NEW YORK STATE THRUWAY AUTHORITY
DEPARTMENT OF ENGINEERING

ALBANY, NY
FEBRUARY 6, 2026

AMENDMENT NO. 1
TO

CONTRACT TAS 26-15A
D215083
REHABILITATION OF THE WASTEWATER TREATMENT PLANT
AT THE CHITTENANGO SERVICE AREA
I-90, MILEPOST 266.3 WESTBOUND
IN THE SYRACUSE DIVISION
OF THE NEW YORK STATE THRUWAY
IN MADISON COUNTY

IN THE LETTING OF
FEBRUARY 18, 2026

NOTE: This amendment shall be attached to and become a part of the Proposal for Contract **TAS 26-15A**.

NOTICE

For Electronic Bidders, the Project's amended EBSX file will automatically account for any necessary item changes (deletions, changes in quantities, or additions) that this Amendment may describe as being required regarding the project's estimated cost. Instructions to make physical changes to the Project Proposal's bid sheets are intended for "paper" Bidders who choose to submit bids via paper.

PROPOSAL

1. **DELETE** Page 16 and **REPLACE** with the attached Page 16-A1. Two additional sections have been added to DIVISION 01 – GENERAL REQUIREMENTS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES. The information contained within these two new sections will be referenced within all of the sections already included within the proposal.

2. Regarding the Special Specifications for Item 627.0001 25, GENERAL REQUIREMENTS, **DELETE** Pages 20 and 21 and **REPLACE** with the attached Pages 20-A1 and 21-A1, respectively**.** New Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES have been added to the SPECIFICATIONS SUMMARY. A new Item 7.02 entry has been added to the SUMMARY OF WORK.

3. Regarding the Special Specifications for Item 627.0033 25, UTILITIES / EFFLUENT PIPE, **DELETE** Page 23 and **REPLACE** with the attached Page 23-A1**.** A new Item 7.02 entry has been added to the SUMMARY OF WORK.

4. **ADD** the attached Pages 27A-A1 through 27D-A1. The requirements of new Section 01 33 00 – SUBMITTAL PROCEDURES are now available.

5. Regarding Section 01 50 00 – Temporary Facilities and Controls, **DELETE** Page 28 and **REPLACE** with the attached Page 28-A1. New entries 5. and 6. have been added under PART 1.2 SUMMARY, B. Related Requirements. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

6. **ADD** the attached Pages 43A-A1 through 43K-A1. The requirements of new Section 01 77 00 – CLOSEOUT PROCEDURES are now available.

7. Regarding Section 02 41 00 – Demolition, **DELETE** Page 44 and **REPLACE** with the attached Page 44-A1. New entries 2. and 3. have been added to PART 1 – GENERAL, 1.2 SUMMARY, B. Related Sections. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

8. Regarding Section 03 30 00 – Concrete for Utilities, **DELETE** Page 50 and **REPLACE** with the attached Page 50-A1. New entries 1. and 2. have been added to a new PART 1 – GENERAL, 1.2 SUMMARY, B. Related Sections. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

9. Regarding Section 06 50 00 – Glass Fiber Reinforced Plastic Tank Covers, **DELETE** Page 55 and **REPLACE** with the attached Page 55-A1. New entries B. and C. have been added to existing PART 1 – GENERAL, 1.2 SUMMARY, B. Related Sections. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

10. Regarding Section 09 67 23 – Resinous Flooring, **DELETE** Page 60 and **REPLACE** with the attached Page 60-A1. New entries 2. and 3. have been added to existing PART 1 – GENERAL, 1.2 SUMMARY, B. Related Sections. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

11. Regarding Section 09 90 00 – Painting, **DELETE** Page 70 and **REPLACE** with the attached Page 70-A1. A new PART 1.10 RELATED SECTIONS has been added to PART 1 – GENERAL.

12. Regarding Section 26 05 19 – Low-Voltage Electrical Power Conductors and Cables, **DELETE** Page 77 and **REPLACE** with the attached Page 77-A1. PART 1 – GENERAL has been revised. PART 1.1 RELATED SECTIONS has been added.

13. Regarding Section 26 05 26 – Grounding and Bonding for Electrical Systems, **DELETE** Page 80 and **REPLACE** with the attached Page 80-A1. Entries A. and B. have been added to a new PART 1 – GENERAL, 1.2 RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

14. Regarding Section 26 05 33 – Raceways and Boxes for Electrical Systems, **DELETE** Page 82 and **REPLACE** with the attached Page 82-A1. Entries A. and B. have been added to a new PART 1 – GENERAL, 1.2 RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

15. Regarding Section 26 05 43 – Underground Ducts and Raceways for Electrical Systems, **DELETE** Page 88 and **REPLACE** with the attached Page 88-A1. Entries A. and B. have been added under a new PART 1 – GENERAL, 1.4 RELATED REQUIREMENTS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

16. Regarding Section 26 05 44 – Sleeves and Sleeve Seals for Electrical Raceways and Cabling, **DELETE** Page 92 and **REPLACE** with the attached Page 92-A1. PART 1 – GENERAL has been revised. Entry 1.1 RELATED SECTIONS has been added and two new sections are now included. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

17. Regarding Section 26 05 53 – Identification for Electrical Systems, **DELETE** Page 95 and **REPLACE** with the attached Page 95-A1. New entries A. and B. have been added to a new PART 1 – GENERAL, 1.3 RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

18. Regarding Section 26 27 26 – Wiring Devices, **DELETE** Page 99 and **REPLACE** with the attached Page 99-A1. New entries A. and B. have been added to a new PART 1 – GENERAL, 1.2 SUMMARY B. RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

19. Regarding Section 26 28 16 – Enclosed Switches and Circuit Breakers, **DELETE** Page 105 and **REPLACE** with the attached Page 105-A1. New entries 1. and 2. have been added to a new PART 1 – GENERAL, 1.2 SUMMARY B. RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

20. Regarding Section 31 20 00 – Earth Moving, **DELETE** Page 120 and **REPLACE** with the attached Page 120-A1. New entries A. and B. have been added to a new PART 1 – GENERAL, 1.5 RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

21. Regarding Section 31 23 16 – Excavation for Utilities, **DELETE** Page 129 and **REPLACE** with the attached Page 129-A1. Entries 2. and 3. have been added to PART 1 – GENERAL, 1.2 SUMMARY B. Related Sections. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

22. Regarding Section 31 25 00 – Erosion and Sedimentation Controls, **DELETE** Page 140 and **REPLACE** with the attached Page 140-A1. Entries 3. and 4. have been added to PART 1 – GENERAL, 1.2 SUMMARY B. Related Sections. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

23. Regarding Section 31 50 00 – Excavation Support and Protection, **DELETE** Page 146 and **REPLACE** with the attached Page 146-A1. New entries 1. and 2. have been added to a new PART 1 – GENERAL, 1.2 SUMMARY B. RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

24. Regarding Section 32 12 16 – Asphalt Paving, **DELETE** Page 150 and **REPLACE** with the attached Page 150-A1. New entries A. and B. have been added to a new PART 1 – GENERAL, 1.5 RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

25. Regarding Section 32 92 00 – Turf and Grasses, **DELETE** Page 158 and **REPLACE** with the attached Page 158-A1. New entries A. and B. have been added to a new PART 1 – GENERAL, 1.7 RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

26. Regarding Section 33 01 30 – Sewer Flow Control, **DELETE** Page 165 and **REPLACE** with the attached Page 165-A1. New entries 1. and 2. have been added to a new PART 1 – GENERAL, 1.2 SUMMARY B. RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

27. Regarding Section 33 05 05 – Sanitary Sewer Testing, **DELETE** Page 169 and **REPLACE** with the attached Page 169-A1. Item 1 under PART 1.2 SUMMARY, B. Related Requirements: has been replaced with "Sewer Flow Control". New entries 6. and 7. have been added under PART 1.2 SUMMARY, B. Related Requirements. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

28. Regarding Section 33 05 61 – Concrete Manhole, **DELETE** Page 176 and **REPLACE** with the attached Page 176-A1. Entries 3. and 4. have been added to PART 1 – GENERAL, 1.2 SUMMARY, B. Related Requirements. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

29. Regarding Section 33 05 63 – Concrete Vaults and Chambers, **DELETE** Page 185 and **REPLACE** with the attached Page 185-A1. Entries 2. and 3. have been added to PART 1 – GENERAL, 1.2 SUMMARY, B. Related Sections. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

30. Regarding Section 33 31 11 – Gravity Sewer Pipe, **DELETE** Page 190 and **REPLACE** with the attached Page 190-A1. Entries 4. and 5. have been added to PART 1 – GENERAL, 1.2 SUMMARY, B. Related Requirements. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

31. Regarding Section 33 31 26 – Sewer Force Main Piping, **DELETE** Page 194 and **REPLACE** with the attached Page 194-A1. Item 2 under PART 1.2 SUMMARY, B. Related Requirements: has been replaced with "Section 33 01 30 Sewer Flow Control". New Entries 4. and 5. have been added under PART 1.2 SUMMARY, B. Related Requirements. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

32. Regarding Section 46 07 00 – Wastewater Process Equipment, **DELETE** Page 201 and **REPLACE** with the attached Page 201-A1. New entries 1. and 2. have been added to a new PART 1 – GENERAL, 1.2 RELATED REQUIREMENTS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

33. Regarding Section 46 66 00 – Ultraviolet Disinfection Equipment, **DELETE** Page 215 and **REPLACE** with the attached Page 215-A1. New entries A. and B. have been added to a new PART 1 – GENERAL, 1.5 RELATED SECTIONS. These are Section 01 33 00 – SUBMITTAL PROCEDURES and Section 01 77 00 – CLOSEOUT PROCEDURES, respectively.

The Bidder **MUST** complete Page **332** of the Proposal acknowledging receipt of this amendment. If the Bidder fails to complete the "Amendment Acknowledgement" sheet, his bid could be declared informal thereby delaying award of the contract.

PLEASE BE GOVERNED ACCORDINGLY WHEN SUBMITTING BIDS.

Brent E. Howard, P.E.
Chief Engineer

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ITEM 627.0001 25 **GENERAL REQUIREMENTS**

6. SPECIFICATION SUMMARY

6.01 This Item includes the following specifications:

A. Section 01 33 00 SUBMITTAL PROCEDURES
B. Section 01 50 00 TEMPORARY FACILITIES AND CONTROLS
C. Section 01 52 00 MAINTENANCE OF PLANT OPERATION DURING CONSTRUCTION
D. Section 01 77 00 CLOSEOUT PROCEDURES
E. Section 02 41 00 DEMOLITION
F. Section 03 30 00 CONCRETE FOR UTILITIES
G. Section 06 50 00 GLASS FIBER REINFORCED PLASTIC TANK COVERS
H. Section 09 67 23 RESINOUS FLOORING
I. Section 09 90 00 PAINTING
J. Section 26 05 19 LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
K. Section 26 05 26 GROUNDING AND BONDING FOR ELECTICAL SYSTEMS
L. Section 26 05 33 RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS
M. Section 26 05 43 UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS
N. Section 26 05 44 SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING
O. Section 26 05 53 IDENTIFICATION FOR ELECTRICAL SYSTEMS
P. Section 26 27 26 WIRING DEVICES
Q. Section 26 29 13 ENCLOSED CONTROLLERS

7. SUMMARY OF WORK

7.01 This item shall include, but not be limited to, the following:

A. Demolition and abandonment of the headworks structure, site piping and valves, the effluent pipe, existing manholes, and driveway.
B. Site work including cut and fill, grading, topsoil and seeding and pavement.
C. Clean the sludge holding tank including any existing sludge build-up and dispose at an approved facility.
    a. Include cost to haul and dispose of this waste at a licensed facility.
D. Sewage Hauling:
    a. Temporarily pump and store wastewater within existing sludge holding tank while the wastewater treatment plant processes are offline (maximum of 120 days).
    b. Wastewater shall be hauled off by a licensed hauler to another licensed wastewater treatment plant.
    c. Contractor assumes all cost for storage, transfer, hauling, and disposal of the wastewater.
    d. Cost shall be $/gal value with an expected maximum of 925,000 gal.
E. Installation of pre-cast concrete reactor tank with all equipment and related appurtenances
F. Installation of concrete curbs around existing circular tanks and FRP tank covers.

ITEM 627.0001 25 **GENERAL REQUIREMENTS**

G. Installation of related pumps and piping in the EQ tank and Clearwell including new controls
H. Demolition of existing pumps and piping in the basement of the control building
I. Installation of blowers, alkalinity feed system, and Amphidrome controls
J. Demolition of the sludge holding tank, trickling filter building, and wet wells
K. Demolition of one sand filter bed. Related piping to be capped at connection points
L. Modify sand filter pump station

7.02 This item SHALL NOT include the following:

A. Site work needed for the construction of the sewer pipe, including earthwork and preparation.

B. Flow control to reroute flow from plant during demolition of existing effluent pipe and construction of new effluent pipe.

C. Demolition of existing pipe.

D. Construction of new effluent pipe and manholes.

ITEM 627.0033 25 **UTILITIES / EFFLUENT PIPE**

6. SPECIFICATION SUMMARY

6.01 This Item includes the following specifications:

A. Section 31 20 00 EARTH MOVING
B. Section 31 23 16 EXCAVATION FOR UTILITIES
C. Section 31 25 00 EROSION AND SEDIMENTATION CONTROL
D. Section 31 50 00 EXCAVATION SUPPORT AND PROTECTION
E. Section 32 92 00 TURF AND GRASSES
F. Section 33 01 30 SEWER FLOW CONTROL
G. Section 33 05 05 SANITARY SEWER TESTING
H. Section 33 05 61 CONCRETE MANHOLES
I. Section 33 31 11 GRAVITY SEWER PIPE
J. Section 33 31 26 SEWER FORCE MAIN PIPING
K. Section 46 07 00 WASTEWATER PROCESS EQUIPMENT
L. Section 46 66 00 ULTRAVIOLET EQUIPMENT

7. SUMMARY OF WORK

7.01 This item shall include, but not be limited to, the following:

A. Site work needed for the construction of the sewer pipe, including earthwork and preparation
B. Flow control to re-route flow from plant during demolition of existing effluent pipe and construction of new effluent pipe
C. Demolition of existing pipe
D. Construction of new effluent pipe and manholes
E. Remove and replace existing UV system in kind

7.02 This item SHALL NOT include the following:

A. Demolition and abandonment of the headworks structure, site piping and valves, the effluent pipe, existing manholes, and driveway.
B. Site work including cut and fill, grading, topsoil and seeding and pavement.
C. Clean the sludge holding tank including any existing sludge build-up and dispose at an approved facility.
   a. Include cost to haul and dispose of this waste at a licensed facility.
D. Sewage Hauling:
   a. Temporarily pump and store wastewater within existing sludge holding tank while the wastewater treatment plant processes are offline (maximum of 120 days).
   b. Wastewater shall be hauled off by a licensed hauler to another licensed wastewater treatment plant.
   c. Contractor assumes all cost for storage, transfer, hauling, and disposal of the wastewater.
   d. Cost shall be $/gal value with an expected maximum of 925,000 gal.

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Submittal Procedures.
2. Review of Submittals.
3. Schedule of Submittals.
4. Shop Drawings.
5. Samples.
6. Manufacturer's Instructions.

B. Related Requirements:
1. Section 01 77 00 – Closeout Procedures for submitting closeout submittals and maintenance material submittals.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Engineer's and Construction Manager's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 SUBMITTAL PROCEDURES

A. Transmit each required submittal using Owner furnished form.

B. Number the submittals as follows:
1. First: Specification section number.
2. Submittal number within the Specification section.
3. Review cycle number.
4. Title of submittal.
5. For example:
a. 02510-01-01 – Field lock gaskets for DIP (first review cycle)
b. 02510-01-02 - Field lock gaskets for DIP (second review cycle)
c. 02510-02-01 – Flange pipe and fittings (first review cycle)
d. 02510-02-02 – Flange pipe and fittings (second review cycle)
e. 02510-02-03 – Flange pipe and fittings (third review cycle)

C. Identify Project, Contractor, Subcontractor, and Supplier; pertinent Drawing number and detail

number(s), and Specification sections, as appropriate.

D. Apply stamp, signed or initialed providing certification that includes, at a minimum:
   1. Submittal Number
   2. Deviations: None_____; As Listed
   3. Reference Specification Section
   4. Reference Drawing Number
   5. Space Requirement: As Designed_____ Different, As Listed
   6. Representation is made to Owner and Engineer that Contractor has satisfied the requirements of General Conditions associated Supplementary Conditions, and that the Contractor hereby approves this submittal.

   Contractor _____

   Signature _____

   Date _____

   Date _____

E. Schedule submittals to expedite the Project and deliver to parties in the quantities and at the locations specified herein.

F. Identify all deviations from Contract Documents.

G. Identify product and/or system limitations which may be detrimental to successful performance of the completed Work.

H. Identify space requirements which differ from those designed and/or shown on the Contract Documents.

I. Provide space for Contractor and Owner review stamps.

J. Revise and resubmit: Identify all changes made since previous submittal in a cover letter or memorandum.

K. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

L. Submittals not required will not be recognized or processed.

M. Items shall not be fabricated or delivered without fully approved Shop Drawings.

N. Ensure no associated work begins until associated Shop Drawings are fully approved.

O. Fabrication prior to receiving an “Approved” or “Approved as Corrected – No Resubmittal Required” is at Contractor’s risk

1.4 REVIEW OF SUBMITTALS

A. Review times:
1. No less than 15 days shall be allowed for Owner's review of submittals and resubmittals unless otherwise specified in the Contract Documents.

B. Review Codes:
1. Approved
2. Approved as Corrected – No Resubmittal Required
3. Approved as Corrected – Resubmit Written Responses and Requested Information
4. Revise and Resubmit
5. Not Approved
6. Informational Purposes Only

C. Payment will not be made for any items requiring submittals until no further submittals are required for the item.

1.5 SCHEDULE OF SUBMITTALS

A. Submit a PDF copy of preliminary Schedule of Submittals.

B. Revise and resubmit until acceptable to Owner.

1.6 SHOP DRAWINGS

A. Provide information as required by individual Specification sections.
1. Shop Drawing submittals shall include all descriptive data, performance characteristics, material specifications, spare parts list, drawings, piping diagrams, wiring schematics, and shall be complete and accurate to indicate item-by-item compliance with the Contract Documents.
2. Shop Drawings shall be drawn at scales matching those on the Drawings depicting the same items.
3. All catalog cuts, manufacturer's specifications, drawings, and verbal descriptions shall be clearly marked to allow identification of the specific products used.
4. If the submittal deviates from the requirements of the Specifications in any way, it shall be clearly marked in the submittal with the justifying reason stated for evaluation by Engineer.

1.7 SAMPLES

A. Provide Samples of submitted materials as required by individual Specification sections.

B. Submit Samples to illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate Sample submittals for interfacing work.

C. Submit Samples of finishes from the full range of manufacturers' standard colors, textures,

and patterns for Owner's selection.

D. Include identification on each Sample, with full Project information.

E. Submit the number or samples specified in individual Specification sections; one of which will be retained by Owner.

F. Reviewed samples which may be used in the Work are indicated in individual Specification sections.

1.8 MANUFACTURER'S INSTRUCTIONS

A. When specified in individual Specification sections, submit manufacturers' printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, in quantities specified for Shop Drawings.

B. Identify conflicts between manufacturers' instructions and Contract Documents.

PART 2 – PRODUCTS

NOT USED

PART 3 – EXECUTION

NOT USED

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Requirements:

1. Section 01 10 00 "Summary" for work restrictions and limitations on utility interruptions.
2. Section 31 23 19 "Dewatering" for disposal of ground water at Project site.
3. Section 32 12 16 "Asphalt Paving" for construction and maintenance of asphalt pavement for temporary roads and paved areas.
4. Section 32 13 13 "Concrete Paving" for construction and maintenance of cement concrete pavement for temporary roads and paved areas.
5. Section 01 33 00 "Submittals Procedures" for submission of construction and maintenance data and approvals.
6. Section 01 77 00 "Closeout Procedures" for demonstration, plant startup, and project closeout.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to Architect, occupants of Project, testing agencies, and authorities having jurisdiction.

B. Sewer Service: Pay sewer-service use charges for sewer usage by all entities for construction operations.

C. Water Service: Owner will pay water-service use charges for water used by all entities for construction operations.

D. Electric Power Service: Owner will pay electric-power-service use charges for electricity used by all entities for construction operations.

E. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations. Backflow Prevention device(s) shall be required at all connection locations to Owner’s water system.

F. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
   1. Field surveying.
   2. Close out procedures.
   3. Starting of systems.
   4. Demonstration and instructions.
   5. Project record documents.
   6. Operation and maintenance data.
   7. Spare parts and maintenance products.
   8. Product warranties and product bonds.
   9. Substantial Completion.
   10. Final Completion.
   11. Examination.
   12. Execution.
   13. Cutting and patching.
   14. Protecting installed construction.
   15. Final cleaning.
   16. Certification, Conveyance, and Plats.

B. Related Requirements:
   1. Section 01 33 00 – Submittal Procedures.
   2. Section 01 50 00 – Temporary Facilities and Controls.

1.2 DEFINITIONS

A. Substantial Completion: Stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

B. List of Incomplete Items (Punch List): Contractor-prepared list of items to be completed or corrected prior to Substantial Completion and Final Completion.

1.3 FIELD SURVEYING

A. A Licensed Land Surveyor shall be employed to provide a preconstruction survey of all utilities and appurtenances per the approved construction plans. Certifications of this work shall be provided to OWNER prior to installation. Any conflicts noted with the survey shall be noted and changes to the construction plans shall be approved prior to installation.

B. Locate and protect survey control and reference points. Promptly notify Engineer of discrepancies discovered.

C. Control datum for survey is established by Engineer-provided survey and indicated on Drawings.

D. Verify easements; confirm Drawing dimensions and elevations.

E. Proposed easements shall be staked prior to installation of utilities.

F. Provide field surveying and recording services. Establish elevations, lines, and points using recognized survey practices.

G. Protect survey control points prior to starting Site Work; preserve permanent reference points during construction.

H. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Engineer.

I. Final Record Survey: Prior to Substantial Completion, submit markup of final record in accordance with Project Record Documents in this section.

1.4 CLOSEOUT PROCEDURES

A. Prerequisites to Utility Activation: Complete following items before requesting Utility Activation, either for entire Work or for portions of Work:
   1. Complete testing, adjusting, balancing of systems and equipment, demonstrations, and instructions to OWNER's operating and maintenance personnel as specified in compliance with this Section.
   2. Submit maintenance manuals, spare parts, Project record documents, markups, gravity sewer video inspection, warranty letters and other similar final record data in compliance with this Section.
   3. Coordinate Final Walk-Through inspection by OWNER to establish basis for request that Work is complete.
   4. Make final change-over of locks and transmit keys directly to OWNER. Advise OWNER's personnel of changeover in security provisions.
   5. Discontinue or change over and remove temporary facilities and services from Project Site.
   6. Perform final cleaning according to this Section.

1.5 STARTING OF SYSTEMS

A. Coordinate schedule for startup of various equipment and systems.

B. Notify Engineer seven days prior to startup of each item.

C. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions which may cause damage.

D. Verify that tests, meter readings, and electrical characteristics agree with those required by equipment or system manufacturer.

E. Verify that wiring and support components for equipment are complete and tested.

F. Execute startups under supervision of manufacturer's representative or Contractors' personnel according to manufacturer's instructions.

G. When specified in individual Specification Sections, require manufacturer to provide authorized representatives who will be present at Site to inspect, check, and approve equipment or system installation prior to startup and will supervise placing equipment or system in operation.

H. Submit a written report that equipment or system has been properly installed and is functioning correctly.

1.6 DEMONSTRATION AND INSTRUCTIONS

A. Demonstrate operation and maintenance of products to OWNER personnel.

B. Demonstrate Project equipment and instructed by authorized manufacturer's representative who is knowledgeable about the Project.

C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with OWNER personnel in detail to explain all aspects of operation and maintenance.

D. Demonstrate startup, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

E. Demonstration shall take place over abbreviated half-day schedule for NYSTA end-user operators.

1.7 PROJECT RECORD DOCUMENTS

A. Maintain one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Specifications.
   3. Reviewed Shop Drawings, product data, and Samples.
   4. Manufacturer's instruction for assembly, installation, and adjusting.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Record information concurrent with construction progress, not less than weekly. Report recording status at progress meetings.

D. Specifications: Legibly mark and record, at each product Section, description of actual products installed, including the following:
   1. Manufacturer's name and product model and number.
   2. Product substitutions or alternates used.
   3. Changes made by Addenda and modifications.

E. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction as follows:
   1. Include Contract modifications such as Addenda, supplementary instructions, change directives, field orders, minor changes in the Work, and change orders.
   2. Include locations of concealed elements of the Work.
   3. Identify depth of buried utility lines and provide dimensions showing distances from permanent facility components that are parallel to utilities.
   4. Dimension ends, corners, and junctions of buried utilities to permanent facility components using triangulation.
   5. Identify and locate existing buried or concealed items encountered during Project.
   6. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
   7. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
   8. Field changes of dimension and detail.
   9. Details not on original Drawings.

F. Certified, surveyed record drawings (“as-built” plans), sealed by a NY licensed Professional Land Surveyor shall be furnished to the OWNER by the Contractor of Record upon completion and acceptance of the infrastructure by the OWNER. The “as-built” plans shall conform to the as-built checklist included herein.

G. For sewer projects, the “as-built” plans shall include accurate information regarding pipe size, pipe material, pipe length, manhole construction (size of manhole, invert, rim, alignment, location), services, and pump stations along with any relevant rights- of-way, property boundaries and easements. Plans shall also include sewer profiles showing any utility crossings and separations along with the aforementioned information.

H. For pump station projects, the “as-built” plans shall include accurate information regarding interior and exterior pipe sizes, material, length, as well as all structural dimensions of the pump station, all electrical equipment (make and model), pump in- formation (make, model, and impeller size), and site layout information. Top plan, sectional plan, and full cross-section views are required on the “as-built” plans.

I. For force main projects, the “as-built” plans shall include accurate information regarding pipe size, pipe material, pipe length, horizontal and vertical elevations, valve locations (and turn direction), hydrant locations, fitting locations, services, and blow-off locations along with any relevant rights-of-way, property boundaries and easements.

J. The final elevation of the force main shall be surveyed every 50', at each change in horizontal and vertical direction, and at each valve location with final grade in place.

K. For water projects, the "as-built" plans shall include accurate information regarding pipe size, pipe material, pipe length, horizontal and vertical elevations, valve locations (and turn direction), hydrant locations, fitting locations, services, and blow-off locations along with any relevant rights-of-way, property boundaries and easements.

L. The final elevation of the water main shall be surveyed every 50', at each change in horizontal and vertical direction, and at each valve location with final grade in place.

M. Submit marked-up paper copy documents to Engineer at each payment request and before Substantial Completion.

N. Digital "as-built" information shall be provided by the Engineer of Record in AutoCAD format and PDF format with seal, signature, and date by surveyor and engineer and shall include all information required on the "as-built" drawings. No other digital for- mats will be accepted.

1.8 OPERATION AND MAINTENANCE DATA

A. Submit in PDF composite electronic indexed file.

B. Submit data bound in 8-1/2 x 11-inch text pages, three D side ring binders with durable plastic covers.

C. Prepare binder cover with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS," title of Project, and subject matter of binder when multiple binders are required.

D. Internally subdivide binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.

E. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

F. Contents: Prepare table of contents for each volume, with each product or system description identified, typed on white paper, in three parts as follows:
   1. Part 1: Directory, listing names, addresses, and telephone numbers of Engineer, Contractor, Subcontractors, and major equipment suppliers.
   2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by Specification Section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Include the following:
      a. Significant design criteria.
      b. List of equipment.
      c. Parts list for each component.
      d. Operating instructions.
      e. Maintenance instructions for equipment and systems.

f. Contact information for warranty items.
g. Safety precautions are to be taken when operating and maintaining or working near equipment.

3. Part 3: Project documents and certificates, including the following:
   a. Shop Drawings and product data.
   b. Certificates.
   c. Photocopies of warranties and bonds.

1.9 SPARE PARTS AND MAINTENANCE PRODUCTS

A. Furnish spare parts, maintenance, and extra products in quantities specified in individual Specification Sections.

B. Deliver to Project Site and place in location as directed by OWNER; obtain receipt prior to final payment.

1.10 PRODUCT WARRANTIES AND PRODUCT BONDS

A. Obtain warranties and bonds executed in duplicate by responsible Subcontractors, suppliers, and manufacturers within ten days after completion of applicable item of Work.

B. Execute and assemble transferable warranty documents and bonds from Subcontractors, suppliers, and manufacturers.

C. Verify documents are in proper form, contain full information, and are notarized.

D. Co-execute submittals when required.

E. Include table of contents and assemble in three D side ring binder with durable plastic cover.

F. Submit prior to final completion.

G. Time of Submittals:
   1. For equipment or component parts of equipment put into service during construction with OWNER’s permission, submit documents within ten days after acceptance.
   2. Make other submittals prior to final completion.

1.11 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Engineer. Label with manufacturer's name and model number.
    a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Owner's signature for receipt of submittals.
5. Submit testing, adjusting, and balancing records.
6. Submit sustainable design submittals not previously submitted.
7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
6. Advise Owner of changeover in utility services.
7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Complete final cleaning requirements.
10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, which must be completed or corrected before

certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.12 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
   1. Certified List of Incomplete Items: Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. Certified copy of the list will state that each item has been completed or otherwise resolved for acceptance.
   2. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
   3. Submit pest-control final inspection report.
   4. Submit Final Completion photographic documentation.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
   1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.13 LIST OF INCOMPLETE ITEMS

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
   1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor, listed by room or space number.
   2. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.
   3. Include the following information at the top of each page:
      a. Project name.
      b. Date.
      c. Name of Engineer.
      d. Name of Contractor.
      e. Page number.
   4. Submit list of incomplete items in the following format:
      a. MS Excel Electronic File: Engineer will return annotated file.
      b. PDF Electronic File: Engineer will return annotated file.

c. Web-Based Project Software Upload: Utilize software feature for creating and updating lists of incomplete items (punch list).
d. Three Paper Copies: Engineer will return two copies.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that existing Site conditions are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Examine and verify specific conditions described in individual Specification Sections.

C. Verify that utility services are available with correct characteristics and in correct locations.

3.2 EXECUTION

A. Comply with manufacturer's installation instructions, performing each step, in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.

B. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

C. Verify that field measurements are as indicated on approved Shop Drawings or as instructed by manufacturer.

D. Conduct a preconstruction survey, staking out all proposed easements, right-of-ways, and proposed utilities. Provide a certificate of each survey once completed.

E. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
1. Secure Work true to line and level and within specified tolerances, or if not specified, industry-recognized tolerances.
2. Physically separate products in place, provide electrical insulation, or provide protective coatings to prevent galvanic action or corrosion between dissimilar metals.

F. Allow for expansion of materials.

G. Mounting Heights: Where not indicated, mount individual units of Work at industry recognized standard mounting heights for application indicated.
   1. Refer questionable mounting heights choices to Engineer for final decision.

H. Adjust operating products and equipment to ensure smooth and unhindered operation.

I. Clean and perform maintenance on installed Work as frequently as necessary through remainder of construction period. Lubricate operable components as recommended by manufacturer.

3.3 CUTTING AND PATCHING

A. Employ skilled and experienced installers to perform cutting and patching.

B. Submit written request in advance of cutting or altering elements affecting:
   1. Structural integrity of element.
   2. Integrity of weather-exposed or moisture-resistant elements.
   3. Efficiency, maintenance, or safety of element.
   4. Work of OWNER or separate contractor.

C. Execute cutting, fitting, and patching including excavation and fill to complete Work and to:
   1. Fit the several parts together, to integrate with other Work.
   2. Uncover Work to install or correct ill-timed Work.
   3. Remove and replace defective and nonconforming Work.
   4. Provide openings in elements of Work for penetrations of mechanical and electrical Work.

D. Execute Work by methods to avoid damage to other Work and to provide proper surfaces to receive patching and finishing.

E. Cut masonry and concrete materials using masonry saw or core drill.

F. Restore Work with new products according to requirements of Contract Documents.

G. Fit Work tight to pipes, sleeves, ducts, conduits, and other penetrations through surfaces.

H. Maintain integrity of wall, ceiling, or floor construction, completely seal voids.

I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest joint or intersection; for equipment assembly, refinish entire unit.

J. Identify hazardous substances or conditions exposed during the Work to Engineer for decision or remedy.

3.4 PROTECTING INSTALLED CONSTRUCTION

A. Protect installed Work and provide special protection where specified in individual Specification Sections.

B. Provide temporary and removable protection for installed products. Control activity in immediate Work area to prevent damage.

C. Protect corrosion protected (coated) surfaces. When activity is necessary, obtain recommendations for protection from coating material manufacturer.

D. Prohibit traffic from landscaped areas.

3.5 FINAL CLEANING

A. Execute final cleaning prior to final Project assessment.

B. Clean Site and Facilities; sweep paved areas, rake clean landscaped surfaces.

C. Remove waste and surplus materials, rubbish, and construction facilities from Site.

3.6 CERTIFICATION, CONVOYANCE, AND PLATS

A. Follow the Certification, Conveyance, and requirements outlined in the Development Process and Procedures Manual.

B. Record Drawings shall be provided with accurate information including final horizontal and vertical locations of all utilities.

C. The final survey shall be conducted with respect to the final grade. All horizontal and vertical direction changes shall be captured, and each valve location.

END OF SECTION

SECTION 02 41 00

DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 specification sections, apply to this section.

1.2 SUMMARY

A. Section Includes

1. Demolition

B. Related Sections

1. Section 31 25 00 – Erosion and Sediment Controls
2. Section 01 33 00 - Submittal Procedures
3. Section 01 77 00 - Closeout Procedures

1.3 DEFINITIONS

A. ACM – Asbestos-containing material.

B. Demolition – Dismantling, razing, destroying, or wrecking of any fixed building or structure or any part thereof.

C. Modify – Provide all necessary material and labor to modify an existing item to the condition indicated or specified.

D. Relocate – Remove, protect, clean and reinstall equipment, including electrical, instrumentation, and all ancillary components require to make the equipment fully functional, to the new location identified on the Drawings.

E. Renovation – Altering a facility or one or more facility components in any way.

F. Salvage/Salvageable – Remove and deliver, to the specified location(s), the equipment, building materials, or other items so identified to be saved from destruction, damage, or waste; such property is to remain that of the Owner. Unless otherwise specified, title to items identified for demolition shall revert to the Contractor.

G. Universal Waste Thermostat – A temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of 40 CFR 273.

1.4 REGULATORY AND SAFETY REQUIREMENTS

A. Comply with federal, state, and local hauling and disposal regulations. In addition to any applicable requirements, Contractor's safety requirements shall conform to ANSI A10.6.

1.5 USE OF EXPLOSIVES

A. Use of explosives for demolition is not permitted.

1.6 ENVIRONMENTAL PROTECTION

A. Prior to beginning demolition, the Contractor shall establish temporary erosion and

SECTION 03 30 00

CONCRETE FOR UTILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Formwork for cast-in-place concrete.
2. Reinforcing bars.
3. Welded wire fabric.
4. Reinforcement accessories.
5. Cast-in-Place Concrete

B. Related Sections:
1. Section 01 33 00 – Submittal Procedures.
2. Section 01 77 00 – Closeout Procedures.

1.3 REFERENCE STANDARDS

A. American Concrete Institute
1. ACI 211 – Guide for Selecting Proportions for Concrete.
2. ACI 301 – Specifications for Structural Concrete.
3. ACI 304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete.
4. ACI 305 – Guide to Hot Weather Concreting.
5. ACI 306 – Guide to Cold Weather Concreting.
6. ACI 308 – Guide for External Curing of Concrete.
7. ACI 309 – Guide for Consolidation of Concrete.
8. ACI 318 – Code Requirements for Reinforced Concrete.
9. ACI 347 – Guide to Formwork Concrete.
10. ACI 350 – Code Requirements for Environmental Engineering (Water & Wastewater) Concrete Structures.

B. ASTM
1. ASTM A615 - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
2. ASTM A1064 - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
3. ASTM C31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
4. ASTM C33 - Standard Specification for Concrete Aggregates.
5. ASTM C94 - Standard Specification for Ready-Mixed Concrete.
6. ASTM C150 - Standard Specification for Portland Cement.
7. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.

1.4 SUBMITTALS

A. Concrete-Mix designs.

B. Reinforcing steel.

SECTION 06 50 00

GLASS FIBER REINFORCED PLASTIC TANK COVERS

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Glass fiber reinforced plastic (FRP/GRP) tank cover deck panels.
B. Glass fiber reinforced plastic (FRP/GRP) structural supports.
C. Flashing and trim.
D. Fasteners and anchors.
E. Gaskets.
F. Accessories and appurtenances.
G. Covers for these tanks, channels, and other areas:
    1. Anoxic Tank
    2. Clearwell

1.2 RELATED SECTIONS

A. 03 30 00 – CONCRETE FOR UTILITIES
B. 01 33 00 – Submittal Procedures
C. 01 77 00 – Closeout Procedures

1.3 REFERENCES

A. ASTM D638, Standard Test Method for Tensile Properties of Plastics
B. ASTM D790, Standard Test Method for Flexural Properties of Plastics
C. ASTM D695, Standard Test Method for Compressive Strength of Plastics
D. ASTM E84, Standard Test Method for Surface Burning Characteristics of Plastics

1.4 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used including:
    1. Calculations, design data, and test reports as applicable indicating compliance with requirements.
    2. Storage and handling instructions.
    3. Installation instructions.
B. Drawings including layouts, product description, connection and framing details, fastener types and spacing.
C. Miscellaneous certifications.

1.5 QUALITY ASSURANCE

A. Tank cover supplier shall manufacture and fabricate all FRP components in its own facility, which must be ISO 9001 certified.

B. Tank cover manufacturer shall have completed minimum of ten (10) projects of similar type as required in this scope within the last five years.

C. Contractor shall verify all field dimensions for development of manufacturer's drawings.

D. Contractor shall review and confirm in writing approval of manufacturer's drawings.

1.6 PRODUCT SUBSTITUTIONS

A. Substitutions shall be considered if Engineer has received written request at least two weeks prior to bid date. If substitutions are acceptable, bidders shall be notified by addendum.

SECTION 09 67 23

RESINOUS FLOORING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This section includes the following:
   1. Resinous flooring system as shown on the drawings and in schedules.

B. Related sections include the following:
   1. Concrete for Utilities, section 03 30 00
   2. Section 01 33 00 – Submittal Procedures
   3. Section 01 77 00 – Closeout Procedures

1.3 SYSTEM DESCRIPTION

A. The work shall consist of preparation of the substrate, the furnishing and application of a cementitious urethane based self-leveling seamless flooring system with Flintshot quartz aggregate broadcast with epoxy grout coat and urethane topcoat.

B. The system shall have the color and texture as specified by the Owner with a nominal thickness of 3/16 inch. It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.

C. Cove base (if required) to be applied where noted on plans and per manufacturers standard details unless otherwise noted

1.4 SUBMITTALS

A. Product Data: Latest edition of Manufacturer's literature including performance data and installation procedures.

B. Manufacturer’s Safety Data Sheet (SDS) for each product being used.

C. Samples: A 3 x 3 inch square sample of the proposed system. Color, texture, and thickness shall be representative of overall appearance of finished system subject to normal tolerances.

D. Mock-up: provide 4’x4’ to be approved in writing by owner.

1.5 QUALITY ASSURANCE

A. The Manufacturer shall have a minimum of 10 years experience in the production, sales, and technical support of epoxy and urethane industrial flooring and related materials.

B. The Applicator shall have experience in installation of the flooring system as confirmed by the manufacturer in all phases of surface preparation and application of the product specified.

C. No requests for substitutions shall be considered that would change the generic type of the specified System.

recommendations.

1.10 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures.
B. Section 01 77 00 – Closeout Procedures.

PART 2 – PRODUCTS

2.01 GENERAL

A. All paint and accompanying materials shall be delivered in original unopened containers bearing the manufacturer's label and all special markings and directions thereon. All paint and accompanying materials shall be used strictly in accordance with the manufacturer's recommendations, except as directed and approved in writing by the Owner or his representative.

B. Materials specified are those that have been evaluated for the specific service on this project. Products of the Tnemec Company, Inc. are listed to establish a standard of quality. Equivalent materials of other manufacturers may be submitted for approval of the Engineer.

2.02 PAINTING SCHEDULE

A. The schedule which follows includes the various items and surfaces required to be painted, the associated Finish Numbers, the types of painting materials to be used for prime, intermediate and finish coats and minimum dry film mil thickness required per coat. In general, the first material mentioned in any given painting system is a prime coat, which for prefabricated and shop-fabricated items should be applied at the shop. The remaining materials are normally field applied finish coats.

B. The intent of the Schedule is to provide a completely painted or coated system for all of the work as shown on the Drawings and specified herein, but the absence of any item or surface from the Schedule shall not relieve the Contractor from the responsibility for preparing and painting such item or surface as if it had been so included in the Schedule.

C. The Painting Schedule is divided into three sub-schedules: Painting for Buildings; and Painting for Equipment and Piping. The Painting Schedule is a general or standard schedule, and all items presented may not be applicable.

SECTION 26 05 19

LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures

B. Section 01 77 00 – Closeout Procedures

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

A. Copper Conductors: Comply with NEMA WC 70/ICEA S-95-658.

B. Conductor Insulation: Comply with NEMA WC 70/ICEA S-95-658 for Type THHN-2-THWN-2, Type XHHW-2, and Type SO.

C. Multiconductor Cable: Comply with NEMA WC 70/ICEA S-95-658 for Type SO with ground wire.

D. Self Regulating Heat Trace Cable: Comply with NEC Article 427, IEEE 515/515.1. Comply with IEEE 60079-30 for hazardous locations. Must be UL listed.

1. Basis of Design is Chromolox Self Regulating Heating Cable and Chormolox attachment and termination devices and Chromolox ITC2 control panel.

2.2 CONNECTORS AND SPLICES

A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

B. Listed power connection boxes, splice boxes, tee sections, end seals, and aluminum tape for use with heat trace cable.

2.3 SYSTEM DESCRIPTION

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with NFPA 70.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

B. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

SECTION 26 05 26

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 QUALITY ASSURANCE

A. Comply with UL 467 for grounding and bonding materials and equipment.

1.2 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures
B. Section 01 77 00 – Closeout Procedures

PART 2 - PRODUCTS

2.1 CONDUCTORS

A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.

B. Bare Copper Conductors: Size conductors per NFPA 70, unless noted otherwise.

1. Solid Conductors: ASTM B 3.
2. Stranded Conductors: ASTM B 8.
3. Tinned Conductors: ASTM B 33.

C. Grounding Bus: Predrilled rectangular bars of annealed copper, 1/4 by 4 inches in cross section, with 9/32-inch holes spaced 1-1/8 inches apart. Stand-off insulators for mounting shall comply with UL 891 for use in switchboards, 600 V and shall be Lexan or PVC, impulse tested at 5000 V.

2.2 CONNECTORS

A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.

B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy.

C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

D. Bus-Bar Connectors: Mechanical type, cast silicon bronze, solderless compression -type wire terminals, and long-barrel, two-bolt connection to ground bus bar.

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger unless otherwise indicated.

SECTION 26 05 33

RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 DEFINITIONS

A. GRC: Galvanized rigid steel conduit.

LFMC: Liquid-tight flexible metal conduit

RGS: Rigid Galvanized Steel

PVC Coated RMC: Polyvinyl chloride (PVC) coated rigid metal conduit

EMT: Electrical metallic tubing

1.2 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures
B. Section 01 77 00 – Closeout Procedures

PART 2 - PRODUCTS

2.1 METALLIC AND NON-METALLIC CONDUITS, TUBING, AND FITTINGS

A. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. GRC: Comply with ANSI C80.1 and UL 6.

C. EMT: Comply with ANSI C80.3 and UL 797.

D. PVC Schedule 40 and 80: Comply with TBD

E. PVC coated RMC: Comply with TBD

F. FMC: Comply with UL 1; zinc-coated steel.

G. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.

H. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.
   1. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 886 and NFPA 70.
   2. Fittings for EMT:
      a. Material: Steel.
      b. Type: Setscrew or compression.
   3. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.

SECTION 26 05 43

UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 DEFINITIONS

A. Trafficways: Locations where vehicle or pedestrian traffic is a normal course of events.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Factory-Fabricated Handholes and Boxes Other Than Precast Concrete:

a. Include dimensioned plans, elevations, and fabrication and installation details.
b. Include duct entry provisions, including locations and duct sizes.
c. Include cover design.

1.3 FIELD CONDITIONS

A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by the Authority or others unless permitted under the following conditions, and then only after arranging to provide temporary electrical service according to requirements indicated:

1. Notify the Authority no fewer than two days in advance of proposed interruption of electrical service.
2. Do not proceed with interruption of electrical service without the Authority written permission.

B. Ground Water: Assume ground-water level is 36 inches below ground surface unless a higher water table is noted on Drawings.

1.4 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures
B. Section 01 77 00 – Closeout Procedures

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR DUCTS AND RACEWAYS

A. Comply with ANSI C2.

2.2 CONDUIT

A. Rigid Steel Conduit: Galvanized. Comply with ANSI C80.1.

B. RNC: NEMA TC 2, Type EPC-40-PVC and Type EPC-80-PVC, UL 651, with matching fittings by same manufacturer as the conduit, complying with NEMA TC 3 and UL 514B.

SECTION 26 05 44

SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures
B. Section 01 77 00 – Closeout Procedures

PART 2 - PRODUCTS

2.1 SLEEVES

A. Wall Sleeves:
   1. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, plain ends.

B. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies: Galvanized-steel sheet; 0.0239-inch minimum thickness; round tube closed with welded longitudinal joint, with tabs for screw-fastening the sleeve to the board.

C. Molded-PE or -PP Sleeves: Removable, tapered-cup shaped, and smooth outer surface with nailing flange for attaching to wooden forms.

D. Sleeves for Rectangular Openings:
   1. Material: Galvanized sheet steel.
   2. Minimum Metal Thickness:
      a. For sleeve cross-section rectangle perimeter less than 50 inches and with no side larger than 16 inches, thickness shall be 0.052-inch.
      b. For sleeve cross-section rectangle perimeter 50 inches or more and one or more sides larger than 16 inches, thickness shall be 0.138-inch.

E. Link-seal Modular Seal Rubber Links:
   1. Shall be modular, mechanical type, consisting of inter-locking synthetic rubber links shaped to continuously fill the annular space between the pipe and the wall opening. The elastomeric element shall be sized and selected per manufacturer's sizing procedure and have the following properties as designated by ASTM. Coloration shall be throughout elastomer for positive field inspection. Each link shall have a permanent identification of the size and manufacturer's name molded into it.
   2. For Standard Service Applications = Model C -40 to +250ºF (-40 to +121ºC) EPDM = ATSM D2000 M3 BA510 Color = Black

2.2 SLEEVE-SEAL SYSTEMS

A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.
   1. Sealing Elements: EPDM rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
   2. Pressure Plates: Plastic.

SECTION 26 05 53

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 QUALITY ASSURANCE

A. Comply with ANSI A13.1.

B. Comply with NFPA 70.

C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.

D. Comply with ANSI Z535.4 for safety signs and labels.

E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.2 COORDINATION

A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual; and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.

B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

C. Coordinate installation of identifying devices with location of access panels and doors.

D. Install identifying devices before installing acoustical ceilings and similar concealment.

1.3 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures
B. Section 01 77 00 – Closeout Procedures

PART 2 - PRODUCTS

2.1 CONDUCTOR IDENTIFICATION MATERIALS

A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.

B. Write-On Tags: Polyester tag, 0.015 inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.

SECTION 262726

WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. GFCI receptacles, 125 V, 20 A.
   2. Wall plates.
B. Related Sections:
   1. Section 01 33 00 – Submittal Procedures
   2. Section 01 77 00 – Closeout Procedures

1.3 DEFINITIONS

A. AFCI: Arc-fault circuit interrupter.

B. BAS: Building automation system.

C. EMI: Electromagnetic interference.

D. GFCI: Ground-fault circuit interrupter.

E. Pigtail: Short lead used to connect a device to a branch-circuit conductor.

F. RFI: Radio-frequency interference.

G. SPD: Surge protective device.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer's installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of product.

E. Shop Drawings: List of legends and description of materials and process used for premarking wall plates.

SECTION 26 28 16

ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Fusible switches.
2. Nonfusible switches.
3. Receptacle switches.
4. Molded-case circuit breakers (MCCBs).
5. Molded-case switches.
6. Enclosures.

B. Related Sections:

1. Section 01 33 00 – Submittal Procedures.
2. Section 01 77 00 – Closeout Procedures.

1.3 DEFINITIONS

A. NC: Normally closed.

B. NO: Normally open.

C. SPDT: Single pole, double throw.

1.4 SUBMITTALS

A. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.

B. Manufacturer’s installation instructions shall be provided along with product data.

C. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).

D. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include nameplate ratings, dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

1. Enclosure types and details for types other than NEMA 250, Type 1.

1.4 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from the Authority and authorities having jurisdiction.

2. Provide alternate routes around closed or obstructed traffic ways if required by the Authority or authorities having jurisdiction.

B. Utility Locator Service: Notify UDig New York at 811 and local utility agencies for area where Project is located before beginning earth moving operations.

C. Do not commence earth moving operations until temporary erosion- and sedimentation-control measures, specified in the Contract Documents, are in place.

1.5 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures
B. Section 01 77 00 – Closeout Procedures

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487 , or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487 , or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Subbase Course: Suitable material conforming to NYSDOT Item 304.12, Type 2. Comply with the gradation and material requirements specified below:

E.

SIEVE		PERCENT PASSING (%) BY WEIGHT
SIEVE SIZE	SIZE OPENING	
2 inch	50 mm	100
¼ inch	6.3 mm	25 – 60
No. 40	425 µm	5 – 40
No. 200	75 µm	0 - 10

1. Magnesium Sulfate Soundness Test: 20 percent maximum loss by weight after four test cycles.

2. Plasticity Index: The plasticity index of the material passing the No. 40 mesh sieve will not exceed 5.0.

3. Elongated Particles: Not more than 30 percent, by weight, of the particles retained on a ½ inch sieve will consist of flat or elongated particles. A flat or elongated particle is defined as one which as its greatest dimension more than three times its least dimension.

SECTION 31 23 16

EXCAVATION FOR UTILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Preconstruction Site Photos
2. Site Clearing
3. Trenching
4. Rock Removal
5. Dewatering
6. Backfill
7. Warning Tape and Tracer Wire
8. Utility Marker
9. Disposal of Spoils
10. Flowable Fill

B. Related Sections:
1. Section 31 25 00 – Erosion and Sedimentation Control
2. Section 01 33 00 – Submittal Procedures
3. Section 01 77 00 – Closeout Procedures

1.3 DEFINITIONS

A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments the surface soil can be subsoil.

C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in- place surface soil and is the zone where plant roots grow.

D. Plant Protection Zone: Area surrounding individual trees and groups of trees to be protected during construction as indicated on the Construction Drawings.

E. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

F. Rock removal shall consist of the removal of all sound, solid rock which is in its original position in ledges, bedded deposits, or unstratified masses and which is of such hardness and texture that it cannot be loosened or broken down and removed without drilling, wedging, or blasting.

1. Additionally, any boulders, stones, or pieces of masonry encountered with a

SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section

1.2 SUMMARY

A. Section Includes:
   1. Implementation of temporary and permanent erosion and sedimentation controls.

B. Related Sections
   1. Section 31 23 16 – Excavation for Utilities
   2. Section 32 92 00 – Turf and Grasses
   3. Section 01 33 00 – Submittal Procedures
   4. Section 01 77 00 – Closeout Procedures

1.3 REFERENCES

A. New York State Department of Environment and Conversation (NYSDEC)
   1. General NPDES Permit for Discharges of Storm Water Associated with Construction Activities, latest version.
   2. NYS Erosion & Sediment Control Handbook, latest edition.

B. In the event of conflict between these requirements and pollution control laws, rules or regulations, or other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

1.4 SYSTEM DESCRIPTION

A. The work specified in this Section consists of providing, maintaining, and removing temporary erosion and sedimentation control.

B. The Contractor shall follow the latest edition of the New York State Erosion and Sedimentation Control Handbook.

C. Temporary erosion controls include, but are not limited to, grassing, mulching, watering and reseeding on-site surfaces and spoil and borrow area surfaces, and providing interceptor ditches at ends of berms and at locations which will ensure that erosion during construction will be either eliminated or maintained in accordance with applicable regulations.

D. Temporary sedimentation controls include, but are not limited to, silt dams, traps, barriers, filter stone and appurtenances at the foot of sloped surfaces which will ensure that sedimentation pollution will be either eliminated or maintained in accordance with applicable regulations.

E. Temporary Erosion and Sedimentation Control: In general, temporary erosion and sedimentation control procedures shall be directed toward the following:
   1. Preventing soil erosion at the source.

SECTION 31 50 00

EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. Section includes temporary excavation support and protection systems.

B. Related Sections:
1. Section 01 33 00 – Submittal Procedures.
2. Section 01 77 00 – Closeout Procedures.

1.3 SUBMITTALS

A. Delegated-Design Submittal: For excavation support and protection systems, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

B. Professional Engineer: Experience with providing delegated-design engineering services of the type indicated, including documentation that engineer is licensed in the State in which Project is located.

C. Architect/Engineer will not be responsible for review shoring design. Furnish record copy for Architect and Structural Engineer.

1.4 FIELD CONDITIONS

A. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:

1. Notify Owner no fewer than two days in advance of proposed interruption of utility.

2. Do not proceed with interruption of utility without written permission.

B. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by a geotechnical engineer. Owner is not responsible for interpretations or conclusions drawn from the data.

1. Make additional test borings and conduct other exploratory operations necessary for excavation support and protection according to the performance requirements.

C. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements; establish exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.

SECTION 32 12 16

ASPHALT PAVING

PART 1 - GENERAL

1.1 DEFINITION

A. Hot-Mix Asphalt Paving Terminology: Refer to ASTM D 8 for definitions of terms.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.
   1. Job-Mix Designs: Certification, by New York State Department of Transportation (NYSDOT), of approval of each job mix proposed for the Work.

B. Material Certificates: For each paving material, from manufacturer.

C. Material Test Reports: For each paving material.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by NYSDOT.

B. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing indicated.

C. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of NYSDOT for asphalt paving work.

1.4 PROJECT CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:
   1. Tack Coat: Minimum surface temperature of 60 deg F.
   2. Asphalt Binder Course: Minimum surface temperature of 40 deg F and rising at time of placement.
   3. Asphalt Top Course: Minimum surface temperature of 60 deg F at time of placement.
   4. Asphalt Pavement Joint Adhesive: Minimum surface temperature of 40 degrees F.
   5. Joint Sealant: Minimum surface temperature of 50 degrees F.

1.5 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures

B. Section 01 77 00 – Closeout Procedures

PART 2 - PRODUCTS

2.1 AGGREGATES

A. General: Use materials and gradations that have performed satisfactorily in previous installations.

1.5 PROJECT CONDITIONS

A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of planting completion.
   1. Spring Planting: April 15th to June 15th.
   2. Fall Planting: August 15th to October 15th.

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

1.6 MAINTENANCE SERVICE

A. Initial Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable turf is established as determined by the Authority, but for not less than the following periods:
   1. Seeded Turf: 60 days from date of planting completion.
      a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.

1.7 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures
B. Section 01 77 00 – Closeout Procedures

PART 2 - PRODUCTS

2.1 SEED

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with New York State Consolidated Agriculture and Markets Law – AGM Article 9

B. General Lawn Seed Mix: NYSDOT 713-04 Seed Mix C

C. Temporary Cover Seed Mix: NYSDOT 713-04 Seed Mix F

2.2 INORGANIC SOIL AMENDMENTS

A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent.
   1. Provide lime in form of ground dolomitic limestone or calcitic limestone.

2.3 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
   1. Organic Matter Content: 50 to 60 percent of dry weight.

SECTION 33 01 30

SEWER FLOW CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this section.

1.2 SUMMARY

A. Section Includes:
   1. Sewer Flow Control

B. Related Section Includes:
   1. Section 01 33 00 – Submittal Procedures
   2. Section 01 77 00 – Closeout Procedures

1.3 SUBMITTALS

A. Sewer Flow Control
   1. Sewer Flow Control Plan showing:
      a. Schedule
      b. Schematic Drawing
      c. List of Equipment with:
         1) Pump size, capacity, and quantity
         2) Pipeline sizes and materials
      d. Emergency Procedures

1.4 QUALITY ASSURANCE

A. Minimum of 5 years' experience on similar projects with similar pipe lengths and diameters.

1.5 NOTIFICATIONS

A. Notify the Owner a minimum of 5 days before the anticipated beginning of all sewer activities. Notify Owner at least 24 hours prior to implementing any sewer flow control system.

PART 2 - PRODUCTS

2.1 GENERAL

A. The sewer flow control system shall provide adequate capacity and size to handle existing flows plus additional flows that may occur during periods of rain. The peak amount of flow to be bypassed and provide bypass flow capacity is 8,000 gpd.

B. Piping:
   1. Material:
      a. Small diameter flexible pipe may be used for low pressure and low flow conditions from 8-inch and smaller gravity sewer lines, as approved by the Engineer.
      b. Pipe material shall have a pressure rating of at least 1.5 times the operating pressure.
      c. Pipe material may be reused for subsequent flow bypass pumping system placements.

C. Bypass Pumps shall:
   1. Be fully automatic, self-priming units that do not require the use of foot valves or vacuum pumps in the priming system.
   2. Have a solids handling design with the ability to pump minimum 3-inch diameter

SECTION 33 05 05

SANITARY SEWER TESTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and DIVISION 01 specifications sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Hydrostatic and Leakage Testing for Pressure Sewer Piping.
   2. Infiltration and Exfiltration Testing for Gravity Sewer Piping.
   3. Vacuum Testing of Manholes.
   4. Exfiltration Testing of Manholes.
   5. Low Pressure Air Testing of Gravity Sewer Pipe.
   6. Mandrel Testing.

B. Related Requirements:
   1. Section 33 01 30 – Sewer Clow Control
   2. Section 33 05 61 – Concrete Manholes
   3. Section 33 31 11 – Gravity Sewer Pipe
   4. Section 33 31 26 – Sewer Force Main Pipe
   5. Section 33 31 27 – Low Pressure Sewer
   6. {ŜǑǘʎƻƴ лм оо лл ς {ǆōϒʎǘǘl·ƒ tǊƻǑŜŘǆǊŜă
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1.3 SUBMITTALS

A. For each test to be performed, submit as applicable:
   1. Testing procedures.
   2. List of test equipment.
   3. Testing sequence schedule.
   4. Provisions for disposal of flushing and test water.
   5. Certification of test gage calibration.

B. Qualifications statement for each testing agency engaged by the Contractor.

1.4 QUALITY ASSURANCE

A. No testing shall be performed without the Owner present.

SECTION 33 05 61

CONCRETE MANHOLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this section.

1.2 SUMMARY

A. Section Includes:
1. Precast Concrete Manholes
2. Butyl Rubber Sealant
3. Frame/Cover Assembly
4. Precast Concrete Grade Rings
5. Manhole Steps
6. Pipe Connections
7. Drop Connections
8. Manhole Coatings

B. Related Requirements:
1. Section 31 23 16 – Excavation for Utilities
2. Section 33 31 11 – Gravity Sewer Pipe
3. Section 01 33 00 - Submittal Procedures
4. Section 01 77 00 - Closeout Procedures

1.3 DEFINITIONS

A. Bedding: A type of specialized material placed under manhole prior to installation and subsequent backfill operations.

1.4 SUBMITTALS

A. Product Data:
1. Precast Concrete Manholes
2. Butyl Rubber Sealant
3. Frame/Cover Assembly
4. Precast Concrete Grade Rings
5. Manhole Steps
6. Pipe Connections
7. Drop Connections
8. Manhole Coatings

B. Shop Drawings:
1. Indicate structure locations and elevations.
2. Indicate sizes, elevations, and orientation of piping and inverts.
3. Signed and sealed by the qualified professional engineer responsible for their preparation, when requested by Owner.

1.5 QUALITY ASSURANCE

A. Obtain precast concrete products from a single source.

SECTION 33 05 63

CONCRETE VAULTS AND CHAMBERS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

A. Section Includes
   1. Precast concrete vaults and chambers for potable and non-potable water systems.
   2. Frames and covers.
   3. Access hatches.

B. Related Sections
   1. Section 33 05 61 - Concrete Manholes
   2. Section 01 33 00 - Submittal Procedures
   3. Section 01 77 00 - Closeout Procedures

1.3 SUBMITTALS

A. Product Data:
   1. Precast concrete vaults, chambers, and manholes.
   2. Precast concrete riser sections and grade rings.
   3. Gaskets, steps, joint sealant, and coatings.
   4. Frames and covers.
   5. Access hatches.

1.4 QUALITY ASSURANCE

A. Obtain precast concrete products from a single source.

B. Perform structural design for water and wastewater structures according to ACI 350.

C. Perform Work according to NPCA Quality Control Manual for Precast and Prestressed Concrete Plants.

D. Material and Fabrication:
   1. Circular Manhole Sections: Comply with ASTM C478.
   2. Single-Cell Box Culvert Sections: Comply with ASTM C1433.
   3. Underground Precast Concrete Utility Structures: Comply with ASTM C858.
   4. Other Structures: Comply with ASTM C913.

E. Welding:
   1. Structural Steel: Comply with AWS D1/1/D1.1M.
   2. Reinforcing Steel: Comply with AWS D1.4/D1.4M.

F. Welders Qualifications: AWS qualified within previous 12 months for employed weld types.

SECTION 33 31 11

GRAVITY SEWER PIPE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this section.

1.2 SUMMARY

A. Section Includes:
   1. Ductile Iron Pipe and Fittings
   2. PVC Pipe and Fittings

B. Related Requirements:
   1. Section 31-23-16 EXCAVATION FOR UTILITIES
   2. Section 33-01-30 SEWER FLOW CONTROL
   3. Section 33-05-05 SANITARY SEWER TESTING
   4. Section 01 33 00 Submittal Procedures
   5. Section 01 77 00 Closeout Procedures

1.3 SUBMITTALS

A. Product Data:
   1. PVC Pipe
      a. Pipe and fittings
      b. Joints

B. Sewer flow control plan. See Section 33 01 30 Flow Control.

C. Post-Construction CCTV. See Section 33 05 05 Sanitary Sewer Testing

1.4 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on Site in manufacturer's original packaging and inspect for damage.

B. Store materials according to manufacturer's instructions.

C. Protection:
   1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
   2. Provide additional protection, such as UV protection, according to manufacturer instructions.

PART 2 - PRODUCTS

2.1 POLYVINYL CHOLRIDE (PVC) PIPE

A. PVC pipe shall be manufactured in accordance with ASTM D3034 or ASTM F679 as applicable.

B. PVC material shall be 12454-B, 12454-C, or 13343-C as defined by ASTM D1784.

C. Effluent gravity sewer pipe shall be PVC SDR 35.

SECTION 33 31 26

SEWER FORCE MAIN PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Sanitary sewer force main pipelines.
   2. Valves.

B. Related Requirements:
   1. Section 31 23 16 – Excavation for Utilities
   2. Section 33 01 30 – Sewer Flow Control
   3. Section 33 05 05 – Sanitary Sewer Testing
   4. Section 01 33 00 – Submittal Procedures
   5. Section 01 77 00 – Closeout Procedures

1.3 SUBMITTALS

A. Action Submittals:

   1. Complete shop drawings and laying diagrams showing location of each pipe section as requested by the Owner. Drawings shall include:

      a. Pipe dimensions, pipe class, pipe joints, fitting fabrication details, and gasket properties,

   2. For ductile iron pipe indicate coating and lining data including its chemical resistance data.

   3. Sewer flow control plan. See Section 33 01 30 – Sewer Inspection, Cleaning, and Flow Control.

1.4 QUALITY ASSURANCE

A. Materials will be visually inspected by Owner or Inspector at the Site for conformance to the Specifications. At Owner's discretion, Contractor may be required to supply certified mill tests, samples, or other suitable form of verification that the material meets the required specifications. Any material that fails to conform to these Specifications shall be rejected and removed from the project by the Contractor at no cost to the Owner.

B. Installation of materials shall be performed by qualified personnel.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Accept materials on Site in manufacturer's original packaging and inspect for damage.

B. Store materials according to manufacturer's instructions.

C. Protection:

   1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.

SECTION 46 07 00

WASTEWATER PROCESS EQUIPMENT

PART 1 - GENERAL

The work under This project has been design, permitted and is being bid for construction based on the Amphidrome wastewater treatment system provided by FR Mahony. Alternate system may be allowed but will require detailed specifications and design submitted with the bid. This section includes furnishing and testing an Amphidrome® wastewater treatment system. The system is to treat a permitted flow of 8000 GPD of wastewater from the Chittenango Service Area, which includes public restrooms and food service facilities. All system components shall be supplied by a single process system manufacturer. The system shall be installed in accordance with the manufacturer's guidelines and in accordance with the details on the plans and specifications. The components of the system specified in this section shall include but are not limited to the following: reactor internals (i.e. block distribution under drains, stainless steel under drains, media support gravel, process filtration media, sump cover plate(s), return flow/backwash pumps, backwash check valve(s), backwash air blower(s), process air blower(s), denitrification process water supply pump(s), effluent pump(s), alkalinity mix and feed system, and system process control panel, etc. See Appendix 1 Scope of Supply

The Amphidrome® process system is especially designed for the simultaneous removal of BOD, ammonia, suspended solids, and nitrate-nitrogen. A license to use the process and apparatus shall be provided by the manufacturer of the Amphidrome® process system.

The manufacturer of the Amphidrome® process system included in this specification is F.R. Mahony & Associates, Inc. of Rockland, Massachusetts.

1.1 PROCESS PERFORMANCE

The Amphidrome® system shall be designed to produce an effluent that meets the design basis as indicated in Table 1, Design Criteria.

Table 1. Design Criteria

	INFLUENT	EFFLUENT
Flow = 8,000 gpd		
BOD_5 =	780 mg/L	≤ 30.0 mg/L
TSS =	1080 mg/L	≤ 30.0 mg/L
TKN =	150 mg/L	< 12 mg/L (Summer Months)
Fecal Coliforms =		< 200 colonies/100 mL
Min. Temperature =	11.0 °C	

1.2 RELATED REQUIREMENTS

A. Section 01 33 00 – Submittal Procedures
B. Section 01 77 00 – Closeout Procedures

C. Performance Requirements:
   1. The UV system will be designed to deliver a minimum UV dose of 30,000 µWs/cm2 or 30 mJ/cm2, in effluent with a UV Transmission of 65% after reductions for quartz sleeve absorption, sleeve fouling, and lamp aging. The basis for evaluating the UV dose delivered by the UV system will be the manufacturer's bioassay as carried out by an independent third party. Bioassay validation methodology to follow protocols described in US EPA Design Manual - Municipal Wastewater Disinfection (EPA/625/1-86/021), without exception.
   2. The UV system will produce an effluent conforming to the following discharge permit: 200 FC/100 ml, based on a 30 day Geometric Mean. Grab samples will be taken in accordance with the Microbiology Sampling Techniques found in Standard Methods for the Examination of Water and Wastewater, 19th Ed.

1.3 SUBMITTALS

A. Shop Drawings: Submit for review shop drawings showing the following:
   1. Complete description in sufficient detail to permit an item comparison with the specification.
   2. Dimensions and installation requirements.
   3. Descriptive information including catalog cuts and manufacturers specifications for components.
   4. Electrical schematics and layouts.
   5. Independent bioassay report demonstrating dose delivered under design conditions.
   6. Experience documentation.

1.4 GUARANTEE

A. Equipment: The equipment furnished under this section will be free of defects in material and workmanship, including damages that may be incurred during shipping for a period of 12 months from date of substantial completion
B. UV Lamps: The UV lamps to be warranted for a minimum of 12,000 hours (non-prorated) or thirty-six (36) calendar months from shipment, whichever comes first. Pro-rated lamp warranties will not be accepted. On / off cycles are limited to an average of four (4) per day without exception.

1.5 RELATED SECTIONS

A. Section 01 33 00 – Submittal Procedures
B. Section 01 77 00 – Closeout Procedures