	22 11 13	3, 4
NPW HW	NON-POTABLE HOT WATER	ALL	COPPER TUBE - TYPE L - ASTM B88	WROT COPPER - ASME B16.22	SOLDER	FUSION-BONDED EPOXY	CELLULAR GLASS - ASTM C 552, TYPE II, CLASS 2	PVC - ASTM C 921, TYPE I	22 11 13	3, 4
PW	POTABLE WATER	ABOVE GROUND (NON-CHEMICAL AREAS)	COPPER TUBE - TYPE L - ASTM B88	WROT COPPER - ASME B16.22	SOLDER	FUSION-BONDED EPOXY	CELLULAR GLASS - ASTM C 552, TYPE II, CLASS 2	PVC - ASTM C 921, TYPE I	22 11 13	3, 4
PW	POTABLE WATER	BELOW GROUND	COPPER TUBE - TYPE K - ASTM B88	WROT COPPER - ASME B16.22	SOLDER	FUSION-BONDED EPOXY	CELLULAR GLASS - ASTM C 552, TYPE II, CLASS 2	PVC - ASTM C 921, TYPE I	22 11 13	3, 4
PW	POTABLE WATER	CHEMICAL AREAS	CPVC - ASTM F441 - SCH 40	CPVC - ASTM F438 - SCH 40	TWO-PART SOLVENT CEMENT - ASTM F493 AND D2846	-	CELLULAR GLASS - ASTM C 552, TYPE II, CLASS 2	PVC - ASTM C 921, TYPE I	22 11 13	3, 4
RWL	STORM DRAINAGE	ABOVE GROUND	PVC - ASTM D2665	PVC - ASTM D2665	TWO-PART SOLVENT CEMENT - ASTM F656 AND D2855	-	FIBERGLASS - ASTM C1393	PVC - ASTM C 921, TYPE I	22 14 13	4, 5
RWL	STORM DRAINAGE	BELOW GROUND	CAST IRON ASTM A74	CAST IRON ASTM A74	COMPRESSION GASKET - ASTM C564	OIL-BASED ENAMEL	-	-	22 14 13	-
SAN	SANITARY DRAINAGE	ABOVE GROUND	PVC - ASTM D2665	PVC - ASTM D2665	TWO-PART SOLVENT CEMENT - ASTM F656 AND D2855	-	-	-	22 13 16	-
SAN	SANITARY DRAINAGE	BELOW GROUND	CAST IRON ASTM A74	CAST IRON ASTM A74	COMPRESSION GASKET - ASTM C564	OIL-BASED ENAMEL	-	-	22 13 16	-
SAN	SANITARY DRAINAGE	EMBEDDED IN SLAB	CAST IRON ASTM A888 AND CISPI 301	CAST IRON ASTM A888 AND CISPI 301	HUBLESS COUPLING - ASTM C1277 / CISPI 310	-	-	-	22 13 16	6
SANP	SUMP PUMP DISCHARGE	ALL	PVC PRESSURE PIPE - ASTM D1784 - SCH 80	PVC PRESSURE FITTINGS - ASTM D2467 - SCH 80	TWO-PART SOLVENT CEMENT - ASTM F656 AND D2855	-	-	-	22 11 13	-
TW	TEPID WATER	ALL	CPVC - ASTM F441 - SCH 40	CPVC - ASTM F438 - SCH 40	TWO-PART SOLVENT CEMENT - ASTM F493 AND D2846	-	-	-	22 11 13	-
V	SANITARY VENT	ABOVE GROUND	PVC - ASTM D2665	PVC - ASTM D2665	TWO-PART SOLVENT CEMENT - ASTM F656 AND D2855	-	-	-	22 13 16	-
V	SANITARY VENT	BELOW GROUND	CAST IRON ASTM A74	CAST IRON ASTM A74	COMPRESSION GASKET - ASTM C564	OIL-BASED ENAMEL	-	-	22 13 16	-

NOTES:
1. PIPING, FITTINGS AND JOINTS SHALL BE UL LISTED AND FM APPROVED FOR USE AS FIRE SPRINKLER PIPING. SYSTEM SHALL CONFORM TO NFPA 13 AND NFPA 24.
2. HOT-DIPPED GALVANIZED CONFORMING TO ASTM A123.
3. PIPING, FITTINGS, JOINTS AND BRAZE MATERIALS SHALL BE CERTIFIED TO NSF 61 AND ANNEX G.
4. REFER TO SPECIFICATION 22 07 19 FOR INSULATION AND JACKET REQUIREMENTS.
5. INSULATE ALL HORIZONTAL PIPES.
6. COUPLINGS SHALL BE HEAVY DUTY (CHARLOTTE PIPE PART NO SDC 4 OR EQUIVALENT), AND SHALL BE EXPLICITLY SPECIFIED BY THE MANUFACTURER AS SUITABLE FOR CONCRETE-ENCASEMENT. WRAP ALL COUPLINGS IN POLYETHYLENE SHEET MIN 3" BEYOND COUPLING EDGES. WRAP SHALL BE VIRGIN POLYETHYLENE CONFORMING TO THE REQUIREMENTS OF ASTM D WITH A MINIMUM THICKNESS OF .008" FOR LOW-DENSITY WRAP AND .004" FOR HIGH-DENSITY CROSS-LAMINATED WRAP. VISUALLY INSPECT FOR ANY RIPS OR TEARS AND REPLACE ACCORDINGLY BEFORE THE SLAB IS POURED. REFER TO THE LATEST EDITION OF THE CISPI CAST IRON SOIL PIPE AND FITTINGS HANDBOOK HANDBOOK.

WATER HEATER SCHEDULE

TAG	LOCATION	MANUFACTURER MAKE	MANUFACTURER MODEL	TYPE	PW (IN)	HW (IN)	INPUT (KW)	DESIGN FLOW RATE (GPM)	ELEMENT (QTY)	ELEMENT (KW)	STORAGE TEMPERATURE (°F)	RECOVERY RATE @ 100 DEGREE RISE (GPH)	STORAGE (GALLONS)	POWER VOLT	POWER PH	POWER HZ	NOTES
WH	HVAC ROOM (208)	HUBBELL	SEA120	ELECTRIC	1 1/2"	1 1/2"	18	25	3	6	160	74	120	460	3	60	1-4
DWH	HVAC ROOM (215)	HUBBELL	E40	ELECTRIC	3/4	3/4	4.5	5	2	4.5	160	12	40	208	3	60	1-4

NOTES:
1. REFER TO SPECIFICATION 22 33 00 FOR CONSTRUCTION AND ACCESSORY DETAILS
2. ALL WATER HEATERS SHALL MEET OR EXCEED STANDBY LOSS REQUIREMENTS PER US DEPT OF ENERGY AND ASHRAE 90.1-2016
3. RATED FOR 150 PSIG WORKING PRESSURE
4. INSTALL DIELECTRIC UNIONS AND SHUT OFF ISOLATION VALVES AT EACH WATER CONNECTION

INSTANTANEOUS WATER HEATER SCHEDULE

TAG	LOCATION	MANUFACTURER MAKE	MANUFACTURER MODEL	TYPE	PW (IN)	HW (IN)	INPUT (KW)	ΔT (°F)	FLOW (GPM) DESIGN	FLOW (GPM) TURN-ON	POWER VOLT	POWER PH	POWER HZ	NOTES
IWH-01	DEWATERING ROOM (109)	EEMAX	AP054480	ELECTRIC	1-1/4	1-1/4	54	18	20	1.5	480	3	60	1
IWH-02	POLYER ROOM (107)	EEMAX	AP054480	ELECTRIC	1-1/4	1-1/4	54	18	20	1.5	480	3	60	1, 2
IWH-03	PROCESS ANALYSIS ROOM (205)	EEMAX	SPEX3208	ELECTRIC	3/8	3/8	3	41	.5	.25	208	1	60	1, 3

NOTES:

1. REFER TO SPECIFICATION 22 33 00 FOR CONSTRUCTION AND ACCESSORY DETAILS
2. FOR FUTURE USE. DO NOT CONNECT WATERSIDE CONNECTIONS.
3. COORDINATE WITH ARCHITECT FOR INSTALLATION IN CASEWORK.

STORAGE TANK SCHEDULE

TAG	LOCATION	MANUFACTURER MAKE	MANUFACTURER MODEL	CAPACITY (GAL)	LINING MATERIAL	INSULATION	WEIGHT (LBS)	NOTES
ST	HVAC ROOM (208)	HUBBELL	SH120SL	120	HYDRASTONE CEMENT	2" POLYURETHANE FOAM	900	1-3

NOTES:
1. REFER TO SPECIFICATION 22 33 00 FOR CONSTRUCTION AND ACCESSORY DETAILS
2. MAXIMUM PRESSURE 150 PSI
3. TANK MATERIAL SHALL BE CARBON STEEL

REV	ISSUED FOR	DATE	BY
1	ADDENDUM NO. 5	05/2025	EMF

PROJECT ENGINEER: R. FROST
DESIGNED BY: M. GIORDANO
DRAWN BY: J. LURIE
CHECKED BY: R. VAN DYKE
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE 0 1/2" 1"

BID SET

MARC A. GIORDANO — STATE OF NEW YORK — 099858 — LICENSED PROFESSIONAL ENGINEER

Hazen
HAZEN AND SAWYER
498 SEVENTH AVENUE, 11th FLOOR
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT
HARRISON, NY

FILTRATION PLANT
PLUMBING
SCHEDULES - SHEET 2

DATE: FEB 2025
HAZEN NO.: 90388-000
CONTRACT NO.: A1364-A
DRAWING NUMBER: P-601

Attachment C – Latest Plan Holders List

RYE LAKE WATER FILTRATION PLANT PROJECT - PROJECT A1364
LIST OF PLAN HOLDERS
Updated: 5/21/25

BOND Civil & Utility Construction, Inc. 10 Cabot Rd., Suite 300 Medford, MA 02155
BOVE Industries 16 Hulse Rd East Setauket, NY 11733
C.A.C. Industries, Inc. 54-08 Vernon Blvd. Long Island City, NY 11101
Carbro Constructors Corp. 67A Mountain Blvd Ext., Ste. 100 Warren, NJ 07059
Citnalta Construction Corp. 1601 Locust Avenue Bohemia, NY 11716
DODGE Construction Network 56 Broad Street Suite 14070 Boston, MA 02109
ECCO III Enterprises, Inc. 201 Saw Mill River Road Yonkers, NY 10701
ELQ Industries, Inc. 567 Fifth Avenue New Rochelle, NY 10801
Halcyon Construction Corp. 65 Marble Avenue Pleasantville, NY 10570
Infinity Contracting Services Corp. 112-20 14th Avenue College Point, NY 11356
GP Jager Inc. PO Box 50 Boonton, NJ 07005

Jett Industries, Inc.
State Route 7
PO Box 219
Colliersville, NY 13747

Mace Contracting Corp.
411 Fifth Avenue
New Rochelle, NY 10801

Michels Construction
124-16 Rockaway Beach Blvd., Unit B1
Rockaway Park, NY 11694

MPCC Corp.
81 Rockdale Avenue
New Rochelle, NY 10801

Northeast Remsco Construction
1333 Campus Parkway
Wall Township, NJ 07753

ORTHOS LIQUID SYSTEMS, INC.
P.O. Box 1970
Bluffton, SC 29910

Paul J. Scariano, Inc. (PJS Group)
12 Potter Avenue
New Rochelle, NY 10801

Posillico Group
1750 New Highway
Farmingdale, NY 11735

Prismatic Development Corp.
60 US Highway 46
Fairfield, NJ 07004

Schiavone Construction Co. LLC
150 Meadowlands Pkwy 2nd FL
Secaucus, NJ 07094

W.M. Schultz Construction
831 State Route 67
Curtis Industrial Park
PO Box 2620
Ballston Spa, NY 12020

Shawn's Lawns
1200 High Ridge Road
Stamford, CT 06905

Stratis Contracting Corp.
7 Corporate Drive
Peekskill, NY 10566

Triumph Construction Corp.
1354 Seneca Avenue
Bronx, NY 10474

Welkin Mechanical LLC
1010 Northern Blvd. Suite 204
Great Neck, NY 11021

The Whiting-Turner Contracting Company
2 Manhattanville Road, Suite 404
Purchase, NY 10577

Yonkers Contracting Co.
969 Midland Avenue
Yonkers, NY 10704