



ERIE COUNTY WATER AUTHORITY

INTEROFFICE MEMORANDUM

December 28, 2021

To: Terrence D. McCracken, Secretary to the Authority

From: Clayton J. Johnson, Production Engineer

A handwritten signature in blue ink, appearing to read "CJJ", is written to the right of the "From:" line.

Subject: Contract W-034A
Storage Tank Refurbishing
Rice Hill, Wohlhueter, Crestwood
ECWA Project No. 202100193

The following documents are attached:

- Blue Authorization Form – this form provides the project name and project number, the action that is being requested of the Board (resolution to advertise for bids) and a list of approvals that are required prior to being acted on by the Board.
- One Project Manual.

The above referenced project was designed by Wendel WD Architecture, Engineering, Surveying & Landscape Architecture, PC.

Contract W-034A consists of the refurbishment, modifications, and improvements to three existing water storage tanks: Rice Hill, Wohlhueter, and Crestwood in the Town of Boston. The refurbishing includes recoating of the tank interiors and/or exteriors, miscellaneous modifications to tank appurtenances and valve vaults, correction of ANSI/OSHA safety-related deficiencies, and correction of sanitary and operational deficiencies.

The three tanks to be rehabilitated are owned by the Town of Boston and operated/maintained by the Authority as part of a lease management agreement. A signed cooperative agreement for the construction costs has been received from the Town of Boston.

This is one of three separate construction contracts (W-034A, W-034B, and W-034C) designed by Wendel as part of Contract W-34. The contracts were separated based on the type of tank (elevated vs. ground tanks) in an effort to get more competitive bids.

Budget Information (work to be completed/paid in 2022 and 2023):

- Department 250 Engineering/Construction
- Unit 2502 Construction
- Operation and Maintenance Item No. 74 Payments to Contractors -Tanks

CJJ:jmf

Attachments

cc: R.Stoll

L.Kowalski

M.Wymer

L.Lester

CONT-W-034-A-2101-X-012

ERIE COUNTY WATER AUTHORITY
 AUTHORIZATION FORM
 For Approval/Execution of Documents
 (check which apply)

Contract: W-034A **Project No.:** 202100193
Project Description: Storage Tank Refurbishing
Rice Hill, Wohlhueter, Crestwood

Item Description:

Agreement Professional Service Contract Amendment Change Order
 BCD NYSDOT Agreement Contract Documents Addendum
 Recommendation for Award of Contract Recommendation to Reject Bids
 Request for Proposals
 Other _____

Action Requested:

Board Authorization to Execute Legal Approval
 Board Authorization to Award Execution by the Chairman
 Board Authorization to Advertise for Bids Execution by the Secretary to the Authority
 Board Authorization to Solicit Request for Proposals
 Other _____

Approvals Needed:

APPROVED AS TO CONTENT:

<input checked="" type="checkbox"/> Sr. Production Engineer	<u></u>	Date: <u>12/28/2021</u>
<input checked="" type="checkbox"/> Chief Operating Officer	<u></u>	Date: <u>12/28/2021</u>
<input checked="" type="checkbox"/> Executive Engineer	<u> for/L. Kowalski</u>	Date: <u>12/28/2021</u>
<input checked="" type="checkbox"/> Director of Administration	<u></u>	Date: <u>12/28/2021</u>
<input checked="" type="checkbox"/> Risk Manager	<u></u>	Date: <u>12/28/2021</u>
<input checked="" type="checkbox"/> Chief Financial Officer	<u></u>	Date: <u>12/28/2021</u>
<input checked="" type="checkbox"/> Legal	<u></u>	Date: <u>12/28/2021</u>

APPROVED FOR BOARD RESOLUTION:

<input checked="" type="checkbox"/> Secretary to the Authority	<u></u>	Date: <u>12/28/21</u>
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Remarks: _____

Resolution Date: _____ **Item No:** _____

Set No:

Project Manual

Contract No.: W-034A

**Storage Tank Refurbishing
Rice Hill, Wohlhueter, Crestwood**

Project No. 202100193

January 2022

Erie County Water Authority
3030 Union Road
Cheektowaga, New York 14227



**ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK**

**CONTRACT NO: W-034A
STORAGE TANK REFURBISHING
RICE HILL, WOHLHUETER, CRESTWOOD**

ECWA PROJECT NO: 202100193

JANUARY 2022

**This Project Manual and Contract Drawings were prepared under the direct supervision of
a Professional Engineer by: Wendel**

(PE Seal)

**ERIE COUNTY WATER AUTHORITY
3030 Union Road
Cheektowaga, New York 14227**

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT No: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT No: 202100193

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ERIE COUNTY WATER AUTHORITY
3030 UNION ROAD
CHEEKTOWAGA, NEW YORK 14227

CONTRACT No: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT No: 202100193

NOTICE TO BIDDERS

The Erie County Water Authority will receive separate, sealed bids for the furnishing of all labor, plant, tools, equipment and specified materials or services for the ERIE COUNTY WATER AUTHORITY, W-034A Storage Tank Refurbishing at Rice Hill, Wohlhueter and Crestwood Tanks, TOWN OF BOSTON. The Work consists of a single contract for the refurbishing of three water storage tanks (two steel standpipes, one ground concrete) within the Erie County Water Authority system.

Bids must be received by the Erie County Water Authority no later than 11:00 a.m. EST, on Tuesday, February 1, 2022 at the Service Center Front Desk, Erie County Water Authority, 3030 Union Road, Cheektowaga, New York 14227.

All bid openings are recorded and posted on the ECWA website, along with the bids results.

When permitted, members of the public may be present to observe the bid opening. All attendees must bring a government-issued photo identification (driver's license preferred) and check-in with the ECWA receptionist before being allowed entry to the bid opening.

Whenever the Erie County Water Authority is operating under a Declaration of Emergency due to a pandemic or other general state of emergencies, members of the public may be precluded from being present at such bid opening.

ANYONE ENTERING THE SERVICE CENTER OR OTHER AUTHORITY FACILITIES IS SUBJECT TO SUCH RESTRICTIONS OR LIMITATIONS IN PLACE AT THE TIME OF ENTRY.

All bids being mailed (including FedEx, UPS, Priority Mail, etc.) or delivered shall be directed to the "SERVICE CENTER FRONT DESK" at the address listed above in a sealed envelope and be clearly marked on the outside of the mailing or hand-delivered envelope "BID ENCLOSED-ECWA Storage Tank Refurbishing – Rice Hill, Wohlhueter, Crestwood, Town of Boston".

Beginning at 9:00 a.m., on Tuesday, January 11, 2022, if bidders wish to purchase printed copies of the Contract Documents, they must be obtained through Avalon. The fee paid to Avalon is non-refundable. **Only official planholders will be allowed to bid on the project.** Bidders acknowledge that they are responsible for review of all components of the Contract Documents, including all specification sections and drawings, regardless of how many drawings they print and in which format/size they are printed.

The Contract Documents may be examined at the following locations:

Avalon Plan Room
www.avalonplanroom.com

Construction Exchange of Buffalo and WNY
2660 William Street
Cheektowaga, New York 14227

The Contract Document may be ordered through Avalon Plan Room at: www.avalonplanroom.com in the “Private Bid” section. To obtain the “Private Key Code” required to access the Contract Documents, contact Lauren Glose, PE (contact information included at the end of this section). If you do not have internet access or have questions on ordering, please contact Avalon Document Services at 716-995-7777.

A pre-bid meeting will be held at 1:00 p.m., EST, on Tuesday, January 18, 2022, starting at the Service Center followed by visits to each tank location. Attendance at the pre-bid meeting is recommended but is not mandatory.

All attendees must bring a government-issued photo identification (driver’s license preferred) and check-in with the ECWA receptionist before being allowed entry to the pre-bid meeting.

Each bid shall be accompanied by a certified check or bid bond in the amount of five percent (5%) of the amount of the bid.

In accordance with State Finance Law §§139-j and 139-k, all questions about meaning or intent of the bidding documents shall be submitted to the designated contact person in writing. The designated contact is Lauren Glose, PE, Wendel, Centerpointe Corporate Park, 375 Essjay Road, Suite 200, Williamsville, NY 14221, telephone 716.688.0766, email lglose@wendelcompanies.com.

The Erie County Water Authority reserves the right to reject any and all bids or to accept any bid deemed to be for the best interest of the Water Authority even though the proposal chosen may result in the award of the contract to a bidder whose bid is not mathematically lowest.

ERIE COUNTY WATER AUTHORITY

TERRENCE D. McCracken
Secretary to the Authority

Engineer:

Wendel

Centerpointe Corporate Park, 375 Essjay Road, Suite 200, Williamsville, NY 14221

Contact: Lauren Glose, PE

Email: lglose@wendelcompanies.com

Telephone: 716.688.0766

Fax: 716.625.6825

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT No: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT No: 202100193

SECTION 00200

INSTRUCTIONS TO BIDDERS

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ARTICLE 1 - DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.
- 1.02 Additional terms used in these Instructions to Bidders have the meanings indicated below which are applicable to both the singular and plural thereof.
- A. Bidder: The individual or entity who submits a Bid directly to OWNER.
 - B. Issuing Office: The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
 - C. Successful Bidder: The Bidder submitting a responsive Bid to whom OWNER (on the basis of OWNER'S evaluation as hereinafter provided) makes an award. Also known as CONTRACTOR.
 - D. ENGINEER: As defined in the Agreement, Section 00500, under Article 2.

ARTICLE 2 - BIDS RECEIVED

- 2.01 Refer to Notice to Bidders for information on receipt of Bids.

ARTICLE 3 - LOCATION AND SCOPE OF WORK

- 3.01 Refer to Section 01100 of the General Requirements for the location and scope of the Work.

ARTICLE 4 - COPIES OF BIDDING DOCUMENTS

- 4.01 Refer to Notice to Bidders for information on examination and procurement of Bidding Documents.
- 4.02 The Issuing Office is Service Center Front Desk of the Erie County Water Authority, 3030 Union Road, Cheektowaga, New York 14227. Documents shall be issued through Avalon Plan Room, Construction Exchange of Buffalo and WNY, 2660 William Street, Cheektowaga, New York 14227.
- 4.03 Complete sets of Bidding Documents must be used in preparing Bids; neither OWNER, nor ENGINEER assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

- 4.04 OWNER and ENGINEER in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant permission for any other use.

ARTICLE 5 - QUALIFICATIONS OF BIDDERS

- 5.01 Bidders shall be experienced in the kind of Work to be performed, shall have the necessary equipment therefore, and shall possess sufficient capital to properly execute the Work within the time allowed. Bids received from Bidders who have previously failed to complete work within the time required, or who have previously performed similar work in an unsatisfactory manner, may be rejected. A Bid may be rejected if Bidder cannot show that Bidder has the necessary ability, plant and equipment to commence the Work at the time prescribed and thereafter to prosecute and complete the Work at the rate or within the time specified. A Bid may be rejected if Bidder is already obligated for the performance of other work which would delay the commencement, prosecution or completion of the Work.
- 5.02 To demonstrate qualifications to perform the Work, Bidder shall complete and submit with its Bid the Bidder Qualifications Statement which is bound in the Project Manual. Bidders may be asked to furnish additional data to demonstrate their qualifications.
- 5.03 Bidders shall be qualified to do business in the state where the Project is located or covenant to obtain such qualification prior to signing the Agreement.

ARTICLE 6 - EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

6.01 Subsurface and Physical Conditions

- A. The Supplementary Conditions identify:
1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site which have been utilized by ENGINEER in preparation of the Bidding Documents.
 2. Those drawings of physical conditions in or relating to existing surface and subsurface structures (except underground facilities) which are at or contiguous to the Site that have been utilized by ENGINEER in preparation of the Bidding Documents.
- B. Copies of the reports and drawings referenced in the Supplementary Conditions will be made available through Avalon Plan Room to any Bidder on request. Reference the Notice to Bidders for instructions. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which

Bidder is entitled to rely as provided in paragraph 4.02 of the General Conditions has been identified and established in paragraph SC-4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion drawn from any “technical data” or any other data, interpretations, opinions or information contained in such reports or shown or indicated in such drawings.

6.02 Underground Facilities - Physical Conditions

- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to OWNER and ENGINEER by owners of such Underground Facilities, including OWNER, or others.

6.03 Hazardous Environmental Condition

- A. OWNER has knowledge of a hazardous environmental condition at the Site relative to paint containing lead and chromium. The CONTRACTOR’S attention is directed to the information contained in the reports listed in Section 00800 SC-4.02 which include existing paint test results for lead, cadmium and chromium.

6.04 Provisions concerning responsibilities for the adequacy of data, if any, furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unforeseen conditions appear in paragraphs 4.02, 4.03 and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Bidding Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the Scope of Work appear in paragraph 4.06 of the General Conditions.

6.05 On request, OWNER will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests and studies as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former conditions upon completion of such explorations, investigations, tests and studies.

6.06 On request, OWNER will conduct a Site visit during OWNER’S normal business hours.

6.07 Reference is made to the Supplementary Conditions for identification of the general nature of other work that is to be performed at the Site by OWNER or others (such as utilities and other prime contractors) that relates to the Work for which a Bid is to be submitted. On request, and if available, OWNER will provide to Bidder, for examination, access to or copies of the contract documents for such other work.

6.08 It is the responsibility of Bidder, before submitting a Bid to:

- A. Examine and carefully study the Bidding Documents, including any Addenda and the other related data identified in the Bidding Documents;
- B. Visit the Site and become familiar with and satisfy Bidder as to the general, local and Site conditions that may affect cost, progress and performance of the Work;
- C. Become familiar with and satisfy Bidder as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work;
- D. Carefully study all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and to carefully study all reports and drawings of a Hazardous Environmental Condition identified at the Site, if any, which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions;
- E. Obtain and carefully study (or assume responsibility for having done so) all examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may affect cost, progress or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Bidder, including any specific means, methods, techniques, sequences and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;
- F. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for the performance of the Work at the price bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
- G. Become aware of the general nature of work (if any) to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents;
- H. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies and data with the Bidding Documents;
- I. Promptly give ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by ENGINEER is acceptable to Bidder; and

- J. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 6.09 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 6, that without exception the Bid is premised upon performing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences or procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing the Work.

ARTICLE 7 - PRE-BID CONFERENCE

- 7.01 A pre-bid conference will be held if so indicated in the Notice to Bidders, and will be as follows. Representatives of the OWNER and ENGINEER will be present to discuss the Project. Bidders are encouraged to attend and participate at the conference. ENGINEER will transmit to all prospective Bidders of record such Addenda as ENGINEER considers necessary in response to questions raised at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 8 - SITE AND OTHER AREAS

- 8.01 The Site is identified in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment, to be incorporated into the Work are to be obtained and paid for by CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents.

ARTICLE 9 - INTERPRETATIONS AND ADDENDA

- 9.01 All questions about the meaning or intent of the Bidding Documents shall be submitted to ENGINEER in writing. In order to receive consideration, questions must be received by ENGINEER at least ten (10) days prior to the date for the opening of Bids. Interpretations, clarifications, and/or supplemental instructions considered necessary by ENGINEER in response to such questions will be issued by Addenda to all parties recorded by ENGINEER as having received the Bidding Documents. Such Addenda will be issued: (1) by mail, either Registered or Certified, with return receipt requested, (2) by email, or (3) through an online bid distribution platform. Such Addenda will be issued for receipt not later than three (3) days prior to the date for the opening of Bids. Failure of any Bidder to receive such Addendum or interpretation shall not relieve any bidder from any obligation under his bid submitted. All Addenda so issued shall become part of

the Contract Documents. All Addenda must be submitted with the bid proposal and be properly signed by the Bidder as part of the Bid Documents. Only questions answered by Addenda will be binding. The OWNER will not be responsible for any other explanations or interpretation of such documents which anyone presumes to make on behalf of the OWNER before expiration of the time set for the receipt of Bids. No interpretation of the meaning of the plans, specifications or other Contract Documents will be made to any bidder orally. Oral and other interpretations or clarifications will be without legal effect.

- 9.02 Addenda may also be issued to clarify, correct or change the Bidding Documents as deemed advisable by OWNER or ENGINEER. Such Addenda, if any, will be issued in the manner and within the time period stated in paragraph 9.01.

ARTICLE 10 - BID SECURITY

- 10.01 A Bid must be accompanied by Bid security made payable to the OWNER in the amount of five percent of Bidder's maximum Bid price and in the form of certified check or Bid Bond.
- 10.02 Bid Bond shall be on the form bound in the Project Manual. Bid Bond shall be issued by a surety meeting the requirements of paragraphs 5.01 and 5.02 of the General Conditions. The Bid Bond must contain original signatures in ink. Pencil, stamped, thermal faxed, Xeroxed, or any other copies of the signature shall be grounds for voiding the Bid.
- 10.03 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to sign and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, OWNER may annul the Notice of Award and the Bid security of that Bidder will be forfeited to the OWNER as liquidated damages for such failure.
- 10.04 The Bid security of the three lowest bidders may be retained by OWNER until the earlier of the seventh day after the Effective Date of the Agreement or the forty-first day after the Bid opening whereupon the Bid security furnished by such Bidders will be returned. The Bid security of Bidders whom OWNER believes do not have a reasonable chance of receiving an award will be returned within seven days of the Bid opening.

ARTICLE 11 - CONTRACT TIMES

- 11.01 The number of days within which the Work is to be substantially completed and also completed and ready for final payment (the Contract Times) are set forth in the Agreement.

ARTICLE 12 - LIQUIDATED AND SPECIAL DAMAGES

12.01 Provisions for liquidated and special damages, if any, are set forth in the Agreement.

ARTICLE 13 - SUBSTITUTE AND "OR EQUAL" ITEMS

13.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Whenever it is specified or described in the Bidding Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement. The procedure for submittal of any such application by CONTRACTOR and consideration by ENGINEER is set forth in the General Conditions which may be supplemented in the General Requirements.

13.02 Refer to Section 01630 of the General Requirements for the period of time after the Effective Date of the Agreement during which the ENGINEER will accept applications for substitute or "or-equal" items of material or equipment.

ARTICLE 14 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

14.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals or entities to be submitted to OWNER in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening submit to OWNER a list of all such Subcontractors, Suppliers, other individuals or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualifications for each such Subcontractor, Supplier, individual or entity if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual or entity, OWNER may, before the Notice of Award is given, request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price.

14.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers and other individuals or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in paragraph 6.06 of the General Conditions.

14.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual or entity against whom CONTRACTOR has reasonable objection.

ARTICLE 15 - PREPARATION OF BID

15.01 A Bid must be made on the Bid form bound in the Project Manual. The Bid form shall not be separated from the Project Manual nor shall it be altered in any way.

15.02 All blanks in the Bid Form shall be completed by printing in black ink or by typewriter. A Bid price shall be indicated in both words and numbers for each Bid item listed therein or the words "No Bid", or "Not Applicable" entered. In case of discrepancy between the words and the numerals, the words shall govern. Ditto marks are not considered writing or printing and shall not be used.

15.03 A Bid shall be executed as stated below.

A. A Bid by an individual shall show the Bidder's name and official address.

B. A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title shall appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.

C. A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid form. The official address of the joint venture shall be shown below the signature.

D. A Bid by a corporation shall be executed in the corporate name by an officer of the corporation and shall be accompanied by a certified copy of a resolution of the board of directors authorizing the person signing the Bid to do so on behalf of the corporation. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The state of incorporation and the official corporate address shall be shown below the signature.

E. A Bid by a limited liability company shall be executed in the name of the firm and signed by a member accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.

F. All names shall be typed or printed in black ink below the signature.

G. Evidence of authority to conduct business as an out-of-state corporation in the state where the Work is to be performed shall be provided, if applicable.

15.04 The Bid shall contain an acknowledgment of the receipt of all Addenda in the space provided on the Bid form.

- 15.05 The address and telephone number for communications regarding the Bid shall be shown.
- 15.06 In addition to the Bid Form, the following listed documents, which are bound in the Project Manual in Section 00430 - Bid Form Supplements and Section 00450 – Bidder’s Qualification Statement, shall be submitted with the Bid. Each document shall be executed in the manner described in paragraph 15.03 unless another manner is indicated.
- A. Bid Security Form.
 - B. Section 2875 of the Public Authorities Law.
 - C. Section 2876 of the Public Authorities Law.
 - D. Section 2878 of the Public Authorities Law, Non-collusive Bidding Certification.
 - E. State Finance Law Requirements.
 - F. Statement Regarding Prevention of Unlawful Discriminatory Practices.
 - G. Bidder’s Qualification Statement, including Attachments A, B, C and D and Bidder’s “Experience in The Installation of Tapping Sleeves & Valves on Prestressed Concrete Cylinder Pipe”, if applicable.
 - H. All Addenda.

ARTICLE 16 - BASIS OF BIDS; COMPARISON OF BIDS

16.01 Lump Sum and Unit Price

- A. Bidder shall submit its Bid on the basis of each lump sum item and unit price item as set forth in the Bid Form. For each unit price item on the Bid form, Bidder shall enter the unit price Bid, and shall enter the computation of the respective quantity times the Bidder’s unit price for that item. Bidder shall compute and enter in the space provided on the Bid form, the total of all lump sum items and the total of the products of quantity and unit price Bid for each unit price item.
- B. For determination of the apparent low Bidder, Bids will be evaluated on the basis of the total of all lump sum items and the total of the products of the estimated quantity of each item and unit price Bid for that item.
- C. The quantities for the unit price items are unpredictable and the ENGINEER has inserted certain quantities in the Bid Form to be used solely for purpose of comparison bids.
- D. Fixed minimum unit prices may have been established for some of the items in the Bid. The prices represent the minimum amounts which will be paid the

CONTRACTOR for these items. If in the opinion of the Bidder these prices do not reflect the actual value of the work involved the Bidder may void the given fixed minimum unit price for that specific item and enter a higher unit price in the spaces provided in the Bid Sheets.

- E. The Bid Form is set up with a Base Bid and a number of Alternate Bid Items. All or any combination of the Alternate Bid Items (or Alternate Subitems therein) may be included with the Base Bid as part of the award. It is possible that no Alternate Bid Items may be included as part of the award. Bidders are required to bid all Base Bid Items and all Alternate Bid Items.

16.02 Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

ARTICLE 17 - SUBMITTAL OF BID

- 17.01 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Notice to Bidders. The entire Project Manual must be submitted with all proper forms completed and signed as required.
- 17.02 Bid shall be enclosed in an opaque sealed envelope plainly marked on the outside with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted) the name and address of the Bidder and its license or registration number, if applicable. Bid shall be accompanied by Bid security and other required documents.
- 17.03 All bids being mailed (including FedEx, UPS, Priority Mail, etc.) or hand-delivered to the Erie County Water Authority shall follow the procedure as defined in Section 00100, Notice To Bidders.

ARTICLE 18 - MODIFICATION OR WITHDRAWAL OF BID

- 18.01 Withdrawal Prior to Bid Opening:
 - A. A Bid may be withdrawn by an appropriate document duly executed, in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time fixed for the opening of Bids. Upon receipt of such written notice, the unopened Bid will be returned to the Bidder.
- 18.02 Modification Prior to Bid Opening:
 - A. If a Bidder wishes to modify its Bid, Bidder must withdraw its initial Bid in the manner specified in paragraph 18.01.A and submit a new Bid.

18.03 No Bids may be withdrawn after the time set for the Bid Opening.

ARTICLE 19 - OPENING OF BIDS

19.01 Bids will be opened at the time and place where Bids are to be submitted and, unless obviously non-responsive, read aloud publicly. An abstract of the Bids will be made available to Bidders after the opening.

19.02 Bids received by mail or otherwise after the date and time specified for the opening of Bids will not be accepted and will be returned to the Bidder unopened.

19.03 Bid results are available on the Erie County Water Authority website, www.ecwa.org (under Doing Business tab, select option Business Opportunities). No bid results will be given over the telephone.

ARTICLE 20 - DISQUALIFICATION OF BIDDERS

20.01 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

ARTICLE 21 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

21.01 All Bids shall remain subject to acceptance for forty five days after the day of the Bid opening, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to that date.

21.02 In the event that the OWNER requires more than 45 calendar days after the actual date of the Bid Opening to award the contract, Bidders shall, when requested, provide to ENGINEER a written extension of time for OWNER to award the contract. Bidders shall also provide, to ENGINEER, written Consent of Surety for extension of the bid bond.

21.03 In the event that the OWNER requires more than 45 calendar days after the actual date of the Bid Opening to award the contract, and the lowest qualified bidder does not grant an extension of time for the OWNER to award the contract, the OWNER reserves the right to award to the second lowest qualified bidder.

ARTICLE 22 - AWARD OF CONTRACT

22.01 OWNER reserves the right to reject any or all Bids, including without limitation the right to reject any or all nonconforming, non-responsive or conditional Bids. Bids may be rejected if they show any omissions, alterations of form, additions not called for,

conditional or alternate bids other than are provided for in the Bid Form, bids containing escalation clauses or irregularities of any kind. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. OWNER also reserves the right to waive any informality not involving price, time or changes in the Work, if it is deemed to be in the best interest of the OWNER. The Bidder will not be allowed to take advantage of any error or omission.

- 22.02 OWNER reserves the right to reject any Bid not accompanied by specified documentation and Bid security. In the event that OWNER requires more than 45 calendar days after the actual Bid opening date to award the contract, Bidders shall provide to ENGINEER written Consent of Surety of the Bid Bond.
- 22.03 OWNER reserves the right to reject any Bid that, in its sole discretion, is considered to be unbalanced or unreasonable as to the amount bid for any lump sum or unit price item.
- 22.04 In evaluating Bidders, OWNER will consider their qualifications whether or not their Bids comply with the prescribed requirements, the alternatives, if any, the lump sum and unit prices, and other data as may be requested in the Bid Form or prior to the Notice of Award.
- 22.05 OWNER may consider the qualifications and experience of Subcontractors, Suppliers and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 22.06 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications and financial ability of the Bidders to perform the Work in accordance with the Contract Documents. OWNER reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to OWNER'S satisfaction.
- 22.07 OWNER reserves the right to accept any Bid deemed to be in its best interests even though the Bid chosen may result in the award of the Contract to a Bidder whose Bid is not, on a mathematical basis alone, the low Bid.
- 22.08 The OWNER may elect not to award a contract at this time due to budgetary or other considerations. OWNER reserves the right to reject any or all proposals and to re-bid the contract if the OWNER deems it in the public interest to do so.
- 22.09 Contracts shall be awarded only pursuant to resolution.
- 22.10 OWNER reserves the right to reject any bids from Bidders who are in arrears to, or in litigation with, the Erie County Water Authority or the County of Erie upon any debt or contract, or in default as surety or otherwise upon any obligation of the Erie County Water Authority or the County of Erie.

ARTICLE 23 - CONTRACT SECURITIES

- 23.01 Performance Bond shall be in the form of Engineers Joint Contract Documents Committee (EJCDC) "Construction Performance Bond", 1910-28-A. Payment Bond shall be in the form of EJCDC "Construction Payment Bond", 1910-28-B. The amounts of and other requirements for Performance and Payment Bonds are stated in paragraph 5.01 of the General Conditions. The requirements for delivery of Bonds are stated in paragraph 2.01 of the General Conditions. Additional requirements may be stated in the Supplementary Conditions.
- 23.02 Successful Bidder shall within five days from the date of the Notice of Award deliver to OWNER, for OWNER'S review and approval, the Performance Bond and the Payment Bond CONTRACTOR proposes to furnish at the time of the execution of the Agreement.

ARTICLE 24 – CONTRACTOR’S INSURANCE

- 24.01 The requirements for CONTRACTOR’S insurance and delivery of insurance certificates are stated in Article 5 of the General Conditions and in the Supplementary Conditions.

ARTICLE 25 - SIGNING OF AGREEMENT

- 25.01 When OWNER gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents, which are identified in the Agreement as attached thereto. Within five days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER.

ARTICLE 26 - NOTICE TO PROCEED

- 26.01 Issuance of the Notice to Proceed shall be as stated in Article 2 of the General Conditions.

ARTICLE 27 - PARTNERING (NOT USED)

ARTICLE 28 - SALES AND USE TAXES

- 28.01 Refer to Supplementary Conditions paragraph SC-6.10 for information on OWNER’S exemption from sales and use taxes on materials and equipment to be incorporated into the Work. Do not include said taxes in Bid.

ARTICLE 29 - ADDITIONAL REQUIREMENTS

- 29.01 Refer to Supplementary Conditions Paragraph SC-18.03 for information on OWNER'S Women and Minority Business Enterprise requirements.
- 29.02 Refer to Supplementary Conditions Paragraph SC-18.06 for information on OWNER'S Apprenticeship policy.
- 29.03 Refer to Procurement Supplementary Conditions Paragraph SC-18.07 for information on OWNER'S Purchases by Other Local Governments requirements.

END OF SECTION

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT No: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT No: 202100193

(This Bid Form shall not be detached from the Project Manual. The entire Project Manual shall be returned with the executed Bid.)

SECTION 00410

BID FORMS

BID FOR:

Erie County Water Authority
Contract No: W-034A
STORAGE TANK REFURBISHING- RICE HILL, WOHLHUETER, CRESTWOOD
ECWA Project No. 202100193

BID TO:

Service Center Front Desk
Erie County Water Authority
3030 Union Road
Cheektowaga, New York 14227

BID FROM: _____

(Print or Type Name of Bidder)

(/A Corporation/A Partnership/A Limited Liability Company/An
Individual/A Joint Venture/[Bidder to strike out inapplicable terms.]

Gentlemen:

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

ERIE COUNTY WATER AUTHORITY
 CONTRACT NO: W-034A
 STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

2.01 Bidder accepts all of the terms and conditions of the Notice to Bidders and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain open subject to acceptance for the time period set forth in the Instruction to Bidders. Bidder will sign the Agreement and will furnish the required contract security, and other required documents within the time periods set forth in the Bidding Documents.

3.01 In submitting this Bid, Bidder represents, as set forth in the Agreement, that:

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

<u>Addendum No.</u>	<u>Date Received</u>	<u>Addendum No.</u>	<u>Date Received</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

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

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

D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and (2) reports and drawings of a Hazardous Environmental Condition identified at the Site, if any, which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.

E. Bidder has obtained and carefully studied (or assumes responsibility for having done so) all examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may effect cost, progress or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques,

ERIE COUNTY WATER AUTHORITY

CONTRACT NO: W-034A

STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.

- F. Bidder does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the determination of this Bid for performance of the Work at the price(s) and within the times and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents and all additional examinations, investigations, explorations, tests, studies and data with the Bidding Documents.
- I. Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by ENGINEER is acceptable to Bidder.
- J. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- K. The quantities for the unit price items are unpredictable and the ENGINEER has inserted certain quantities in the proposal to be used solely for purpose of comparison of bids.
- L. Fixed minimum unit prices may have been established for some of the items in the Bid. The prices represent the minimum amounts, which will be paid the CONTRACTOR for these items. The Bidder shall include a price not less than the stated minimum. If in the opinion of the Bidder these prices do not reflect the actual value of the work involved, the Bidder may void the given fixed minimum unit price for that specific item and enter a higher unit price in the spaces provided in the Bid Form sheets. Bidder's Proposals received which include a unit price less than the stated minimum shall be adjusted to meet the fixed minimum unit price.

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

- M. The Bid Form is set up with a Base Bid and a number of alternate Bid Items. All or any combination of the Alternate Bid Items (or Alternate Subitems therein) may be included with the Base Bid as part of the award. It is possible that no Alternate Bid Items may be included as part of the award. Bidders are required to bid all Base Bid Items and all Alternate Bid Items.
- 4.01 Bidder further represents that this Bid is genuine and is not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any individual or entity to refrain from bidding; Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER; and that no person or persons acting in any official capacity for the OWNER are directly or indirectly interested in this Bid, or in any portion of the profit thereof.
- 5.01 Bidder will complete the Work in accordance with the Contract Documents for:

ERIE COUNTY WATER AUTHORITY
 CONTRACT NO: W-034A
 STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

BASE BID

RICE HILL TANK

<u>Description</u>	<u>Estimated Quantities</u>	<u>Computed Totals</u>
Item 1.1- For Interior Painting at the Lump Sum of _____ Dollars		
and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 1.2- For Exterior Painting – Roof Overcoat at the Lump Sum of _____ Dollars		
and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 1.3- For Disposal of Wet Interior Hazardous Abrasive Blast Residue, at the Lump Sum of _____ Dollars		
and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 1.4- For Roof Repair/Steel Reinforcement at the Lump Sum of _____ Dollars		
and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 1.5- For Shell Plate and Floor Repair – Cover Plate at the Unit Price of _____ Dollars		
and _____ Cents (\$ _____) Per Square Foot		8 SF \$ _____

ERIE COUNTY WATER AUTHORITY
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STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

Item 1.6- For Steel Plate Butt Weld Repair
at the Unit Price of

_____ Dollars

and _____ Cents

(\$ _____) Per Linear Foot

2 LF \$ _____

Item 1.7- For Pit Welding
at the Unit Price of

_____ Dollars

and _____ Cents

(\$ _____) Each

25 EA \$ _____

Item 1.8- For Epoxy Seam Sealing and Pit Filling
at the Unit Price of

_____ Dollars

and _____ Cents

(\$ _____) Per Gallon

5 GAL \$ _____

Item 1.9 Miscellaneous Modifications
at the Lump Sum of

_____ Dollars

and _____ Cents

(\$ _____) Lump Sum

LS \$ _____

Item 1.10 Contingency Allowance for Repairs
at the fixed Lump Sum of

THIRTY THOUSAND _____ Dollars

and ZERO _____ Cents

(\$30,000.00 _____) Fixed Lump Sum

LS \$ 30,000.00

SUBTOTAL – RICE HILL TANK

\$ _____

(This total is for convenience in comparing Bids and is not an official part of this Bid.)

ERIE COUNTY WATER AUTHORITY
 CONTRACT NO: W-034A
 STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

WOHLHUETER TANK

<u>Description</u>	<u>Estimated Quantities</u>	<u>Computed Totals</u>
Item 2.1- For Interior Painting at the Lump Sum of _____ Dollars		
and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 2.2- For Exterior Painting - Recoat at the Lump Sum of _____ Dollars		
and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 2.3- For Disposal of Wet Interior Hazardous Abrasive Blast Residue, at the Lump Sum of _____ Dollars		
and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 2.4- For Disposal of Exterior Hazardous Abrasive Blast Residue, at the Lump Sum of _____ Dollars		
and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 2.5 - For Pit Welding at the Unit Price of _____ Dollars		
and _____ Cents (\$ _____) Each		10 EA \$ _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

Item 2.6- For Epoxy Seam Sealing and Pit Filling
at the Unit Price of

_____ Dollars

and _____ Cents
(\$ _____) Per Gallon

2 GAL \$ _____

Item 2.7 Miscellaneous Modifications
at the Lump Sum of

_____ Dollars

and _____ Cents
(\$ _____) Lump Sum

LS \$ _____

Item 2.8 For Containment,
at the Lump Sum of

_____ Dollars

and _____ Cents
(\$ _____) Lump Sum

LS \$ _____

Item 2.9 Contingency Allowance for Repairs
at the fixed Lump Sum of
SIXTY THOUSAND _____ Dollars

and **ZERO** _____ Cents
(\$60,000.00 _____) Fixed Lump Sum

LS \$ 60,000.00

SUBTOTAL – WOHLHUETER

\$ _____

(This total is for convenience in comparing Bids and is not an official part of this Bid.)

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

CRESTWOOD TANK

<u>Description</u>	<u>Estimated Quantities</u>	<u>Computed Totals</u>
Item 3.1- For Interior Painting - Piping at the Lump Sum of _____ Dollars and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 3.2- For Disposal of Wet Interior Hazardous Abrasive Blast Residue, at the Lump Sum of _____ Dollars and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 3.3- For Exterior Cleaning at the Lump Sum of _____ Dollars and _____ Cents (\$ _____) Lump Sum		LS \$ _____
Item 3.4- For Concrete Spall Repair at the Lump Sum of _____ Dollars and _____ Cents (\$ _____) Lump Sum		LS \$ _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

Item 3.5 Miscellaneous Modifications
at the Lump Sum of _____ Dollars

and _____ Cents
(\$ _____) Lump Sum LS \$ _____

Item 3.6 Contingency Allowance for Repairs
at the fixed Lump Sum of
TWENTY THOUSAND _____ Dollars

and ZERO _____ Cents
(\$20,000.00 _____) Fixed Lump Sum LS \$ 20,000.00 _____

SUBTOTAL – CRESTWOOD \$ _____

(This total is for convenience in comparing Bids and is not an official part of this Bid.)

TOTAL BASE BID AMOUNT (This total is for convenience in comparing Bids and is not an official part of this Bid.) \$ _____
(Figures)

_____ Dollars and _____ Cents
(Written Amount)

ERIE COUNTY WATER AUTHORITY
 CONTRACT NO: W-034A
 STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

ALTERNATE BID ITEMS

CRESTWOOD TANK

<u>Description</u>	<u>Estimated Quantities</u>	<u>Computed Totals</u>
Item 3.7A- For Exterior Painting – Architectural Coating at the Lump Sum of _____ Dollars and _____ Cents (\$ _____) Lump Sum		LS \$ _____

TOTAL ALTERNATE BID AMOUNT (This total is for convenience in comparing Bids and is not an official part of this Bid.) \$ _____
 (Figures)

_____ Dollars and _____ Cents
 (Written Amount)

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

BID SUMMARY

FOR

CONTRACT NO: W-034A

**STORAGE TANK REFURBISHING
RICE HILL, WOHLHUETER, CRESTWOOD**

Base Bid: \$ _____

Alternate Bid Items: \$ _____

TOTAL BID (Base Bid Plus Alternate Bid Items): \$ _____

THIS PAGE IS FOR COMPARISON PURPOSES ONLY.

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

Unit prices have been computed in accordance with paragraph 11.03.B of the General Conditions.

Bidder acknowledges that estimated quantities of items of Unit Price Work are not guaranteed and final payment will be based on actual quantities of Unit Price Work performed as provided in the Contract Documents.

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

6.02 Bidder accepts the provisions of the Agreement as to liquidated and special damages in the event of failure to complete the Work within the times specified above.

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

- A. Required Bid security in the amount of _____ Dollars (\$_____).
- B. Section 2875 of the Public Authorities Law.
- C. Section 2876 of the Public Authorities Law.
- D. Section 2878 of the Public Authorities Law, Non-Collusive Bidding Certification.
- E. State Finance Law Requirements
- F. Statement Regarding Prevention of Unlawful Discriminatory Practices.
- G. Required Bidder Qualifications Statement with supporting data.
- H. All addenda

8.01 The terms used in this Bid will have the meanings indicated in the Instructions to Bidders and the General Conditions and Supplementary Conditions.

Respectfully submitted on _____, 20__.

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

If Bidder is:

An Individual

By _____
(Individual's Signature)

(Printed or Typed Name of Individual)

Doing business as _____

License or Registration Number: _____

Business Address: _____

Phone No.: _____ FAX No.: _____

A Partnership

By _____
(Firm Name)

(General Partner's Signature)

(Printed or Typed Name of General Partner)
(Attach evidence of authority to sign.)

License or Registration Number: _____

Business Address: _____

Phone No.: _____ FAX No.: _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

A Corporation

By _____
(Corporation Name)

(State of Incorporation)

By _____
(Signature of Officer Authorized to Sign)

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

(CORPORATE
SEAL)

Attest _____
(Secretary)

License or Registration Number: _____

Business Address: _____

Phone No.: _____ FAX No.: _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

Limited Liability Company

By _____
(Firm Name)

(State of Formation)

By _____
(Signature of Member/Authorized to Sign)

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

License or Registration Number: _____

Business Address: _____

Phone No.: _____ FAX No.: _____

ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD

A Joint Venture

Joint Venture Name: _____

By _____
(Signature)

(Printed or Typed Name) (Title)

(Address)

By _____
(Signature)

(Printed or Typed Name) (Title)

(Address)

Phone and FAX number and address for receipt of communications to joint venture:

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

END OF BID FORM

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT NO: 202100193

SECTION 00430

BID FORM SUPPLEMENTS

Bid Security Form

Section 2875 of the Public Authorities Law

Section 2876 of the Public Authorities Law

Section 2878 of the Public Authorities Law

State Finance Law Requirements

Statement Regarding Prevention of Unlawful Discriminatory Practices

BID SECURITY FORM

BIDDER (Name and Address):

SURETY (Name and Address of Principal Place of Business):

OWNER:

Erie County Water Authority
295 Main Street, Room 350
Buffalo, New York 14203

BID

BID DUE DATE: _____

PROJECT:

Contract No: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD
Project No: 202100193

BOND

BOND NUMBER: _____

DATE: (Not later than Bid due date): _____

PENAL SUM: _____

(Words)

(Figures)

IN WITNESS WHEREOF, Surety and Bidder, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Bid Bond to be duly executed on its behalf by its authorized officer, agent, or representative.

BIDDER

SURETY

(Seal)

(Seal)

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____

By: _____

Signature and Title

Signature and Title

(Attach Power of Attorney)

Attest: _____

Attest: _____

Signature and Title

1.01 Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to pay to OWNER upon default of Bidder the penal sum set forth on the face of this Bond.

2.01 Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents.

3.01 This obligation shall be null and void if:

- A. OWNER accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by OWNER) the executed Agreement required by the Bidding Documents and any performance and payment Bonds required by the Bidding Documents, or
- B. All Bids are rejected by OWNER, or
- C. OWNER fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by paragraph 5.01 hereof).

4.01 Payment under this Bond will be due and payable upon default by Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from OWNER, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5.01 Surety waives notice of and any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by OWNER and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.

6.01 No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in paragraph 4.01 above is received by Bidder and Surety and in no case later than one year after Bid due date.

7.01 Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8.01 Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9.01 Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent or representative, who executed this Bond on behalf of Surety to execute, seal and deliver such Bond and bind the Surety thereby.

10.01 This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11.01 The term "Bid" as used herein includes a Bid, offer or proposal as applicable.

END OF BID BOND

SECTION 2875 OF THE PUBLIC AUTHORITIES LAW

§2875. GROUND FOR CANCELLATION OF CONTRACT BY PUBLIC AUTHORITY.

A clause shall be inserted in all specifications or contracts hereafter made or awarded by any public authority or by any official of any public authority created by the state or any political subdivision, for work or services performed or to be performed or goods sold or to be sold, to provide that upon the refusal of a person, when called before a grand jury, head of a state department, temporary state commission, or other state agency, the organized crime task force in the department of law, head of a city department, or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath, to testify in an investigation concerning any transaction or contract had with the state, any political subdivision thereof or of a public authority, to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning such transaction or contract.

(a) Such person, and any firm, partnership or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any public authority or official thereof, for goods, work or services, for a period of five years after such refusal, and to provide also that;

(b) any and all contracts made with any public authority or official thereof, since the effective date of this law, by such person and by any firm, partnership or corporation of which he is a member, partner, director or officer may be canceled or terminated by the public authority without incurring any penalty or damages on account of such cancellation or termination, but any monies owing by the public authority for goods delivered or work done prior to the cancellation termination shall be paid.

This is to CERTIFY that neither the undersigned nor any member, partner, director, or officer of the firm has refused to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning a transaction or contract with the state, any political subdivision thereof, a public authority or with a public department, agency or official of the state or of any political subdivision thereof or of a public authority, when called before a grand jury, head of a state department, temporary state commission, or other state agency, the organized crime task force in the department of law, head of a city department, or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath.

(Name of Individual, Partnership or Corporation)

By _____
(Person authorized to sign)

(SEAL)

SECTION 2876 OF THE PUBLIC AUTHORITIES LAW

§2876. DISQUALIFICATION TO CONTRACT WITH PUBLIC AUTHORITY

Any person who, when called before a grand jury, head of a state department, temporary state commission or other state agency, the organized crime task force in the department of law, head of a city department or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath to testify in an investigation concerning any transaction or contract had with the state, any political subdivision thereof, a public authority or with a public department, agency or official of the state or of any political subdivision thereof or of a public authority, refuses to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant questions concerning such transaction or contract, and any firm, partnership or corporation of which he is a member, partner, director or officer shall be disqualified from thereafter selling to or submitting bids to or receiving awards from or entering into any contracts with any public authority or any official of any public authority created by the state or any political subdivision, for goods, work or services, for a period of five years after such refusal or until a disqualification shall be removed pursuant to the provisions of section twenty-six hundred three of this article.

It shall be the duty of the officer conducting the investigation before the grand jury, the head of a state department, the chairman of the temporary state commission or other state agency, the organized crime task force in the department of law, the head of a city department or other city agency before which the refusal occurs to send notice of such refusal, together with the names of any firm, partnership or corporation of which the person so refusing is known to be a member, partner, officer or director, to the commissioner of transportation of the state of New York, or the commissioner of general services as the case may be, and the appropriate departments, agencies and officials of the state, political subdivisions thereof or public authorities with whom the persons so refusing and any firm, partnership or corporation of which he is a member, partner, director or officer, is known to have a contract. However, when such refusal occurs before a body other than a grand jury, notice of refusal shall not be sent for a period of ten days after such refusal occurs. Prior to the expiration of this ten day period, any person, firm, partnership or corporation which has become liable to the cancellation or termination of a contract or disqualification to contract on account of such refusal may commence a special proceeding at a special term of the supreme court, held within the judicial district in which the refusal occurred, for an order determining whether the questions in response to which the refusal occurred were relevant and material to the inquiry. Upon the commencement of such proceeding, the sending of such notice of refusal to answer shall be subject to order of the court in which the proceeding was brought in a manner and on such terms as the court may deem just. If a proceeding is not brought within ten days, notice of refusal shall thereupon be sent as provided herein.

This is to CERTIFY that neither the undersigned nor any member, partner, director, or officer of the firm has refused to sign a waiver of immunity against subsequent criminal prosecution or to answer any relevant question concerning a transaction or contract with the state, any political subdivision thereof, a public authority or with a public department, agency or official of the state or of any political subdivision thereof or of a public authority, when called before a grand jury, head of a state department, temporary state commission, or other state agency, the organized crime task force in the department of law, head of a city department, or other city agency, which is empowered to compel the attendance of witnesses and examine them under oath.

(Name of Individual, Partnership or Corporation)

By _____
(Person authorized to sign)

SECTION 2878 OF THE PUBLIC AUTHORITIES LAW

§2878. STATEMENT OF NON-COLLUSION IN BIDS OR PROPOSALS TO PUBLIC AUTHORITY.

(1) Every bid or proposal hereafter made to a public authority or to any official of any public authority created by the state or any political subdivision, where competitive bidding is required by statute, rule, regulation or local law, for work or services performed or to be performed or goods sold or to be sold, shall contain the following statement subscribed by the bidder and affirmed by such bidder as true under the penalties of perjury:

NON-COLLUSIVE BIDDING CERTIFICATION

(a) By submission of this bid, EACH BIDDER AND EACH PERSON SIGNING ON BEHALF OF ANY BIDDER CERTIFIES, AND IN THE CASE OF A JOINT BID EACH PARTY THERETO CERTIFIES AS TO ITS OWN ORGANIZATION, under penalty of perjury, that to the best of his knowledge and belief: (1) the prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; (2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and (3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

(b) A bid shall not be considered for award nor shall any award be made where (a) (1) (2) and (3) above have not been complied with; provided, however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where (a) (1) (2) and (3) above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the state, public department or agency to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

The fact that a bidder (a) has published price lists, rates, or tariffs covering items to be procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of subparagraph one (a).

The undersigned CERTIFIES, under penalty of perjury, that he is authorized to make this bid and execute this statement of non-collusion; that each of the statements contained in (1), (2) and (3) of paragraph (a) are true; that he is familiar with the statements and restrictions contained in paragraph (b) and the paragraph regarding the publication of price lists, etc. and such statements and restrictions are true and have been complied with by the bidder.

(Name of Individual, Partnership, or Corporation)

By _____

(SEAL)

FORMS A, B, and C

STATE FINANCE LAW REQUIREMENTS

The Erie County Water Authority (the “Authority”) is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). When the Authority seeks to procure goods or services by means of an Invitation or Notice to Bid, or a Request for Proposals, the State Finance Law imposes certain restrictions on anyone who may wish to offer goods or services to the Authority as an Offerer, as that term is defined in §§ 139-j(1)(h) and 139-k(1)(h).

During the Restricted Period, as defined in §§ 139-j(1)(f) and 139-k(1)(f), when bids or proposals are being solicited, the Authority will designate a contact person with whom the Offerer may contact for information and other authorized purposes as set forth in §139-j of the State Finance Law. The designated contact is identified in the Notice to Bidders, or in the Request for Proposal. An Offerer is authorized to contact the Authority’s designated contact for such purposes as set forth in § 139-j(3).

Pursuant to the State Finance Law, the Authority is also required to make certain findings before making any determinations as to the qualifications and eligibility of those seeking a procurement contract, as that term is defined in State Finance Law §§ 139-j(1)(g) and 139-k(1)(g). Certain findings of non-responsibility can result in rejection for contract award and in the event of two findings of non-responsibility occurring within a 4-year period, the Offerer will be debarred from obtaining procurement contracts with the Authority. Further information about these requirements can be found in §§139-j and 139-k of the New York State Finance Law and the Erie County Water Authority’s Procurement Disclosure Policy.

The following forms will be used by the Authority to make such findings:

Form A - Offerer’s Affirmation of Understanding of, and Agreement to Comply with, the Authority’s Permissible Contact Requirements During the Restricted Period.

Form B - Offerer’s Certification of Compliance with State Finance Law.

Form C - Offerer’s Disclosure of Prior Non-Responsibility Determinations.

FORM A

**Offerer's Affirmation of Understanding of, and Agreement to Comply
with, the Permissible Contact Requirements During the Restricted Period**

Instructions:

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). The Authority must obtain a written affirmation of understanding and agreement to comply with procedures regarding permissible contacts with the Authority in the restricted period for a procurement contract in accordance with State Finance Law §139-j and §139-k. It is required that this affirmation be obtained as early as possible in the procurement process, but no later than when the Offerer submits its proposal.

Offerer affirms that it understands and agrees to comply with the procedures of the Authority relative to permissible contacts as required by State Finance Law §139-j(3) and §139-j(6)(b).

By: _____ Date: _____

Name: _____

Title: _____

Contractor Name: _____

Contractor Address: _____

FORM B

**Offerer's Certification of Compliance
With State Finance Law §139-k(5)**

Instructions:

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). The Authority must obtain a Certification that the information submitted for a procurement contract is complete, true, and accurate regarding any prior findings of non-responsibility, such as non-responsibility pursuant to State Finance Law §139-j. The Offerer must agree to sign the Certification, under penalty of perjury, and to provide the Certification to the Authority. The Certification should be obtained as early as possible in the process, but no later than when an Offerer submits its proposal.

Offerer Certification:

I certify that all information provided to the Authority relating to the awarding of a procurement contract is complete, true, and accurate.

By: _____ Date: _____

Name: _____

Title: _____

Contractor Name: _____

Contractor Address: _____

FORM C**Offerer's Disclosure of Prior
Non-Responsibility Determinations****Background:**

The Erie County Water Authority (the "Authority") is a government entity, as that term is defined in State Finance Law §§ 139-j(1)(a) and 139-k(1)(a). New York State Finance Law §139-k(2) obligates the Authority to obtain specific information regarding prior non-responsibility determinations with respect to State Finance Law §139-j. In accordance with State Finance Law §139-k, an Offerer must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any Governmental Entity due to: (a) a violation of State Finance Law §139-j; or (b) the intentional provision of false or incomplete information to a Government Entity.

The terms "Offerer" and "Governmental Entity" are defined in State Finance Law §§139-j(1) and §139-k(1). These sections also set forth detailed requirements about the restrictions on contacts during the procurement process. A violation of State Finance Law §139-j includes, but is not limited to, an impermissible contact during the restricted period (for example, contacting a person or entity other than the designated contact person, when such contact does not fall within one of the exemptions).

As part of its responsibility determination, State Finance Law §139-k(3) mandates consideration of whether an Offerer fails to timely disclose accurate or complete information regarding the above non-responsibility determination. In accordance with law, no Procurement Contract shall be awarded to any Offerer that fails to timely disclose accurate or complete information under this section, unless a finding is made that the award of the Procurement Contract to the Offerer is necessary to protect public property or public health safety, and the Offerer is the only source capable of supplying the required Article of Procurement, as that term is defined in State Finance Law §§ 139-j(1)(b) and 139-k(1)(b), within the necessary timeframe. See State Finance Law §139-j(10)(b) and §139-k(3).

Instructions:

The Authority must include a disclosure request regarding prior non-responsibility determinations in accordance with State Finance Law §139-k in its solicitation of proposals or bid documents or specifications or contract documents, as applicable, for procurement contracts. The attached form is to be completed and submitted by the individual or entity seeking to enter into a Procurement Contract. It shall be submitted to the Authority conducting the Governmental Procurement no later than when the Offerer submits its proposal.

FORM C (Continued)

Offerer's Disclosure of Prior Non-Responsibility Determinations

Name of Individual or Entity Seeking to Enter into the Procurement Contract:

Address: _____

Name and Title of Person Submitting this Form: _____

Contract Procurement Number: _____

Date: _____

<p>1. Has any Governmental Entity made a finding of non-responsibility regarding the individual or entity seeking to enter into the Procurement Contract in the previous four years? (Please circle):</p> <p style="text-align: center;">No Yes</p> <p>If yes, please answer the next questions:</p> <p>2. Was the basis for the finding of non-responsibility due to a violation of State Finance Law §139-j (Please circle):</p> <p style="text-align: center;">No Yes</p> <p>3. Was the basis for the finding of non-responsibility due to the intentional provision of false or incomplete information to a Governmental Entity? (Please circle)</p> <p style="text-align: center;">No Yes</p> <p>4. If you answered yes to any of the above questions, please provide details regarding the finding of non-responsibility below.</p> <p>Governmental Entity: _____</p> <p>Date of Finding of Non-Responsibility: _____</p> <p>Basis of Finding of Non-Responsibility: _____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>(Add additional pages as necessary)</p>
--

FORM C (Continued)

5. Has any Governmental Entity or other governmental agency terminated or withheld a Procurement Contract with the above-named individual or entity due to the intentional provision of false or incomplete information? (Please circle): No Yes

6. If yes, please provide details below.

Governmental Entity: _____

Date of Termination or Withholding of Contract: _____

Basis of Termination or Withholding:

(Add additional pages as necessary)

Offerer certifies that all information provided to the Erie County Water Authority with respect to State Finance Law §139-k is complete, true, and accurate.

By: _____ Date: _____
Signature

Name: _____

Title: _____

CONTRACT TERMINATION PROVISION

Instructions:

A Contract Termination Provision will be included in each procurement contract governed by State Finance Law §139-k. New York State Finance Law §139-k(5) provides that every procurement contract award subject to the provisions of State Finance Law §§139-k and 139-j shall contain a provision authorizing the governmental entity to terminate the contract in the event that the certification is found to be intentionally false or intentionally incomplete. This statutory contract language authorizes, but does not mandate, termination. “Government Entity” and “procurement contract” are defined in State Finance Law §§ 139 j(1) and 139-k(l).

This required clause will be included in a covered procurement contract.

A sample of the Termination Provision is included below. If a contract is terminated in accordance with State Finance Law §139-k(5), the Erie County Water Authority, as a governmental entity, is required to include a statement in the procurement record describing the basis for any action taken under the termination provision.

Sample Contract Termination Provision

The Erie County Water Authority, as a governmental entity, reserves the right to terminate this contract in the event it is found that the certification filed by the Offerer in accordance with New York State Finance Law §139-k was intentionally false or intentionally incomplete. Upon such finding, the Authority may exercise its termination right by providing written notification to the Offerer in accordance with the written notification terms of this contract.

**OFFERER’S STATEMENT REGARDING PREVENTION OF
UNLAWFUL DISCRIMINATORY PRACTICES**

The Erie County Water Authority (the “Authority”), as an employer in New York State, is subject to the Human Rights Law, codified as Executive Law §290, *et. seq.*, and Labor Law §201-g. The Authority seeks to provide a work environment that is free from unlawful discriminatory practices as they are defined in Executive Law §296, as well as from inappropriate harassing conduct even if not deemed unlawful, to its employees, contractors, subcontractors, vendors, consultants, and any other person providing services on Authority premises. Pursuant to the Human Rights Law, it shall be unlawful to discriminate against an individual, or to subject an individual to harassment, due to age, race, creed, color, national origin, sexual orientation, gender identity or expression, military status, sex, disability, predisposing genetic characteristics, familial status, marital status, or status as a victim of domestic violence. Accordingly, the Authority requires that any Offeror of a proposal or bid, agree to sign the following statement regarding unlawful discriminatory practices, including, but not limited to sexual harassment, under penalty of perjury. This statement should be provided to the Authority as early as possible in the procurement process, but not later than at the time of execution of a contract with the Authority. Failure to agree to sign the statement may result in the Authority deeming the bid or proposal withdrawn by the Offerer.

Offerer Statement:

I certify, under penalty of perjury, that the following statements are accurate:

- *Offerer is aware of its obligations under the Human Rights Law (Executive Law §290, et. seq.*
- *Offerer complies with the provisions of Executive Law §290, et. seq., including Executive Law §296, and does not permit unlawful discriminatory practices or harassment based on an individual’s age, race, creed, color, national origin, sexual orientation, gender identity or expression, military status, sex, disability, predisposing genetic characteristics, familial status, marital status, or status as a victim of domestic violence in its workplace.*
- *Offerer complies with the provisions of Labor Law §201-g, has implemented a written policy addressing sexual harassment in the workplace which meets the minimum standards of Labor Law §201-g, and provides annual sexual harassment prevention training to all of its employees.*

By: _____ Date: _____

Name: _____

Title: _____

Offerer Name: _____

Offerer Address: _____

END OF BID FORM SUPPLEMENTS

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT No: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT No: 202100193

SECTION 00450

BIDDER'S QUALIFICATION STATEMENT

(Completion of this statement is required in advance of
consideration for award of Contract.)

SUBMITTED TO:

Service Center Front Desk
Erie County Water Authority
3030 Union Road
Cheektowaga, New York 14227

SUBMITTED FOR:

Erie County Water Authority
Contract No: W-034A
Storage Tank Refurbishing, Rice Hill, Wohlhueter, Crestwood
ECWA Project No. 202100193

SUBMITTED BY:

Name of Organization: _____
(Print or Type Name of Bidder)

Name of Individual: _____

Title: _____

Business Address: _____

Telephone No.: _____

Fax No.: _____

Gentlemen:

The undersigned certifies under oath the truth and correctness of all statements and of all answers to questions made hereinafter.

(Note: Attach additional sheets as required.)

1.0 Bidder's General Business Information

1.1 Check if:

Corporation Partnership Joint Venture Sole Proprietorship

If Corporation:

A. Date and State of Incorporation:

B. List of Executive Officers:

Name	Title
_____	_____
_____	_____
_____	_____

If Partnership:

A. Date and State of Organization:

B. Names of Current General Partners:

C. Type of Partnership

General Publicly Traded
Limited Other (described): _____

If Joint Venture:

A. Date and State of Organization:

B. Name, Address and Form of Organization of Joint Venture Partners: (Indicate managing partner by an asterisk *):

If Sole Proprietorship:

A. Date and State of Organization:

B. Name and Address of Owner or Owners:

2.0 How many years has your organization been in business as a general contractor? _____

3.0 Has your organizational structure changed within the past five years? Yes No

If the answer to this question is “yes”, provide data as listed above in Item 1.0 for your previous organization.

4.0 We normally perform _____ percent of the work with our own forces. List work normally subcontracted.

5.0 Has any construction contract to which you have been a party been terminated by the owner; have you ever terminated work on a project prior to its completion for any reason; has any surety which issued a performance bond on your behalf ever completed the work in its own name or financed such completion on your behalf; has any surety expended any monies in connection with a contract for which they furnished a bond on your behalf?

Yes No

If the answer to any portion of this question is "yes", furnish details of all such occurrences including name of owner, architect or engineer, and surety, and name and date of project.

6.0 Has any officer or partner of your organization ever been an officer or partner of another organization that had any construction contract terminated by the owner; terminated work on a project prior to its completion for any reason; had any surety which issued a performance bond complete the work in its own name or financed such completion; or had any surety expend any monies in connection with a contract for which they furnished a bond?

Yes No

If the answer to any portion of this question is "yes", furnish details of all such occurrences including name of owner, architect or engineer, and surety, and name and date of project.

7.0 In the last five years, has your organization, or any predecessor organization, failed to substantially complete a project in a timely manner?

Yes No

If the answer to this question is "yes", furnish details of all such occurrences including name of owner, architect or engineer, and surety, and name and date of project.

8.0 On Schedule A, attached, list name, location and description of project, owner, architect or engineer, contract price, percent complete and scheduled completion of the major

construction projects your organization has in progress on this date. Provide name, address and telephone number of a reference for each project listed.

9.0 On Schedule B, attached, list name, location and description of project, owner, architect or engineer, contract price, date of completion and percent of work with your own forces of major projects of the same general nature as this project which your organization has completed in the past five years. Provide name, address and telephone number of a reference for each project listed.

10.0 On Schedule C, attached, list name and construction experience of the principal individuals of your organization directly involved in construction operations.

10.1 On Schedule D, attached, list OSHA Information requested.

11.0 List the states and categories of construction in which your organization is legally qualified to do business.

12.0 Provide the following for your surety:

12.1 Surety Company: _____

12.2 Agent: _____

A. Address: _____

B. Telephone No.: _____

12.3 What is your approximate total bonding capacity?

- \$500,000 to \$2,000,000
- \$2,000,000 to \$5,000,000
- \$5,000,000 to \$10,000,000
- \$10,000,000 or more

13.0 Provide the following with respect to an accredited banking institution familiar with your organization.

13.1 Name of Bank: _____

13.2 Address: _____

13.3 Account Manager: _____

13.4 Telephone No.: _____

14.0 Provide the name, address and telephone number of an individual who represents a major equipment/material supplier whom the Owner may contact for a financial reference:

15.0 Attach a financial statement, prepared on an accrual basis, in a form which clearly indicates Bidder's assets, liabilities and net worth.

15.1 Date of financial statement: _____

15.2 Name of firm preparing statement: _____

16.0 Dated at _____, this _____ day of _____, 20_____.

Bidder: _____

(Print or Type Name of Bidder)

By: _____

Title: _____

Attachments A, B, C, and D

(Seal, if corporation)

------(Affidavit for Individual)-----

_____ being duly sworn, deposes and says that:
a) the financial statement, taken from his/her books, is a true and accurate statement of his/her financial condition as of the date thereof; and b) all of the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Partnership)-----

_____ being duly sworn, deposes and says that:
a) he/she is a member of the partnership of _____;
b) he/she is familiar with the books of said partnership showing its financial condition; c) the financial statement, taken from the books of said partnership, is a true and accurate statement of the financial condition of the partnership as of the date thereof; and d) all of the foregoing qualification information is true, complete, and accurate.

------(Affidavit for Corporation)-----

_____ being duly sworn, deposes and says that:
a) he/she is _____ of _____;
(Full name of Corporation)
b) he/she is familiar with the books of said corporation showing its financial condition; c) the financial statement, taken from the books of said corporation, is a true and accurate statement of the financial condition of said corporation as of the date thereof; and d) that all of the foregoing qualification information is true, complete, and accurate.

------(Acknowledgment)-----

_____ being duly sworn, deposes and says
that he/she is _____ of _____;
(Name of Bidder)
that he/she is duly authorized to make the foregoing affidavit and that he/she makes it on behalf of
() himself/herself; () said partnership; () said corporation.

Sworn to before me this _____ day of _____, 20____, in the
County of _____, State of _____.

(Notary Public)

My commission expires _____

(Seal)

END OF BIDDER QUALIFICATIONS STATEMENT

ATTACHMENT A

**SCHEDULE A
PROJECTS IN PROGRESS**

<u>Name, Location and Description of Project</u>	<u>Owner</u>	<u>Architect or Engineer</u>	<u>Contract Price</u>	<u>Percent Complete</u>	<u>Scheduled Completion</u>	<u>Reference/Contract Include Address and Phone</u>
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ATTACHMENT B

**SCHEDULE B
PROJECTS COMPLETED**

<u>Name, Location and Description of Project</u>	<u>Owner</u>	<u>Architect or Engineer</u>	<u>Date Completed</u>	<u>Contract Price</u>	<u>Percent with Own Forces</u>	<u>Reference/Contract Include Address and Phone</u>
--	--------------	----------------------------------	---------------------------	-----------------------	------------------------------------	---

ATTACHMENT C

**SCHEDULE C
PERSONNEL**

<u>Name</u>	<u>Position</u>	<u>Date Started With This Organization</u>	<u>Date Started In Construction</u>	<u>Prior Positions and Experience In Construction</u>
-------------	-----------------	--	---	---

ATTACHMENT D
SCHEDULE D
OSHA INFORMATION

List all Occupational Safety and Health Administration Citations for the last three years, including date, subject matter, and penalty.

Attach copies of all determined Citations and Notification of Penalty, Form OSHA 2.

Describe all pending cases, giving pertinent information such as apparent violations, location of project, type of project, and present status. _____

List any additional information on the back or attach a separate sheet if necessary.

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT NO: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT NO: 202100193

SECTION 00500

AGREEMENT

THIS AGREEMENT is dated as of the _____ day of _____ in the year _____, by and between the ERIE COUNTY WATER AUTHORITY (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR).

WITNESSETH: OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - WORK

1.01 CONTRACTOR shall at its own cost and expense furnish all labor, services, tools, materials, equipment and incidentals necessary to complete all Work as specified or indicated in the Contract Documents to perform all specified work required for storage tank refurbishing. The Work includes as shown on the drawings and described in the specifications. The Work is generally described in Section 01100 of the General Requirements.

ARTICLE 2 - ENGINEER

2.01 The Project has been designed by Wendel at Centerpointe Corporate Park, 375 Essjay Road, Suite 200, Williamsville, NY 14221 who is hereinafter called the ENGINEER. Wendel will assume all duties and responsibilities and have the rights and authority assigned to ENGINEER in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 3 - CONTRACT TIMES

3.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, Final Completion and readiness for final payment as stated in the Contract Documents are of the essence.

3.02 Milestone Dates

- A. The Work associated with the Rice Hill Tank Milestone, as defined in Section 01131 Schedule of Completion, shall commence on April 18, 2022 and shall be completed no later than June 3, 2022.
- B. The Work associated with the Wohlhueter Tank Milestone, as defined in Section 01131 Schedule of Completion, shall commence on September 6, 2022 and shall be completed no later than November 11, 2022.
- C. The Work associated with the Crestwood Tank Milestone, as defined in Section 01131 Schedule of Completion, shall commence on April 3, 2023 and shall be completed no later than May 26, 2023.

3.03 Days to Achieve Substantial Completion and Final Payment

- A. The Work shall be substantially completed by May 26, 2023 as provided in paragraph 2.03 of the General Conditions, and completed and ready for final payment by June 23, 2023 in accordance with paragraph 14.07 of the General Conditions.

ARTICLE 4 - LIQUIDATED AND SPECIAL DAMAGES

4.01 Liquidated Damages

- A. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and OWNER will suffer financial loss, apart from the costs described in paragraph 4.02.A, if the Work is not substantially completed within the time specified in Article 3 for Substantial Completion, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. OWNER and CONTRACTOR also recognize the delays, expense and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not substantially completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER:
 - 1. \$500 for each day that expires after the date specified in Article 3 for Rice Hill Tank Milestone until the Rice Hill Tank Milestone is reached for work to be performed on the Rice Hill Tank as specified in Article 3.
 - 2. \$500 for each day that expires after the date specified in Article 3 for Wohlhueter Tank Milestone until the Wohlhueter Tank Milestone is reached for work to be performed on the Wohlhueter Tank as specified in Article 3.

3. \$500 for each day that expires after the date specified in Article 3 for Crestwood Tank Milestone and contract Substantial Completion until the Crestwood Tank Milestone is reached for work to be performed on the Crestwood Tank and contract Substantial Completion is reached as specified in Article 3.

4.02 Special Damages:

- A. In addition to the amount provided for liquidated damages, CONTRACTOR shall pay OWNER the actual costs reasonably incurred by OWNER for engineering and inspection forces employed for the Work for each day that expires after the days specified in Article 3 for Substantial Completion (adjusted for any changes thereof made in accordance with Article 12 of the General Conditions) until the Work is substantially complete.
- B. After Substantial Completion, if CONTRACTOR shall neglect, refuse or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by OWNER, CONTRACTOR shall pay OWNER the actual costs reasonably incurred by OWNER for engineering and inspection forces employed for the Work for each day that expires after the time specified in Article 3 for Work to be completed and ready for final payment (adjusted for any extensions thereof made in accordance with Article 12 of the General Conditions) until the Work is completed and ready for final payment.

- 4.03 OWNER may deduct liquidated damages and special damages as determined by the provisions of this Article 4 from progress payments due CONTRACTOR under this Agreement.

ARTICLE 5 - CONTRACT PRICE

- 5.01 OWNER shall pay CONTRACTOR, in current funds, for completion of the Work in accordance with the Contract Documents the prices stated in CONTRACTOR'S Bid, which Bid is attached hereto and identified as Exhibit 1 of this Agreement. As provided in paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by ENGINEER as provided in paragraph 9.08 of the General Conditions. Unit prices have been computed as provided in paragraph 11.03 of the General Conditions.

ARTICLE 6 - PAYMENT PROCEDURES

- 6.01 Submittal and Processing of Payments

- A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed as provided in the General Conditions.

6.02 Progress Payments; Retainage

- A. OWNER shall make monthly progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER. CONTRACTOR'S Applications for Payment will be due on the last day of the month. All progress payments will be on the basis of the progress of the Work measured by the schedule of values provided for in paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work, based on the number of units completed and accepted) or, in the event there is no schedule of values, as provided in the General Requirements. A progress payment will not be made whenever the value of the Work completed since the last previous progress payment is less than ten thousand dollars (\$10,000).

- 1. Prior to Substantial Completion

- a. Progress payments will be made in the amount of 95 percent of the Work completed, (with the balance being retainage), less the aggregate of payments previously made and less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.02 of the General Conditions; and
- b. 95 percent of the cost of materials and equipment not incorporated in the Work but suitably stored (with the balance being retainage).

- 2. Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 100 percent of the Work completed, less such amounts as ENGINEER shall determine in accordance with paragraph 14.02.B.5 of the General Conditions and less 200 percent of ENGINEER'S estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 Final Payment:

- A. Upon final completion and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said paragraph 14.07.

ARTICLE 7 - INTEREST

7.01 All moneys not paid when due hereunder shall bear interest at the maximum rate allowed by law at the place of the Project.

ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

- 8.01 As part of the inducement for OWNER to enter into this Agreement CONTRACTOR makes the following representations:
- A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local and Site conditions that may affect cost, progress, and performance for the Work.
 - C. CONTRACTOR is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and performance of the Work.
 - D. CONTRACTOR has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 4.02 of the General Conditions, and (2) reports and drawings of a Hazardous Environmental Condition identified at the Site, if any, which have been identified in the Supplementary Conditions as provided in paragraph 4.06 of the General Conditions.
 - E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for having done so) all examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the Site which may effect cost, progress or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents to be employed by CONTRACTOR, and safety precautions and programs incident thereto.
 - F. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies or data are necessary for the performance of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.
 - G. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.

- H. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests, studies and data with the Contract Documents.
- I. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.
- J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.

ARTICLE 9 - CONTRACT DOCUMENTS

9.01 The Contract Documents consist of the following:

- A. This Agreement (10 pages).
- B. Performance Bond (2 pages).
- C. Payment Bond (2 pages).
- D. General Conditions (42 pages).
- E. Supplementary Conditions (10 pages).
- F. Specifications, as listed in the table of contents of the Project Manual.
- G. Appendix A - Women and Minority Business Enterprise Policy.
- H. Appendix B - Insurance Requirements.
- I. Appendix C - Prevailing Wage Rate Schedule.
- J. Appendix D – Tank Location Maps
- K. Appendix E - Details
- L. Addenda consisting of Numbers ____ to ____, inclusive.
- M. Exhibits to the Agreement enumerated as follows:
 - 1. Exhibit 1, Bid Form (17 pages).

N. The following, which may be delivered or issued on or after the Effective Date of the Agreement, and are not attached hereto:

1. Notice to Proceed
2. Written Amendments
3. Work Change Directives
4. Change Order(s)

9.02 The documents listed in paragraph 9.01 above are attached to this Agreement (except as expressly noted otherwise above). Documents not attached are incorporated by reference. There are no Contract Documents other than those listed in this Article 9.

9.03 The Contract Documents may only be amended, modified or supplemented as provided in paragraph 3.04 of the General Conditions.

ARTICLE 10 - MISCELLANEOUS

10.01 Terms

A. Terms used in this Agreement will have the meanings indicated in the General Conditions.

10.02 Assignment of Contract

A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 Successors and Assigns

A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

10.04 Severability

- A. Any provision or part of the Contract Document, held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 Waiver

- A. The waiver by the OWNER of any breach or violation of any term, covenant, or condition of this Agreement or of any Law or Regulation shall not be deemed to be a waiver of any other term, covenant, condition, or Law or Regulation or of any subsequent breach or violation of the same or of any other term, covenant, condition, or Law or Regulation. The subsequent payment of any monies or fee by the OWNER which may become due hereunder shall not be deemed to be a waiver of any preceding breach or violation by CONTRACTOR of any term, covenant, condition of this Agreement or of any applicable Law or Regulation.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first written above.

This Agreement will be effective on _____, 20_____.

OWNER: Erie County Water Authority CONTRACTOR: _____

By: _____ By: _____

Title: _____ Title: _____

[CORPORATE SEAL]

[CORPORATE SEAL]

Attest _____

Attest _____

Address for giving notices

Address for giving notices

(If OWNER is a corporation, partnership, or limited liability company, attach evidence of authority to sign) (If OWNER is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of Agreement.)

License No. _____
(where applicable)

Agent for service of process: _____

(If CONTRACTOR is a corporation, partnership, or limited liability company, attach evidence of authority to sign.)

Designated Representative:

Name: _____

Title: _____

Address: _____

Phone No.: _____

Fax No.: _____

Designated Representative:

Name: _____

Title: _____

Address: _____

Phone No.: _____

Fax No.: _____

END OF AGREEMENT

Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place
of Business):

OWNER (Name and Address):

Erie County Water Authority
295 Main Street, Room 350
Buffalo New York 14203

CONTRACT

Date:

Amount:

Description: ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING
RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT No. 202100193

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and CONTRACTOR, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____
Name and Title:

EJCDC No. 1910-28-A (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, and the American Institute of Architects.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER for the performance of the Contract, which is incorporated herein by reference.
2. If the CONTRACTOR performs the Contract, the Surety and the CONTRACTOR have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.
3. If there is no OWNER Default, the Surety's obligation under this Bond shall arise after:
 - 3.1. The OWNER has notified the CONTRACTOR and the Surety at the addresses described in paragraph 10 below, that the OWNER is considering declaring a CONTRACTOR Default and has requested and attempted to arrange a conference with the CONTRACTOR and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Contract. If the OWNER, the CONTRACTOR and the Surety agree, the CONTRACTOR shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the OWNER'S right, if any, subsequently to declare a CONTRACTOR Default; and
 - 3.2. The OWNER has declared a CONTRACTOR Default and formally terminated the CONTRACTOR'S right to complete the Contract. Such CONTRACTOR Default shall not be declared earlier than twenty days after the CONTRACTOR and the Surety have received notice as provided in paragraph 3.1; and
 - 3.3. The OWNER has agreed to pay the Balance of the Contract Price to:
 - 3.3.1. The Surety in accordance with the terms of the Contract; or
 - 3.3.2. Another contractor selected pursuant to paragraph 4.3 to perform the Contract.
4. When the OWNER has satisfied the conditions of paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 4.1. Arrange for the CONTRACTOR, with consent of the OWNER, to perform and complete the Contract; or
 - 4.2. Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the OWNER for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the OWNER and the contractor selected with the OWNER'S concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the OWNER the amount of damages as described in paragraph 6 in excess of the Balance of the Contract Price incurred by the OWNER resulting from the CONTRACTOR Default; or
 - 4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances;
 - 4.4.1 After investigation, determine the amount for which it may be liable to the OWNER and, as soon as practicable after the amount is determined, tender payment therefor to the OWNER; or
 - 4.4.2 Deny liability in whole or in part and notify the OWNER citing reasons therefor.
5. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the OWNER to the Surety demanding that the Surety perform its obligations under this Bond, and the OWNER shall be entitled to enforce any remedy available to the OWNER. If the Surety proceeds as provided in paragraph 4.4, and the OWNER refuses the payment tendered or the Surety has denied pliability, in whole or in part, without

further notice the OWNER shall be entitled to enforce any remedy available to the OWNER.

6. After the OWNER has terminated the CONTRACTOR'S right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the OWNER shall not be greater than those of the CONTRACTOR under the Contract, and the responsibilities of the OWNER to the Surety shall not be greater than those of the OWNER under the Contract. To a limit of the amount of this Bond, but subject to commitment by the OWNER of the Balance of the Contract Price to mitigation of costs and damages on the Contract, the Surety is obligated without duplication for:
 - 6.1. The responsibilities of the CONTRACTOR for correction of defective Work and completion of the Contract;
 - 6.2. Additional legal, design professional and delay costs resulting from the CONTRACTOR'S Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and
 - 6.3. Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the CONTRACTOR.
7. The Surety shall not be liable to the OWNER or others for obligations of the CONTRACTOR that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the OWNER or its heirs, executors, administrators, or successors.
8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders and other obligations.
9. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located and shall be instituted within two years after CONTRACTOR Default or within two years after the CONTRACTOR ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
10. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the address shown on the signature page.
11. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted here-from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
12. Definitions.
 - 12.1 Balance of the Contract Price: The total amount payable by the OWNER to the CONTRACTOR under the Contract after all proper adjustments have been made, including allowance to the CONTRACTOR of any amounts received or to be received by the OWNER in settlement of insurance or other Claims for damages to which the CONTRACTOR is entitled, reduced by all valid and proper payments made to or on behalf of the CONTRACTOR under the Contract.
 - 12.2 Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.
 - 12.3 CONTRACTOR Default: Failure of the CONTRACTOR, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.
 - 12.4 OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY - Name, Address and Telephone)
 AGENT or BROKER: OWNER'S REPRESENTATIVE (Engineer):

Payment Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

SURETY (Name and Address of Principal Place
of Business):

OWNER (Name and Address):

Erie County Water Authority
295 Main Street, Room 350
Buffalo New York 14203

CONTRACT

Date:

Amount:

Description: ERIE COUNTY WATER AUTHORITY
CONTRACT NO: W-034A
STORAGE TANK REFURBISHING
RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT No. 202100193

BOND

Date (Not earlier than Contract Date):

Amount:

Modifications to this Bond Form:

Surety and CONTRACTOR, intending to be legally bound hereby, subject to the terms printed on the reverse side hereof, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:
(Attach Power of Attorney)

(Space is provided below for signatures of additional parties, if required.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

SURETY

Company: _____ (Corp. Seal)

Signature: _____

Name and Title:

EJCDC No. 1910-28-B (1996 Edition)

Originally prepared through the joint efforts of the Surety Association of America, Engineers Joint Contract Documents Committee, the Associated General Contractors of America, the American Institute of Architects, the American Subcontractors Association, and the Associated Specialty Contractors.

1. The CONTRACTOR and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the OWNER to pay for labor, materials and equipment furnished for use in the performance of the Contract, which is incorporated herein by reference.

2. With respect to the OWNER, this obligation shall be null and void if the CONTRACTOR:

2.1. Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2. Defends, indemnifies and holds harmless the OWNER from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract, provided the OWNER has promptly notified the CONTRACTOR and the Surety (at the addresses described in paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the CONTRACTOR and the Surety, and provided there is no OWNER Default

3. With respect to Claimants, this obligation shall be null and void if the CONTRACTOR promptly makes payment, directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1. Claimants who are employed by or have a direct contract with the CONTRACTOR have given notice to the Surety (at the addresses described in paragraph 12) and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2. Claimants who do not have a direct contract with the CONTRACTOR:

4.2.1 Have furnished written notice to the CONTRACTOR and sent a copy, or notice thereof, to the OWNER, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

4.2.2 Have either received a rejection in whole or in part from the CONTRACTOR, or not received within 30 days of furnishing the above notice any communication from the CONTRACTOR by which the CONTRACTOR had indicated the claim will be paid directly or indirectly; and

4.2.3 Not having been paid within the above 30 days, have sent a written notice to the Surety and sent a copy, or notice thereof, to the OWNER, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the CONTRACTOR.

5. If a notice required by paragraph 4 is given by the OWNER to the CONTRACTOR or to the Surety, that is sufficient compliance.

6. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1. Send an answer to the Claimant, with a copy to the OWNER, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2. Pay or arrange for payment of any undisputed amounts.

7. The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8. Amounts owed by the OWNER to the CONTRACTOR under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the CONTRACTOR furnishing and the OWNER accepting this Bond, they agree that all funds earned by the CONTRACTOR in the performance of the Contract are dedicated to satisfy obligations of the CONTRACTOR and the Surety under this Bond, subject to the OWNER'S priority to use the funds for the completion of the Work.

9. The Surety shall not be liable to the OWNER, Claimants or others for obligations of the CONTRACTOR that are unrelated to the Contract. The OWNER shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by paragraph 4.1 or paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to the Surety, the OWNER or the CONTRACTOR shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the OWNER or the CONTRACTOR, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is, that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, the CONTRACTOR shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the CONTRACTOR or with a Subcontractor of the CONTRACTOR to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the CONTRACTOR and the CONTRACTOR'S Subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Contract: The agreement between the OWNER and the CONTRACTOR identified on the signature page, including all Contract Documents and changes thereto.

15.3 OWNER Default: Failure of the OWNER, which has neither been remedied nor waived, to pay the CONTRACTOR as required by the Contract or to perform and complete or comply with the other terms thereof.

(FOR INFORMATION ONLY - Name, Address and Telephone)
AGENT or BROKER: OWNER'S REPRESENTATIVE (Engineer):

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT No: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT No: 202100193

SECTION 00700

GENERAL CONDITIONS

Adapted with permission from Standard General Conditions of the
Construction Contract, EJCDC No. 1910-8 (1996 Edition).

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Contract Documents and printed with initial or all capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between OWNER and CONTRACTOR covering the Work.

3. *Application for Payment*--The form acceptable to ENGINEER which is to be used by CONTRACTOR during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

5. *Bid*--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

6. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

7. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, Bid security form, if any, and the Bid form with any supplements.

8. *Bonds*--Performance and payment bonds and other instruments of security.

9. *Change Order*--A document recommended by ENGINEER which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by OWNER or CONTRACTOR seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the OWNER and CONTRACTOR concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*--The Contract Documents establish the rights and obligations of the parties and include the Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR'S Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and ENGINEER'S written interpretations and clarifications issued on or after the Effective Date of the Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents. Only printed or hard copies of the items listed in this paragraph are Contract Documents. Files in electronic media format of text, data, graphics, and the like that may be furnished by OWNER to CONTRACTOR are not Contract Documents.

13. *Contract Price*--The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Substantial Completion; and (ii) complete the Work so that it is ready for final payment as evidenced by ENGINEER'S written recommendation of final payment.

15. *CONTRACTOR*--The individual or entity with whom OWNER has entered into the Agreement.

16. *Cost of the Work*--See paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by ENGINEER which graphically shows the scope, extent, and character of the Work to be performed by CONTRACTOR. Shop Drawings and other CONTRACTOR submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *ENGINEER*--The individual or entity named as such in the Agreement.

20. *ENGINEER'S Consultant*--An individual or entity having a contract with ENGINEER to furnish services as ENGINEER'S independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

21. *Field Order*--A written order issued by ENGINEER which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

22. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

23. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

24. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

25. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

26. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

27. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

28. *Notice of Award*--The written notice by OWNER to the apparent successful bidder stating that upon timely compliance by the apparent successful bidder with the conditions precedent listed therein, OWNER will sign and deliver the Agreement.

29. *Notice to Proceed*--A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform the Work under the Contract Documents.

30. *OWNER*--The individual, entity, public body, or authority with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be performed.

31. *Partial Utilization*--Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

32. *PCBs*--Polychlorinated biphenyls.

33. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

34. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part as may be indicated elsewhere in the Contract Documents.

35. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

36. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

37. *Resident Project Representative*--The authorized representative of ENGINEER who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

40. *Site*--Lands or areas indicated in the Contract Documents as being furnished by OWNER upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by OWNER which are designated for the use of CONTRACTOR.

41. *Specifications*--That part of the Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

42. *Subcontractor*--An individual or entity having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the Site.

43. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

44. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

45. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

46. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity,

gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

47. *Unit Price Work*--Work to be paid for on the basis of unit prices.

48. *Work*--The entire completed construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

49. *Work Change Directive*--A written statement to CONTRACTOR issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

50. *Written Amendment*--A written statement modifying the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

1.02 Terminology

A. Intent of Certain Terms or Adjectives

1. Whenever in the Contract Documents the terms “as ordered,” “as directed,” “as required,” “as allowed,” “as approved,” or terms of like effect or import are used to authorize an exercise of professional judgment by the ENGINEER, or the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of ENGINEER as to the Work, it is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.10 or any other provision of the Contract Documents.

B. Day

1. The word “day” shall constitute a calendar day of 24 hours measured from midnight to the next midnight.

C. Defective

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it does not conform to the Contract Documents or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER’S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.04 or 14.05).

D. Furnish, Install, Perform, Provide

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of CONTRACTOR, “provide” is implied.

E. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 Delivery of Bonds

A. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish.

2.02 Copies of Documents

A. OWNER shall furnish to CONTRACTOR up to ten copies of the Contract Documents. Additional copies will be furnished upon request at the cost of reproduction.

2.03 Commencement of Contract Times; Notice to Proceed

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 Starting the Work

A. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run.

No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *CONTRACTOR'S Review of Contract Documents:* Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity, or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless CONTRACTOR knew or reasonably should have known thereof.

B. *Preliminary Schedules:* Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for its timely review:

1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and
3. a preliminary schedule of values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

C. *Evidence of Insurance:* Before any Work at the Site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with Article 5.

2.06 *Preconstruction Conference*

A. Within 20 days after the Contract Times start to run, but before any Work at the Site is started, a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.05.B, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER, and others as appropriate will be held to review for acceptability to ENGINEER, as provided below, the schedules submitted in accordance with paragraph 2.05.B. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until acceptable schedules are submitted to ENGINEER.

1. The progress schedule will be acceptable to ENGINEER if it provides an orderly progression of the Work to completion within any specified Milestones and the Contract Times. Such acceptance will not impose on ENGINEER responsibility for the progress schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR'S full responsibility therefor.
2. CONTRACTOR'S schedule of Shop Drawing and Sample submittals will be acceptable to ENGINEER if it provides a workable arrangement for reviewing and processing the required submittals.
3. CONTRACTOR'S schedule of values will be acceptable to ENGINEER as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof)

to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to OWNER.

C. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in Article 9.

3.02 *Reference Standards*

A. *Standards, Specifications, Codes, Laws, and Regulations*

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall any such provision or instruction be effective to assign to OWNER, ENGINEER, or any of ENGINEER'S Consultants, agents, or employees any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once. CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as required by paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.04; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity, or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways: (i) a Written Amendment; (ii) a Change Order; or (iii) a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways: (i) a Field Order; (ii) ENGINEER'S

approval of a Shop Drawing or Sample; or (iii) ENGINEER'S written interpretation or clarification.

3.05 *Reuse of Documents*

A. CONTRACTOR and any Subcontractor or Supplier or other individual or entity performing or furnishing any of the Work under a direct or indirect contract with OWNER: (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER'S Consultant, including electronic media editions; and (ii) shall not reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaption by ENGINEER. This prohibition will survive final payment, completion, and acceptance of the Work, or termination or completion of the Contract. Nothing herein shall preclude CONTRACTOR from retaining copies of the Contract Documents for record purposes.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. OWNER shall furnish the Site. OWNER shall notify CONTRACTOR of any encumbrances or restrictions not of general application but specifically related to use of the Site with which CONTRACTOR must comply in performing the Work. OWNER will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If CONTRACTOR and OWNER are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in OWNER'S furnishing the Site, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

B. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that ENGINEER has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER, or any of ENGINEER'S Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR'S purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally

recognized as inherent in work of the character provided for in the Contract Documents;

then CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *ENGINEER'S Review:* After receipt of written notice as required by paragraph 4.03.A, ENGINEER will promptly review the pertinent condition, determine the necessity of OWNER'S obtaining additional exploration or tests with respect thereto, and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER'S findings and conclusions.

C. *Possible Price and Times Adjustments*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in CONTRACTOR'S cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.08 and 11.03.

2. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to

CONTRACTOR'S making such final commitment; or

c. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.03.A.

3. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in paragraph 10.05. However, OWNER, ENGINEER, and ENGINEER'S Consultants shall not be liable to CONTRACTOR for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities, including OWNER, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and CONTRACTOR shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including OWNER, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, CONTRACTOR shall be responsible for the safety and protection of the underground facility.

2. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown with reasonable accuracy in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, OWNER or CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

4.05 *Reference Points*

A. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER'S judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

W-034A

A. *Reports and Drawings*: Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the ENGINEER in the preparation of the Contract Documents.

B. *Limited Reliance by CONTRACTOR on Technical Data Authorized*: CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data", CONTRACTOR may not rely upon or make any Claim against OWNER, ENGINEER or any of ENGINEER'S Consultants with respect to:

1. the completeness of such reports and drawings for CONTRACTOR'S purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto; or
2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. CONTRACTOR shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. CONTRACTOR shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.

D. If CONTRACTOR encounters a Hazardous Environmental Condition or if CONTRACTOR or anyone for whom CONTRACTOR is responsible creates a Hazardous Environmental Condition, CONTRACTOR shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by paragraph 6.16); and (iii) notify OWNER and ENGINEER (and promptly thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for

OWNER to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. CONTRACTOR shall not be required to resume Work in connection with such condition or in any affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by CONTRACTOR, either party may make a Claim therefor as provided in paragraph 10.05.

F. If, after receipt of such written notice, CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in paragraph 10.05. OWNER may have such deleted portion of the Work performed by OWNER'S own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER'S Consultants, and the officers, directors, partners, employees, agents, other consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by CONTRACTOR or by anyone for whom CONTRACTOR is responsible. Nothing in this paragraph 4.06.G shall obligate CONTRACTOR to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. The provisions of paragraphs 4.02, 4.03, and 4.04 are not intended to apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR'S obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Contract Documents.

B. All Bonds shall be in the form prescribed by the Contract Documents, except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

C. If the surety on any Bond furnished by CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.01.B, CONTRACTOR shall within 20 days thereafter substitute another Bond and surety, both of which shall comply with the requirements of paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain.

5.04 *CONTRACTOR'S Liability Insurance*

A. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR'S performance of the Work and CONTRACTOR'S other obligations under the Contract Documents, whether it is to be performed by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR'S employees;
3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR'S employees;
4. claims for damages insured by reasonably available personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;
5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance so required by this paragraph 5.04 to be purchased and maintained shall:

1. with respect to insurance required by paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER'S Consultants, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;
2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include completed operations insurance;
4. include contractual liability insurance covering CONTRACTOR'S indemnity obligations under paragraphs 6.07, 6.11, and 6.20;
5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.03 will so provide);
6. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing, or replacing defective Work in accordance with paragraph 13.07; and
7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

5.05 *OWNER'S Liability Insurance*

A. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.04, OWNER, at OWNER'S option, may purchase and maintain at OWNER'S expense OWNER'S own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance (See Supplementary Conditions)*

5.07 (Not Used)

5.08 (Not Used)

5.09 (Not Used)

5.10 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either OWNER or CONTRACTOR has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by paragraph 2.05.C. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. CONTRACTOR shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures

of construction, but CONTRACTOR shall not be responsible for the negligence of OWNER or ENGINEER in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

B. At all times during the progress of the Work, CONTRACTOR shall assign a competent resident superintendent thereto who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the Site and shall have authority to act on behalf of CONTRACTOR. All communications given to or received from the superintendent shall be binding on CONTRACTOR.

6.02 *Labor; Working Hours*

A. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out, and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday, or any legal holiday without OWNER'S written consent (which will not be unreasonably withheld) given after prior written notice to ENGINEER.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the General Requirements, CONTRACTOR shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory

evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.07 as it may be adjusted from time to time as provided below.

1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.07) proposed adjustments in the progress schedule that will not result in changing the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of Article 12. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to ENGINEER for review under the circumstances described below.

1. "*Or-Equal*" Items: If, in ENGINEER'S sole discretion, an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER'S sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this paragraph 6.05.A.1, a

proposed item of material or equipment will be considered functionally equal to an item so named if:

a. In the exercise of reasonable judgment ENGINEER determines that: (i) it is at least equal in quality, durability, appearance, strength, and design characteristics; (ii) it will reliably perform at least equally well the function imposed by the design concept of the completed Project as a functioning whole; and CONTRACTOR;

b. Certifies that: (i) there is no increase in cost to the OWNER; and (ii) it will conform substantially, even with deviations, to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items*

a. If, in ENGINEER'S sole discretion, an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR.

c. The procedure for review by ENGINEER will be as set forth in paragraph 6.05.A.2.d, as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances.

d. CONTRACTOR shall first make written application to ENGINEER for review of a proposed substitute item of material or equipment that CONTRACTOR seeks to furnish or use. The application shall certify that the proposed substitute item will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified, and be suited to the same use as that specified. The application will state the extent, if any, to which the use of the proposed substitute item will prejudice CONTRACTOR'S achievement of Substantial Completion on time, whether or not use of the proposed substitute item in the Work will require a change in any of the

Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute item and whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute item from that specified will be identified in the application, and available engineering, sales, maintenance, repair, and replacement services will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute item. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute item.

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER'S sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.05.A.2.

C. *Engineer's Evaluation:* ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.05.A and 6.05.B. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized until ENGINEER'S review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." ENGINEER will advise CONTRACTOR in writing of any negative determination.

D. *Special Guarantee:* OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute.

E. *ENGINEER'S Cost Reimbursement:* ENGINEER will record time required by ENGINEER and ENGINEER'S Consultants in evaluating substitute proposed or submitted by CONTRACTOR pursuant to paragraphs 6.05.A.2 and 6.05.B and in making changes in

the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER approves a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER'S Consultants for evaluating each such proposed substitute.

F. *CONTRACTOR'S Expense:* CONTRACTOR shall provide all data in support of any proposed substitute or "or-equal" at CONTRACTOR'S expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. CONTRACTOR shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to OWNER as indicated in paragraph 6.06.B), whether initially or as a replacement, against whom OWNER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to OWNER in advance for acceptance by OWNER by a specified date prior to the Effective Date of the Agreement, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER'S acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. CONTRACTOR shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

C. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as CONTRACTOR is responsible for CONTRACTOR'S own acts and omissions. Nothing in the Contract

Documents shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other individual or entity, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.

D. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR.

E. CONTRACTOR shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with ENGINEER through CONTRACTOR.

F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

G. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.06, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER'S Consultants, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

6.07 *Patent Fees and Royalties*

A. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the

performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER'S Consultants, and the officers, directors, partners, employees or agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto, such as plant investment fees.

6.09 *Laws and Regulations*

A. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR'S compliance with any Laws or Regulations.

B. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other

professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work; however, it shall not be CONTRACTOR'S primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR'S obligations under paragraph 3.03.

6.10 *Taxes*

A. CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER'S Consultant, and the officers, directors, partners, employees, agents, and other consultants of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR'S performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work CONTRACTOR

shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work, CONTRACTOR shall clean the Site and make it ready for utilization by OWNER. At the completion of the Work CONTRACTOR shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

D. *Loading Structures:* CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

A. CONTRACTOR shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents, together with all approved Samples and a counterpart of all approved Shop Drawings, will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to ENGINEER for OWNER.

6.13 *Safety and Protection*

A. CONTRACTOR shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;
2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. All damage, injury, or loss to any property referred to in paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER'S Consultant, or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them). CONTRACTOR'S duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, CONTRACTOR is obligated to act to prevent threatened damage, injury, or loss. CONTRACTOR shall

give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show ENGINEER the services, materials, and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.17.E.

B. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers, and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.17.E. The numbers of each Sample to be submitted will be as specified in the Specifications.

C. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER as required by paragraph 2.07, any related Work performed prior to ENGINEER'S review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

D. *Submittal Procedures*

1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR'S obligations under the Contract Documents with respect to CONTRACTOR'S review and approval of that submittal.

3. At the time of each submittal, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

E. ENGINEER'S Review

1. ENGINEER will timely review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals acceptable to ENGINEER. ENGINEER'S review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. ENGINEER'S review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. ENGINEER'S review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER'S attention to each such variation at the time of each submittal as required by paragraph 6.17.D.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.17.D.1.

F. Resubmittal Procedures:

1. CONTRACTOR shall make corrections required by ENGINEER and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.18 Continuing the Work

A. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.04 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.19 CONTRACTOR'S General Warranty and Guarantee

A. CONTRACTOR warrants and guarantees to OWNER, ENGINEER, and ENGINEER'S Consultants that all Work will be in accordance with the Contract Documents and will not be defective. CONTRACTOR'S warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, Suppliers, or any other individual or entity for whom CONTRACTOR is responsible; or
2. normal wear and tear under normal usage.

B. CONTRACTOR'S obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance

with the Contract Documents or a release of CONTRACTOR'S obligation to perform the Work in accordance with the Contract Documents:

1. observations by ENGINEER;
2. recommendation by ENGINEER or payment by OWNER of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by ENGINEER or any payment related thereto by OWNER;
4. use or occupancy of the Work or any part thereof by OWNER;
5. any acceptance by OWNER or any failure to do so;
6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER;
7. any inspection, test, or approval by others; or
8. any correction of defective Work by OWNER.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER'S Consultants, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage:

1. is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of real or personal property (other than the Work itself), including the loss of use resulting therefrom; and
2. is caused in whole or in part by any act or omission of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by an individual or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws or Regulations.

B. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not be limited in any way by the amount or types of insurance provided by CONTRACTOR under Article 5 of the General Conditions.

D. The indemnification obligations of CONTRACTOR under paragraph 6.20.A shall not extend to the sole negligence or willful misconduct of OWNER, ENGINEER or ENGINEER'S Consultants or to the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them.

ARTICLE 7 - OTHER WORK

7.01 *Related Work at Site*

A. OWNER may perform other work related to the Project at the Site by OWNER'S employees, or let other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to CONTRACTOR prior to starting any such other work; and
2. if OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in paragraph 10.05.

B. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the other work with OWNER'S employees) proper and safe access to the Site and a reasonable

opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

C. If the proper execution or results of any part of CONTRACTOR'S Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR'S Work. CONTRACTOR'S failure to so report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR'S Work except for latent defects and deficiencies in such other work.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.02 *Furnish Data*

A. OWNER shall promptly furnish the data required of OWNER under the Contract Documents.

8.03 *Pay Promptly When Due*

A. OWNER shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.02.C and 14.07.C.

8.04 *Lands and Easements; Reports and Tests*

A. OWNER'S duties in respect of providing lands and easements and providing engineering surveys to

establish reference points are set forth in paragraphs 4.01 and 4.05. Paragraph 4.02 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by ENGINEER in preparing the Contract Documents.

8.05 *Insurance*

A. OWNER'S responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.06 *Change Orders*

A. OWNER is obligated to execute Change Orders as indicated in paragraph 10.03.

8.07. *Inspections, Tests, and Approvals*

A. OWNER'S responsibility in respect to certain inspections, tests, and approvals is set forth in paragraph 13.03.B.

8.08 *Limitations on OWNER'S Responsibilities*

A. The OWNER shall not supervise, direct, or have control or authority over, nor be responsible for, CONTRACTOR'S means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. OWNER will not be responsible for CONTRACTOR'S failure to perform the Work in accordance with the Contract Documents.

8.09 *Undisclosed Hazardous Environmental Condition*

A. OWNER'S responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in paragraph 4.06.

8.10 *Evidence of Financial Arrangements*

A. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER'S obligations under the Contract Documents, OWNER'S responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *OWNER'S Representative*

A. ENGINEER will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER'S representative during construction are set forth in the Contract Documents and will not be changed without written consent of OWNER and ENGINEER.

9.02 *Visits to Site*

A. ENGINEER will make visits to the Site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR'S executed Work. Based on information obtained during such visits and observations, ENGINEER, for the benefit of OWNER, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. ENGINEER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work.

B. ENGINEER'S visits and observations are subject to all the limitations on ENGINEER'S authority and responsibility set forth in paragraph 9.10, and particularly, but without limitation, during or as a result of ENGINEER'S visits or observations of CONTRACTOR'S Work. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR'S means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more extensive observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.10 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the Site who is not ENGINEER'S Consultant, agent or employee, the responsibilities and

authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Clarifications and Interpretations*

A. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from the Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a written clarification or interpretation, a Claim may be made therefor as provided in paragraph 10.05.

9.05 *Authorized Variations in Work*

A. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR, who shall perform the Work involved promptly. If OWNER and CONTRACTOR are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of a Field Order, a Claim may be made therefor as provided in paragraph 10.05.

9.06 *Rejecting Defective Work*

A. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.07 *Shop Drawings, Change Orders and Payments*

A. In connection with ENGINEER'S authority as to Shop Drawings and Samples, see paragraph 6.17.

B. In connection with ENGINEER'S authority as to Change Orders, see Articles 10, 11, and 12.

C. In connection with ENGINEER'S authority as to Applications for Payment, see Article 14.

9.08 *Determinations for Unit Price Work*

A. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER'S preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER'S written decision thereon will be final and binding (except as modified by ENGINEER to reflect changed factual conditions or more accurate data) upon OWNER and CONTRACTOR, subject to the provisions of paragraph 10.05.

9.09 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work, the quantities and classifications of Unit Price Work, the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, and Claims seeking changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing, in accordance with the provisions of paragraph 10.05, with a request for a formal decision.

B. When functioning as interpreter and judge under this paragraph 9.09, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to this paragraph 9.09 with respect to any such Claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.07) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such Claim, dispute, or other matter.

9.10 *Limitations on ENGINEER'S Authority and Responsibilities*

A. Neither ENGINEER'S authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or

responsibility by ENGINEER shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. ENGINEER will not supervise, direct, control, or have authority over or be responsible for CONTRACTOR'S means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the performance of the Work. ENGINEER will not be responsible for CONTRACTOR'S failure to perform the Work in accordance with the Contract Documents.

C. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. ENGINEER'S review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.

E. The limitations upon authority and responsibility set forth in this paragraph 9.10 shall also apply to ENGINEER'S Consultants, Resident Project Representative, and assistants.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If OWNER and CONTRACTOR are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times,

or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in paragraph 3.04, except in the case of an emergency as provided in paragraph 6.16 or in the case of uncovering Work as provided in paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

1. changes in the Work which are: (i) ordered by OWNER pursuant to paragraph 10.01.A, (ii) required because of acceptance of defective Work under paragraph 13.08.A or OWNER'S correction of defective Work under paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility. The amount of each applicable Bond will be adjusted to reflect the effect of any such change.

10.05 *Claims and Disputes*

A. *Notice:* Written notice stating the general nature of each Claim, dispute, or other matter shall be delivered by the claimant to ENGINEER and the other party to the Contract promptly (but in no event later than 20 days) after the start of the event giving rise thereto. Notice of the amount or extent of the Claim, dispute, or other matter with supporting data shall be delivered to the ENGINEER and the other party to the Contract within 45 days after the start of such event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of such Claim, dispute, or other matter). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to ENGINEER and the claimant within 30 days after receipt of the claimant's last submittal (unless ENGINEER allows additional time).

B. *ENGINEER'S Decision:* ENGINEER will render a formal decision in writing within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any. ENGINEER'S written decision on such Claim, dispute, or other matter will be final and binding upon OWNER and CONTRACTOR unless:

1. an appeal from ENGINEER'S decision is taken within the time limits and in accordance with the dispute resolution procedures set forth in Article 16; or

2. if no such dispute resolution procedures have been set forth in Article 16, a written notice of intention to appeal from ENGINEER'S written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within 30 days after the date of such decision, and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction within 60 days after the date of such decision or within 60 days after Substantial Completion, whichever is later (unless otherwise agreed in writing by OWNER and CONTRACTOR), to exercise such rights or remedies as the appealing party may have with respect to such Claim, dispute, or other matter in accordance with applicable Laws and Regulations.

C. If ENGINEER does not render a formal decision in writing within the time stated in paragraph 10.05.B, a

decision denying the Claim in its entirety shall be deemed to have been issued 31 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any.

D. No Claim for an adjustment in Contract Price or Contract Times (or Milestones) will be valid if not submitted in accordance with this paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; CASH ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to CONTRACTOR will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by OWNER.

2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with

which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

3. Payments made by CONTRACTOR to Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER, who will then determine, with the advice of ENGINEER, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR'S Cost of the Work and fee as provided in this paragraph 11.01.

4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of CONTRACTOR.

c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.

d. Sales, consumer, use, and other similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR'S fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expressage, and similar petty cash items in connection with the Work.

i. When the Cost of the Work is used to determine the value of a Change Order or of a Claim, the cost of premiums for additional Bonds and insurance required because of the changes in the Work or caused by the event giving rise to the Claim.

j. When all the Work is performed on the basis of cost-plus, the costs of premiums for all Bonds and insurance CONTRACTOR is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals (of

partnerships and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by CONTRACTOR, whether at the Site or in CONTRACTOR'S principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.01.A.1 or specifically covered by paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the CONTRACTOR'S fee.

2. Expenses of CONTRACTOR'S principal and branch offices other than CONTRACTOR'S office at the Site.

3. Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S capital employed for the Work and charges against CONTRACTOR for delinquent payments.

4. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraphs 11.01.A and 11.01.B.

C. *CONTRACTOR'S Fee:* When all the Work is performed on the basis of cost-plus, CONTRACTOR'S fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, CONTRACTOR'S fee shall be determined as set forth in paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to paragraphs 11.01.A and 11.01.B, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

11.02 Cash Allowances

A. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so

covered to be performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

2. CONTRACTOR'S costs for unloading and handling on the Site, labor, installation costs, overhead, profit, and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

B. Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER subject to the provisions of paragraph 9.08.

B. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.

C. For provisions for an adjustment of a unit price for an increase or decrease in the quantity of Unit Price Work, if any, see General Requirements Section 01270, Measurement and Payment.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 Change of Contract Price

A. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in paragraph 11.01) plus a CONTRACTOR'S fee for overhead and profit (determined as provided in paragraph 12.01.C).

C. *CONTRACTOR'S Fee:* The CONTRACTOR'S fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under paragraphs 11.01.A.1 and 11.01.A.2, the CONTRACTOR'S fee shall be 15 percent;

b. for costs incurred under paragraph 11.01.A.3, the CONTRACTOR'S fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier

Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR'S fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in CONTRACTOR'S fee shall be computed on the basis of the net change in accordance with paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times (or Milestones) may only be changed by a Change Order or by a Written Amendment. Any Claim for an adjustment in the Contract Times (or Milestones) shall be based on written notice submitted by the party making the claim to the ENGINEER and the other party to the Contract in accordance with the provisions of paragraph 10.05.

B. Any adjustment of the Contract Times (or Milestones) covered by a Change Order or of any Claim for an adjustment in the Contract Times (or Milestones) will be determined in accordance with the provisions of this Article 12.

12.03 *Delays Beyond CONTRACTOR'S Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in paragraph 12.02.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

12.04 *Delays Within CONTRACTOR'S Control*

A. The Contract Times (or Milestones) will not be extended due to delays within the control of

CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.05 *Delays Beyond OWNER'S and CONTRACTOR'S Control*

A. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR'S sole and exclusive remedy for such delay.

12.06 *Delay Damages*

A. In no event shall OWNER or ENGINEER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from:

1. delays caused by or within the control of CONTRACTOR; or

2. delays beyond the control of both OWNER and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

B. Nothing in this paragraph 12.06 bars a change in Contract Price pursuant to this Article 12 to compensate CONTRACTOR due to delay, interference, or disruption directly attributable to actions or inactions of OWNER or anyone for whom OWNER is responsible.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. OWNER, ENGINEER, ENGINEER'S Consultants, other representatives and personnel of OWNER, independent testing laboratories, and governmental

agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR'S Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by paragraphs 13.03.C and 13.03.D below;
2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.04.B shall be paid as provided in said paragraph 13.04.B; and
3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection or approval.

D. CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for OWNER'S and ENGINEER'S acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR'S purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to OWNER and ENGINEER.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

F. Uncovering Work as provided in paragraph 13.03.E shall be at CONTRACTOR'S expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR'S intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER'S observation and replaced at CONTRACTOR'S expense.

B. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER'S request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a Claim therefor as provided in paragraph 10.05.

13.05 *OWNER May Stop the Work*

A. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR, any Subcontractor, any Supplier, any

other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. CONTRACTOR shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by ENGINEER, remove it from the Project and replace it with Work that is not defective. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for CONTRACTOR'S use by OWNER or permitted by Laws and Regulations as contemplated in paragraph 6.11.A is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions: (i) repair such defective land or areas, or (ii) correct such defective Work or, if the defective Work has been rejected by OWNER, remove it from the Project and replace it with Work that is not defective, and (iii) satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or repaired or may have the rejected Work removed and replaced, and all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

B. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

C. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

D. CONTRACTOR'S obligations under this paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, OWNER (and, prior to ENGINEER'S recommendation of final payment, ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall pay all Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to OWNER'S evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by CONTRACTOR pursuant to this sentence. If any such acceptance occurs prior to ENGINEER'S recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and OWNER shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, OWNER may make a Claim therefor as provided in paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

13.09 *OWNER May Correct Defective Work*

A. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.06.A, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days written notice to CONTRACTOR, correct and remedy any such deficiency.

B. In exercising the rights and remedies under this paragraph, OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the Site, take possession of all or part of the Work and suspend CONTRACTOR'S services related thereto, take possession of CONTRACTOR'S tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER'S representatives, agents and employees, OWNER'S other contractors, and ENGINEER and ENGINEER'S Consultants access to the Site to enable OWNER to exercise the rights and remedies under this paragraph.

C. All Claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by OWNER in exercising the rights and remedies under this paragraph 13.09 will be charged against CONTRACTOR, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, OWNER may make a Claim therefor as provided in paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of CONTRACTOR'S defective Work.

D. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies under this paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The schedule of values established as provided in paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments*

1. At least 10 days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which must be satisfactory to OWNER.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of CONTRACTOR stating that all previous progress payments received on account of the Work have been applied on account to discharge CONTRACTOR'S legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. ENGINEER will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER or return the Application to CONTRACTOR indicating in writing ENGINEER'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

2. ENGINEER'S recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER'S observations on the Site of the executed Work as an experienced and qualified design professional and on ENGINEER'S review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER'S knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.08, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to CONTRACTOR'S being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER'S responsibility to observe the Work.

3. By recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents; or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

4. Neither ENGINEER'S review of CONTRACTOR'S Work for the purposes of recommending payments nor ENGINEER'S recommendation of any payment, including final payment, will impose responsibility on ENGINEER to supervise, direct, or control the Work or for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for CONTRACTOR'S failure to comply with Laws and Regulations applicable to CONTRACTOR'S performance of the Work. Additionally, said review or recommendation will not impose responsibility on ENGINEER to make any examination to ascertain how or for what purposes CONTRACTOR has used the moneys paid on account of the Contract Price, or to determine that title to any of the Work, materials, or equipment has passed to OWNER free and clear of Liens.

5. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER'S opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.02.B.2. ENGINEER may also refuse to recommend any such

payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in ENGINEER'S opinion to protect OWNER from loss because:

a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

b. the Contract Price has been reduced by Written Amendment or Change Orders;

c. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.09; or

d. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraph 15.02.A.

C. *Payment Becomes Due*

1. Sixty days after presentation of the Application for Payment to OWNER with ENGINEER'S recommendation, the amount recommended will (subject to the provisions of paragraph 14.02.D) become due, and when due will be paid by OWNER to CONTRACTOR.

D. *Reduction in Payment*

1. OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

a. claims have been made against OWNER on account of CONTRACTOR'S performance or furnishing of the Work;

b. liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens;

c. there are other items entitling OWNER to a set-off against the amount recommended; or

d. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.02.B.5.a through 14.02.B.5.c or paragraph 15.02.A.

2. If OWNER refuses to make payment of the full amount recommended by ENGINEER, OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for

such action and promptly pay CONTRACTOR any amount remaining after deduction of the amount so withheld. OWNER shall promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER'S satisfaction the reasons for such action.

3. If it is subsequently determined that OWNER'S refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by paragraph 14.02.C.1.

14.03 *CONTRACTOR'S Warranty of Title*

A. CONTRACTOR warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

A. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Promptly thereafter, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within 14 days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER'S objections, ENGINEER considers the Work substantially complete, ENGINEER will within said 14 days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the

tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER'S issuing the definitive certificate of Substantial Completion, ENGINEER'S aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

B. OWNER shall have the right to exclude CONTRACTOR from the Site after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Use by OWNER at OWNER'S option of any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR'S performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following conditions.

1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR, and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons

therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

2. No occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of the Supplementary Conditions regarding property insurance.

14.06 *Final Inspection*

A. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will promptly make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment*

1. After CONTRACTOR has, in the opinion of ENGINEER, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in paragraph 6.12), and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.04.B.7; (ii) consent of the surety, if any, to final payment; and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in paragraph 14.07.A.2 and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien

could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

B. *Review of Application and Acceptance*

1. If, on the basis of ENGINEER'S observation of the Work during construction and final inspection, and ENGINEER'S review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the Contract Documents have been fulfilled, ENGINEER will, within 10 days after receipt of the final Application for Payment, indicate in writing ENGINEER'S recommendation of payment and present the Application for Payment to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.09. Otherwise, ENGINEER will return the Application for Payment to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due*

1. Sixty days after the presentation to OWNER of the Application for Payment and accompanying documentation, the amount recommended by ENGINEER will become due and, when due, will be paid by OWNER to CONTRACTOR.

D. *Final Completion Delayed*

1. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR'S final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.01, the written consent of the surety to the payment of the balance due for that

portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.08 *(Not Used)*

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by OWNER against CONTRACTOR, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR'S continuing obligations under the Contract Documents; and

2. a waiver of all Claims by CONTRACTOR against OWNER other than those previously made in writing which are still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *OWNER May Suspend Work*

A. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes a Claim therefor as provided in paragraph 10.05.

15.02 *OWNER May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. CONTRACTOR'S persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.07 as adjusted from time to time pursuant to paragraph 6.04);

2. CONTRACTOR'S disregard of Laws or Regulations of any public body having jurisdiction;

3. CONTRACTOR'S disregard of the authority of ENGINEER; or

4. CONTRACTOR'S violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in paragraph 15.02.A occur, OWNER may, after giving CONTRACTOR (and the surety, if any) seven days written notice, terminate the services of CONTRACTOR, exclude CONTRACTOR from the Site, and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the Site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case, CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by OWNER arising out of or relating to completing the Work, such excess will be paid to CONTRACTOR. If such claims, costs, losses, and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses, and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and, when so approved by ENGINEER, incorporated in a Change Order. When exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

C. Where CONTRACTOR'S services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.03 *OWNER May Terminate For Convenience*

A. Upon seven days written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Contract. In

such case, CONTRACTOR shall be paid (without duplication of any items):

1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. for all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. for reasonable expenses directly attributable to termination.

B. CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *CONTRACTOR May Stop Work or Terminate*

A. If, through no act or fault of CONTRACTOR, the Work is suspended for more than 90 consecutive days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within 30 days after it is submitted, or OWNER fails for 60 days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Contract and recover from OWNER payment on the same terms as provided in paragraph 15.03. In lieu of terminating the Contract and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within 30 days after it is submitted, or OWNER has failed for 60 days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may, seven days after written notice to OWNER and ENGINEER, stop the Work until payment is made of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.04 are not intended to preclude CONTRACTOR from making a Claim under paragraph 10.05 for an adjustment in Contract Price or Contract

Times or otherwise for expenses or damage directly attributable to CONTRACTOR'S stopping the Work as permitted by this paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Dispute resolution methods and procedures, if any, shall be as set forth in the Supplementary Conditions. If no method and procedure has been set forth, and subject to the provisions of paragraphs 9.09 and 10.05, OWNER and CONTRACTOR may exercise such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. The Article and paragraph headings are inserted for convenience only and do not constitute part of these General Conditions.

END OF GENERAL CONDITIONS

ERIE COUNTY WATER AUTHORITY
BUFFALO, NEW YORK

CONTRACT No: W-034A
STORAGE TANK REFURBISHING – RICE HILL, WOHLHUETER, CRESTWOOD
PROJECT NO: 202100193

SECTION 00800

SUPPLEMENTARY CONDITIONS

SCOPE

These Supplementary Conditions amend or supplement the General Conditions. All provisions of the General Conditions which are not so amended or supplemented remain in full force and effect.

The terms used in these Supplementary Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

SC-1.01.A.7. Modify paragraph 1.01.A.7. by changing the word “Advertisement” in the first sentence to “Notice”.

SC-1.01.A.43 Add the following to Paragraph 1.01.A.43:

Substantial Completion for a watermain shall be achieved at such time as the watermain, or portion thereof, has been installed, tested, disinfected, issuance of Completed Works Approval by the Erie County Water Authority, all of the services transferred, if applicable, all the hydrants installed, all of the interconnections made, and all of the abandonments performed.

SC-4.02 Add new paragraph immediately after paragraph 4.02.B which is to read as follows:

SC-4.02.C In the preparation of the Drawings and Specifications, ENGINEER has relied upon:

1. The following reports with photographs of physical conditions related to the tanks:
 - a. Evaluation of the 350,000 Gallon Steel Standpipe “Rice Hill Tank” Boston, New York by Tank Industry Consultants, October 2016.
 - b. Erie County Water Authority Rice Hill Draft Tank Report by CorrTech, October 2021.
 - c. Evaluation of the 672,000 Gallon Steel Standpipe “Wohlhueter Tank” Colden, New York by Tank Industry Consultants, October 2017.
 - d. Erie County Water Authority Wohlhueter Draft Field Report by CorrTech, October 2021.

- e. Evaluation of the 710,000 Gallon Concrete Ground Storage Tank “Crestwood Tank” Boston, New York by Tank Industry Consultants, March 2017.
- 2. The following drawings of physical conditions and appurtenances relating to the tanks:
 - a. 1999 (Rice Hill) Zimmerman Road Water Storage Tank Record Drawings
 - b. 2003 (Wohlhueter) East Hill Water District No. 3 Water Storage Tank Drawings
 - c. 1997 (Crestwood) Natgun Precast Concrete Tank Drawings

Copies of the reports and drawings listed are available for electronic review through the Avalon Plan Room. Reference the Notice to Bidders for access information.

SC-4.06.A Add a new paragraph immediately after paragraph 4.06.A which is to read as follows:

SC-4.06.A.1 In the preparation of the Drawings and Specifications, ENGINEER did not utilize any report or drawing related to a Hazardous Environmental Condition identified at the Site except as identified in SC-4.02.

SC-5.01.A Modify the first part of the second sentence of paragraph 5.01.A of the General Conditions to read:

The payment Bond shall remain in effect for one year and the performance Bond shall remain in effect for two years after....

SC-5.04 through 5.10. Delete paragraph 5.04 through 5.10, inclusive, in their entirety.

SC-5.04 Add two new paragraphs immediately after Paragraph 5.03, which is to read as follows:

“SC-5.04 *Insurance Requirements*

SC-5.04.A. CONTRACTOR shall procure and maintain insurance in accordance with Insurance Requirements, as set forth in the attached Appendix B-1 and hereby made a part of these General Conditions.”

SC-5.04.B. CONTRACTOR shall require all direct and indirect subcontractors to procure and maintain insurance in accordance with the Insurance Requirements, as set forth in the Addendum Agreement attached as Appendix B-2 and hereby made a part of these General Conditions.”

SC-6.02.B Add new paragraphs immediately after paragraph 6.02.B which are to read as follows:

“SC-6.02.B.1 Except where otherwise prohibited by Laws or Regulations, regular working hours are defined as up to 8 hours per day, beginning no earlier than 7:00 am and ending no later than 6:00 pm.

SC-6.02.B.2 Maintenance and cleanup activities may be performed during hours other than regular working hours provided that such activities do not require the startup or operation of construction equipment.

SC-6.02.B.3 If it shall become absolutely necessary to perform Work at night or on Saturdays, Sundays or legal holidays, written notice shall be submitted to OWNER and ENGINEER at least two days in advance of the need for such Work. OWNER will only consider the performance of such Work as can be performed satisfactorily under the conditions. Sufficient lighting and all other necessary facilities for carrying out and observing the Work shall be provided and maintained where such Work is being performed at night.”

SC-6.06.G Modify paragraph 6.06.G. by changing paragraph reference 5.06 to SC-5.04.

SC-6.06.H Add the following new paragraph immediately following paragraph 6.06.G, which is to read as follows:

“SC-6.06.H Before Work commences, the OWNER must review and approve any proposed subcontracting agreement prior to its execution. All Work performed by any SUBCONTRACTOR must be performed under supervision and control of the CONTRACTOR. As used in this paragraph, a SUBCONTRACTOR is defined in GC 1.01.A.42. Any subcontracting agreement must contain an Addendum Agreement in the form set forth in Appendix B-2.”

SC-6.06.I Add the following new paragraph immediately following paragraph 6.06.G, which is to read as follows:

“SC-6.06.I The CONTRACTOR shall perform with the CONTRACTOR’S own organization, contract work amounting to not less than fifty percent of the original total contract price. The term “the CONTRACTOR’S own organization” shall be construed to include only workmen employed and paid directly by the CONTRACTOR, and equipment owned or rented by the CONTRACTOR, with or without operators.”

SC-6.09.B. Add a new paragraph immediately after paragraph 6.09.B which is to read as follows:

“SC-6.09.C Refer to Article SC-18 for Laws and Regulations which, by terms of said Laws and Regulations are to be included in the Contract Documents. The failure to include in Article SC-18 any Law or Regulation

applicable to the performance of the Work does not diminish CONTRACTOR'S responsibility to comply with all Laws and Regulations applicable to the performance of the work."

SC-6.10. Add a new paragraph immediately after paragraph 6.10.A, which is to read as follows:

"SC-6.10.B OWNER is exempt from payment of sales and compensating use taxes of the State of New York and of cities and counties on all materials to be incorporated into the Work.

1. OWNER will furnish the required certificates of tax exemption to CONTRACTOR for use in the purchase of supplies and materials to be incorporated into the Work.
2. OWNER'S exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by CONTRACTOR, or to supplies or materials not incorporated into the Work."

SC-6.15.A. Add a new paragraph immediately after paragraph 6.15.A, which is to read as follows:

"SC-6.15.B CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with all Laws and regulations. CONTRACTOR shall provide a centralized location for the maintenance of the material safety data sheets or other hazard communication information required to be made available by any employer on the Site. Location of the material safety data sheets or other hazard communication information shall be readily accessible to the employees of any employer on the Site."

SC-7.01 Add a new paragraph immediately after Paragraph 7.01 which is to read as follows:

"SC-7.02 *Separate Contractor Claims*

- A. Should CONTRACTOR cause damage to the work or property of any other contractor at the Site, or should any claim arising out of CONTRACTOR'S performance of the Work be made by any other contractor against CONTRACTOR, OWNER, or ENGINEER, CONTRACTOR shall promptly settle with such other contractor by agreement, or otherwise resolve the dispute by arbitration or at law.
- B. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, and the officer, directors, partners, employees, agents, and other consultants or subcontractors of each and any of them from and against all claims, costs, losses and damages (including but not limited to, all fees and charges of engineers, architects, attorneys, and other

professionals and all court or arbitration or other dispute resolution costs) arising directly, indirectly, or consequentially out of or relating to any claim or action, legal or equitable, brought by any other contractor against OWNER, ENGINEER, to the extent based upon CONTRACTOR'S performance of the Work.

- C. Should another contractor cause damage to the Work or property of CONTRACTOR at the Site or should the performance of work by any other contractor give rise to any other claim, CONTRACTOR shall not institute any action, legal or equitable, against OWNER, ENGINEER, or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from OWNER, ENGINEER, on account of any such damage or claim.
- D. If CONTRACTOR is delayed at any time in performing or furnishing Work by any act or neglect of another contractor and OWNER and CONTRACTOR are unable to agree as to the extent of any adjustment in Contract Times attributable thereto, CONTRACTOR may make a claim for an extension of time in accordance with paragraph 10.05. Notwithstanding any other provision of the Contract Documents, an extension of the Contract Times shall be CONTRACTOR'S sole and exclusive remedy with respect to OWNER, ENGINEER, for any delay, disruption, interference or hindrance caused by any other contractor."

SC-9.03 Add a new paragraph immediately after paragraph 9.03.A which is to read as follows:

"SC-9.03.B. Resident Project Representative (RPR) will be OWNER'S agent at the Site, will act as directed by and under the supervision of OWNER, and will confer with OWNER AND ENGINEER regarding RPR's actions. RPR's dealings in matters pertaining to the on-site Work shall in general be with OWNER and CONTRACTOR keeping ENGINEER advised as necessary. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of CONTRACTOR."

SC-13.07 Modify paragraphs 13.07.A. and C. by changing the words "one year" in the first line to "two years".

SC-14.02,A. Add a new paragraph immediately after paragraph 14.02.A.3. which is to read as follows:

"4. Each Application for Payment shall be accompanied by a copy of the certified payroll record."

SC-14.07,A. Add a new paragraph immediately after paragraph 14.07.A.3. which is to read as follows:

“4. The Final Application for Payment shall be accompanied by a copy of the certified payroll record.”

SC-14.07.A.2 Modify paragraph 14.07.A.2 by changing the words “subparagraph 5.04.B.7” to “SC-5.04”.

SC-17.06 Add new paragraphs immediately after paragraph 17.06,A. which are to read as follows:

“ARTICLE SC-18 - STATUTORY REQUIREMENTS

SC-18.01 This Article contains portions of certain Laws or Regulations which, by provision of Law or Regulations, are required to be included in the Contract Documents. The material included in this Article may not be complete or current. CONTRACTOR’S obligation to comply with all Laws and Regulations applicable to the Work is set forth in paragraph 6.09 of the General Conditions.

SC-18.02 Non-Discrimination in Employment:

A. During the performance of this contract, CONTRACTOR agrees as follows:

1. CONTRACTOR will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin, and will take affirmative action to insure that they are afforded equal employment opportunities without discrimination because of race, creed, color or national origin. Such action shall be taken with reference but not limited to: recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff or termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training.
2. CONTRACTOR will send to each labor union or representative of workers with which he has or is bound by a collective bargaining or other agreement or understanding, a notice, to be provided by the State Commission for Human Rights, advising such labor union or representative of the CONTRACTOR’S agreement under clauses 1. through 8. hereinafter called “non-discrimination clauses”. If the CONTRACTOR was directed to do so by the OWNER as part of the Bid or negotiation of this contract, CONTRACTOR shall request labor union or representative to furnish him with a written statement that such labor union or representative will not discriminate because of race, creed, color or national origin and that such labor union or representative either will affirmatively cooperate within the limits of its legal and contractual authority, in the implementation of the policy and provisions of these non-discrimination clauses or that it consents and agrees that recruitment, employment, and the terms and conditions of employment under this contract shall be in accordance with the purposes and provisions of these non-discrimination clauses. If such labor union or representative fails or refuses to comply with such a request, that it furnish such a statement, CONTRACTOR shall promptly notify the State Commission for Human Rights of such failure or refusal.

3. CONTRACTOR will post and keep posted in conspicuous places, available to employees and applicants for employment, notices to be provided by the State Commission for Human Rights setting forth the substance of the provisions of clauses 1. through 2. and such provisions of the State's Laws against discrimination as the State Commission for Human Rights shall determine.
4. CONTRACTOR will state, in all solicitations or advertisements for employees placed by or on behalf of CONTRACTOR, that all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color or national origin.
5. CONTRACTOR will comply with the provisions of the Executive Law, Human Rights Law, Article 15, will furnish all information and reports deemed necessary by the State Commission for Human Rights under these non-discrimination clauses and such sections of the Executive Law, and will permit access to his books, records and accounts by the State Commission for Human Rights, the Attorney General, District Commissioner of Housing and Community Renewal and the Industrial Commission for purposes of investigation to ascertain compliance with these non-discrimination clauses of the Executive Law, Human Rights Law, Article 15.
6. This contract may be forthwith canceled, terminated or suspended, in whole or in part, by the OWNER upon the basis of a finding made by the State Commission for Human Rights that CONTRACTOR has not complied with these non-discrimination clauses, and CONTRACTOR may be declared ineligible for future contracts made by or on behalf of the State or a public authority or agency of the State or housing authority, or an urban renewal agency, or contracts requiring the approval of the Commissioner of Housing and Community Renewal, until he has satisfied the State Commission for Human Rights after conciliation efforts by the Commission have failed to achieve compliance with these non-discrimination clauses and after a verified complaint has been filed with the Commission, notice thereof has been given to CONTRACTOR and an opportunity has been afforded him to be heard publicly before three members of the Commission. Such sanctions may be imposed and remedies invoked independently of or in addition to sanctions and remedies otherwise provided by law.
7. If this contract is canceled or terminated under clause 6., in addition to other rights of the OWNER provided in this contract upon its breach by CONTRACTOR, CONTRACTOR will hold the OWNER harmless against any additional expenses or costs incurred by the OWNER in completing the Work or in purchasing the services, materials, equipment or supplies contemplated by this contract, and the OWNER may withhold payments from CONTRACTOR in an amount sufficient for this purpose and recourse may be had against the surety on the Performance Bond if necessary.
8. CONTRACTOR will include the provisions of clauses 1. through 2. in every subcontract or purchase order altered only to reflect the proper identity of the parties in such a manner that such provisions will be binding upon each Subcontractor or vendor as to operations to be performed within the State of New York. CONTRACTOR will take such actions in enforcing such provisions of such subcontract or purchase order as the OWNER may direct, including sanctions or remedies for non-compliance. If CONTRACTOR becomes involved in or is threatened with litigation with a Subcontractor or vendor as a result of such

direction by the OWNER, the CONTRACTOR shall promptly so notify the Attorney General, requesting him to intervene and to protect the interest of the State of New York.

SC-18.03 Affirmative Action Requirements:

- A. During the performance of this Contract, the CONTRACTOR agrees that it will abide by and will require its subcontractors to abide by the AUTHORITY'S Affirmative Action Requirements and Women and Minority Business Enterprise Policy, as set forth in the attached Appendix A and hereby made a part of these General Conditions.

SC-18.04 Prevailing Rate Schedule:

- A. The labor on this contract shall be performed in accordance with the requirements of Article 8 (Sections 220-223) of the New York State Labor Law. The supplements to be provided and wages to be paid to workers, laborers and mechanics employed on this contract, determined pursuant to Section 220 of the Labor Law, are set forth in Appendix C, Prevailing Rate Schedule, attached to and hereby made a part of these General Conditions.
- B. CONTRACTOR shall note that the wage rates and supplemental benefits shown in the attached schedules are subject to change. The wage rates and supplemental benefits to be paid and provided shall be those prevailing at the time the contract is being performed.

SC-18.05 Payments to Subcontractors:

- A. In accordance with N.Y. State General Municipal Law, Section 106-b, CONTRACTOR shall:
 - 1. Within fifteen calendar days of the receipt of any payment from the OWNER, the CONTRACTOR shall pay each of his Subcontractors and materialmen the proceeds from the payment representing the value of the work performed and/or materials furnished by the Subcontractor and/or materialman and reflecting the percentage of the Subcontractor's work completed or the materialman's material supplied in the requisition approved by the OWNER and based upon the actual value of the subcontract or purchase order less an amount necessary to satisfy any claims, liens or judgments against the Subcontractor or materialman which have not been suitably discharged and less any retained amount as hereafter described. The CONTRACTOR shall retain not more than five per centum of each payment to the Subcontractor and/or materialman except that the CONTRACTOR may retain in excess of five per centum but not more than ten per centum of each payment to the Subcontractor provided that prior to entering into a subcontract with the CONTRACTOR, the Subcontractor is unable or unwilling to provide a Performance bond and a Labor and Material bond both in the full amount of the subcontract at the request of the CONTRACTOR. However, the CONTRACTOR shall retain nothing from those payments representing proceeds owed the Subcontractor and/or materialman from OWNER'S payments to the CONTRACTOR for the remaining amounts of the contract balance after the work or portions thereof are substantially complete. Within fifteen calendar days of the receipt of payment from the

CONTRACTOR, the Subcontractor and/or materialman shall pay each of his Subcontractors and materialmen in the same manner as the CONTRACTOR has paid the Subcontractor. Nothing provided herein shall create any obligation on the part of the OWNER to pay or to see to the payment of any moneys to any Subcontractor or materialman from any CONTRACTOR nor shall anything provided herein serve to create any relationship in contract or otherwise, implied or expressed, between the Subcontractor or materialman and the OWNER.

SC-18.06 Erie County Water Authority Apprenticeship Policy

- A. During the performance of this Contract, the CONTRACTOR, its assigns, and designees, agree that it will abide by and will require its Subcontractors to abide by the Erie County Water Authority's Apprenticeship Policy, as stated in paragraph B of this Section.
- B. That pursuant to New York State Labor Law §816-B, the Erie County Water Authority hereby mandates that all contractors and subcontractors entering into any construction contracts with the Erie County Water Authority shall have established apprenticeship agreements appropriate for the type and scope of work to be performed under the contract, that have been approved by the New York State Commissioner of Labor and shall require the employment of apprentices on Erie County Water Authority construction projects.

SC-18.07 Purchases by Other Local Governments

- C. The Erie County Water Authority (the "Authority") has adopted the following resolution for the purpose of allowing the following named local governments (the "Participants") to make purchases through the Authority bidding procedures.
- D. Under the following conditions, the Director of Administration may make purchasing services available to the following Participants:
 - 1. When in the opinion of the Director of Administration it will not create any burden or hardship upon the Authority and the anticipated prices will not be adversely affected thereby, the Director is authorized when he deems appropriate and as may be requested by the Participants to provide in any particular Authority bid specification that the Participants listed below shall have the right to make purchases based upon the bids received by the Authority.
 - 2. The Director of Administration, within the limits of his time and manpower, shall disseminate relevant contract information to the Participants.
 - 3. The Participants in Authority contracts will issue purchase orders directly to vendors within the specified contract period referencing the Authority contract involved and be liable for any payments due on such purchase orders.
- E. Bidders shall take notice that as a condition of the award of an Authority contract pursuant to these specifications, the successful bidder agrees to accept the award of a similar contract with any of the Participants listed below if called upon to do so. The Authority, however, will not be responsible for any debts incurred by the Participants pursuant to this or any other agreement.

- F. Necessary deviations from the Authority's specifications in the award of a Participant's contract, particularly as such deviations may relate to quantities or delivery point shall be a matter to be resolved between the successful bidder and Participants. All inquiries regarding prospective contracts shall be directed to the attention of:
1. ANGOLA VILLAGE OF, Clerk-Treasurer, 41 Commercial Street, Angola, NY 14006
 2. ALABAMA TOWN OF, Deputy Supervisor, 2218 Judge Road, Oakfield, NY 14125
 3. BENNINGTON TOWN OF, Water System Operator, 134 Clinton Street, Alden, NY 14004
 4. BRANT TOWN OF, Town Clerk, Town Hall, 992 Brant-Farnham Road, Brant, NY 14027
 5. COLDEN TOWN OF, Deputy Town Clerk, Town Hall, S-8812 State Road, Colden, NY 14033
 6. EAST AURORA VILLAGE OF, Village Clerk, 571 Main Street, East Aurora, NY 14052
 7. ELMA TOWN OF, Town Clerk, Town Hall, 1600 Bowen Road, Elma, NY 14059
 8. FARNHAM VILLAGE OF, Village Clerk-Treasurer, 526 Commercial Street, Farnham, NY 14061
 9. HANOVER TOWN OF, Town Clerk, 68 Hanover Street, Silver Creek, NY 14136
 10. ORCHARD PARK VILLAGE OF, Clerk-Treasurer, 4295 South Buffalo Road, Orchard Park, NY 14127
 11. SILVER CREEK VILLAGE OF, Village Clerk, 172 Central Avenue, Silver Creek, NY 14136"

END OF SUPPLEMENTARY CONDITIONS

SECTION 01100

SUMMARY OF WORK

PART 1 - GENERAL

1.01 LOCATION AND SCOPE OF WORK

- A. The Work consists of refurbishing of two steel tanks and one concrete tank. This includes surface preparation and painting of the interior of two steel tanks, the exterior of one steel tank, the exterior of one concrete tank and miscellaneous modifications to two steel tanks and one concrete tanks.
1. **Rice Hill Tank (350,000 gal steel standpipe)** – The interior of the tank shall be near white metal blast cleaned (SSPC-SP-10) and coated with a 100% solids system. All interior seams shall be seam sealed up to high waterline. Interior pit repair will be done as necessary as directed by the ENGINEER. Roof steel repair will be repaired. The exterior roof of the tank shall be overcoated. Spent blast debris shall be handled and stored under the rules and regulations for hazardous waste until testing is performed by the Contractor to determine if it is hazardous or non-hazardous. Work shall include initial cleaning and/or deicing of the tank. Pit welding and patching shall be done as identified in specification Section 01270 Measurement and Payment. Work shall also include various miscellaneous modifications as identified in specification section 01270.
 2. **Wohlhueter Tank (700,000 gal steel standpipe)** – The interior of the tank shall be near white metal blast cleaned (SSPC-SP-10) and coated with a 100% solids system. All interior seams shall be seam sealed up to high waterline. Interior pit repair will be done as necessary as directed by the ENGINEER. The exterior of the tank shall be commercial blast cleaned (SSPC-SP-6) and recoated. Spent blast debris shall be handled and stored under the rules and regulations for hazardous waste until testing is performed by the Contractor to determine if it is hazardous or non-hazardous. Work shall include initial cleaning and/or deicing of the tank. Pit welding and patching shall be done as identified in specification Section 01270 Measurement and Payment. Work shall also include various miscellaneous modifications as identified in specification section 01270.

3. **Crestwood Tank (700,000 gal concrete ground)** – The exterior shall be pressure washed. Spalling and cracking on the tank dome shall be repaired and as directed by the ENGINEER. The interior wet piping shall be near white metal blast cleaned (SSPC-SP-10) and coated with a 100% solids system. Work shall include installation of a dome handrail and other work as identified in Section 01270 Measurement and Payment and as noted on the plans. Work shall also include various miscellaneous modifications as identified in specification section 01270.
- B. If awarded under Alternate A, the Alternate Work consists of rehabilitation as described below.
1. **Crestwood Tank (700,000 gal concrete ground)** – The exterior shall be coated with an architectural coating as indicated in section 01270 Measurement and Payment.
- C. The Work is located in Erie County, New York as follows:
- Rice Hill Tank – 8971 Zimmerman Rd., Boston, NY
Wohlhueter Tank – North of 7695 Wohlhueter Rd., Colden, NY
Crestwood Tank – North of 7519 Crestwood Circle, Orchard Park, NY
- Project location maps can be found in Appendix D.
- D. The summary of the Work described in the Section 01100 is an overall summary of the responsibilities of the CONTRACTOR and his relation to the OWNER. It does not supersede the specific requirements of the other Contract Documents.

1.02 CONTRACTS

- A. The Work shall be constructed under one prime contract.

1.03 WORK BY OTHERS

- A. Work by OWNER:
1. The Authority will operate all utility water system valves and hydrants.
 2. The Authority will perform all electrical shutdowns.
 3. The Authority will drain the tanks.
 4. The Authority will fill all tanks to overflow after disinfection by the Contractor.
- B. Coordinate as required with Contractor(s) on the following projects, which may be under construction on the site(s) at the same time as this project:
1. No other work is anticipated at this time.

1.04 NOT USED

1.05 NOT USED

1.06 SEQUENCE OF WORK

A. General

1. The Work generally shall be constructed without disruption to the normal operation of the Authority and as otherwise approved by the OWNER.
2. It is hereby understood that Time is of Essence in performing all work.
3. Work performed in the vicinity of existing restaurants, police stations, health care facilities, industries, municipal buildings, places of worship, and schools must be performed in the least disruptive time (off hours) and must be coordinated with the affected establishment and the ENGINEER prior to work being performed.
4. Prior to any interconnection or abandonment, the CONTRACTOR shall schedule a water shut-down with the Erie County Water Authority through the ENGINEER.

1.07 CONTRACTOR'S USE OF PREMISES

- A. CONTRACTOR'S use of the premises shall be confined to the areas shown in the Tank Location Maps.
- B. The full use of the premises for storage, the operations of workmen and all other required construction activities will not be available to the CONTRACTOR.
- C. CONTRACTOR must share use of the premises with the OWNER and other contractors specified in Article 1.03.
- D. CONTRACTOR shall:
 1. Assume full responsibility for protection and safekeeping of products stored on or off premises.
 2. Move stored products that interfere with the operations of OWNER or other contractor.
 3. Obtain and pay for all additional storage or work areas required for his operations.
 4. Obtain and pay for all permits and satisfy all permit requirements.
 5. Comply with all requirements defined in other specification sections.
 6. Maintain order and cleanliness on the site including but not limited to removing and properly disposing of empty paint containers on a daily basis.
- E. Limits on CONTRACTOR'S use of site are:
 1. OWNER will designate the area available for field offices.

F. See General Conditions for additional requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01131

SCHEDULE OF COMPLETION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall perform the Work to achieve the Contract Times, Milestones, and specified completion requirements.
- B. Schedule of Completion describes selected Milestones and completion requirements and is not intended to describe all the Work or its constraints, interrelationships, or sequential requirements.
- C. Purpose of Milestones and completion requirements in the Schedule of Completion is to coordinate the Work with OWNER'S operations.
- D. OWNER reserves the right to turn over any tank to the CONTRACTOR at an earlier date than what is shown in the Schedule of Completion.

1.02 MILESTONES

- A. Rice Hill Milestone shall be achieved at such time as the Work associated with the Rice Hill Tank is complete which includes all tank modifications, blast cleaning, painting, curing, testing and Health Department approval and the tank fully operational and ready for service.
- B. Wohlhueter Milestone shall be achieved at such time as the Work associated with the Wohlhueter Tank is complete which includes all tank modifications, blast cleaning, painting, curing, testing and Health Department approval and the tank fully operational and ready for service.
- C. Crestwood Milestone shall be achieved at such time as the Work associated with the Crestwood Tank is complete which includes all tank modifications, pressure washing cleaning, painting, curing, testing, Health Department approval and the tank fully operational and ready for service.

1.03 SCHEDULE OF COMPLETION

A. The Schedule of Completion shall be:

SCHEDULE OF COMPLETION		
General Area of Work	Activity Associated with Milestone or Completion Requirements	Contract Time
Rice Hill Tank	Rice Hill Milestone	April 18, 2022 to June 3, 2022
Wohlhueter Tank	Wohlhueter Milestone	September 6, 2022 to November 11, 2022
Crestwood Tank	Crestwood Milestone	April 3, 2023 to May 26, 2023

1.04 SUBSTANTIAL AND FINAL COMPLETION

A. Substantial Completion includes the following:

1. All Miscellaneous Modifications
2. All surface preparation and application of coating systems
3. Curing of coatings
4. Testing and Health Department Approval
5. Tank ready for service

B. Final Completion includes the following:

1. Site restoration

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01140

USE OF OWNER'S FACILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR may use existing facilities or equipment in the new Work for construction purposes only if the OWNER'S written permission is obtained.
- B. Restore existing facilities and equipment used for temporary purposes to original condition in a manner satisfactory to OWNER.
- C. CONTRACTOR shall assume full responsibility for any damage that may result to existing or new facilities or equipment used for construction purposes and shall repair or replace any damaged facilities or equipment at CONTRACTOR'S cost.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01210

ALLOWANCES

PART 1 - GENERAL

1.01 SCOPE

- A. This Section includes administrative and procedural requirements governing the following types of allowances:
 - 1. Cash allowances.
 - 2. Contingency allowances.
- B. Authorization of Allowances:
 - 1. Work that will be done and paid under an allowance will be authorized in OWNER's written instruction to CONTRACTOR.
 - 2. Do not provide Work under an allowance without written authorization of OWNER.

1.02 CASH ALLOWANCE

- A. Cash allowances are stipulated amounts for anticipated purchase of products or systems. In addition to this Section, refer to General Conditions, as may be modified by the Supplementary Conditions; and individual Specification Sections for CONTRACTOR's costs to be covered by allowances, and CONTRACTOR's costs, including overhead and profit, to be included elsewhere in the Contract Price.
- B. At earliest practical date after Notice to Proceed, advise ENGINEER of date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- C. Consult with ENGINEER in selecting supplies and obtain proposals for price and time from selected suppliers. Submit proposals to ENGINEER along with recommendations relevant to furnishing and installing products covered in the allowance.
- D. Purchase products or systems from Suppliers selected by ENGINEER.
- E. Submit invoices or delivery slips to show actual cost and quantity of products or systems delivered to Site and used in fulfilling each allowance.
- F. Properly dispose of unused products and systems purchased under cash allowance.

- G. For each allowance, submit to ENGINEER a Change Order proposal to adjust Contract Price for difference between specified allowance amount and actual cost. Prepare Change Order proposal in accordance with General Conditions as may be modified by the Supplementary Conditions, except that payment within limit of a cash allowance shall exclude cost of bond and insurance premiums.

1.03 CONTINGENCY ALLOWANCE

- A. Contingency allowances are stipulated amounts available as reserve for sole use by OWNER to cover unanticipated costs.
- B. When authorization of Work under contingency allowance is contemplated by OWNER for a defined scope, submit Change Order proposal to ENGINEER. Prepare Change Order proposal in accordance with the General Conditions as may be modified by the Supplementary Conditions, except that payments within limit of contingency allowance shall exclude cost of bond and insurance premiums.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 CONTINGENCY ALLOWANCES

- A. Include contingency allowance of \$30,000 for Bid Item 1.10 Allowance for Repairs for use in accordance with the OWNER's instruction to perform miscellaneous repair work in the Rice Hill Tank consisting of such items as removing and replacing defective fillet welds, grinding on interior of tank to remove unused brackets, weld burrs, spatter, scars, and/or rough edges in steel.
- B. Include contingency allowance of \$60,000 for Bid Item 2.9 Allowance for Repairs for use in accordance with the OWNER's instruction to perform miscellaneous repair work in the Wohlhueter Tank consisting of such items as removing and replacing defective fillet welds, grinding on interior of tank to remove unused brackets, weld burrs, spatter, scars, and/or rough edges in steel.
- C. Include contingency allowance of \$20,000 for Bid Item 3.6 Allowance for Repairs for use in accordance with the OWNER's instruction to perform miscellaneous repair work in the Crestwood Tank.

END OF SECTION

SECTION 01270

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The items listed below beginning with Article 1.05, refer to and are the same pay items listed in the Bid Form. They constitute all of the pay items for the completion of the Work. No direct or separate payment will be made for providing miscellaneous temporary or accessory works, plant, services, ENGINEER'S and/or CONTRACTOR'S field offices, layout surveys, job signs, sanitary requirements, permits, testing, safety devices, shop drawings and samples, approval and record drawings, water supplies, power, maintaining traffic, removal of waste, watchmen, bonds, insurance, test pits and all other requirements of the General Conditions, Supplementary Conditions, and the General Requirements. Compensation for all such services, things and materials shall be included in the prices stipulated for the lump sum and unit price pay items listed herein.
- B. The lump sum and unit bid prices will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.
- C. The CONTRACTOR shall furnish all labor, materials, tools, equipment, services, and all appurtenances necessary to perform all work required, at the unit or lump sum prices for the items listed in the Bidder's Proposal. Each bid item shall include all costs to perform all work to complete each item. Work shall include, but is not necessarily limited to initial cleaning and deicing, surface preparation, seam sealing, pit filling, pit welding, welding, steel plate installation, coating application, structural modifications, spent abrasive disposal, all restoration, permits, testing, and disinfection.
- D. Each of the bid items shall also include the cost required in supporting and protecting existing utilities while working under, over, or alongside or near the utility. Also included, is the protection of overhead telephone, cable, electric power or other lines and the supporting of poles, if required.
 - 1. The utilities likely to be encountered include:
 - a. Overhead electric power lines.
 - b. Waterlines
 - c. Telephone, fiber optic, and cable TV
 - d. Below grade electrical conduit
 - e. Below grade telephone conduit

- f. Interior cable lines
 - g. Cell phone antennas, cables and other equipment
- 2. The cost of repairing any damage to the various utilities done during the installation of the work shall be included in the various bid items.
- E. Where fixed minimum unit prices are called for under an item heading, the bidder shall include a price not less than the stated minimum. Bidders' Proposals received which include a unit price less than the stated minimum shall be adjusted to meet the minimum unit price.

1.02 ENGINEER'S ESTIMATE OF QUANTITIES

- A. ENGINEER'S estimated quantities for unit price pay items, as listed in the Bid Form, are approximate only and are included solely for the purpose of comparison of Bids. OWNER does not expressly or by implication agree that the nature of the materials encountered or the actual quantities of material encountered or required will correspond therewith and reserves the right to increase or decrease any quantity or to eliminate any quantity as OWNER may deem necessary. Except as provided in Article 1.03, CONTRACTOR or OWNER will not be entitled to any adjustment in a unit bid price as a result of any change in an estimated quantity and agrees to accept the aforesaid unit bid prices as complete and total compensation for any additions caused by changes or alterations in the Work ordered by OWNER.

1.03 ADJUSTMENT OF UNIT PRICES FOR INCREASE OR DECREASE OF ESTIMATED QUANTITIES

- A. For bid items paid for on a unit price basis, increases or decreases in the quantity of an item of Work will be determined by comparing the total payable quantity of Work with ENGINEER'S estimated quantity as shown in the Bid Form. Increase or decreases will only be considered if the Schedule of Values as required in Section 01290 has been prepared, submitted, and approved.
- B. If the total payable quantity of any unit price item of Work, which has an as-bid computed total value of five percent or more of the sum of the as-bid computed total values of all items bid, varies from ENGINEER'S estimate of quantity therefore by more than 50 percent, the unit price of that item will be a subject of review by ENGINEER. If warranted, an equitable adjustment will be made by means of a Change Order to credit OWNER with any reduction in cost or to compensate CONTRACTOR for any increase in cost resulting from the change in quantity. This review of the adjustment will be made at a time ENGINEER deems reasonable and proper.
- C. Payment for any unit price item of Work, which has an as-bid computed total value of less than five percent of the sum of the as-bid computed total values of

all items bid, will be made at the unit price bid regardless of an increase or decrease in quantity.

1.04 RELATED PROVISIONS

- A. Payments to CONTRACTOR: Refer to General Conditions and Agreement.
- B. Changes in Contract Price: General Conditions.
- C. Schedule of Values: Section 01290.

1.05 BID ITEMS

A. Interior Wet Painting

1. Relevant Bid Items:

- 1.1 Rice Hill Tank
- 2.1 Wohlhueter Tank
- 3.1 Crestwood

2. Work Included:

- a. Steel Tanks – Bid Items 1.1, 2.1 - This item includes all labor, materials, equipment and incidentals required to blast clean and recoat the interior wet of the existing storage tank including all structural supports, ladders, interior and exterior of overflow box, and piping (including but not limited to inlet and outlet pipes, as described in these specifications, including initial tank cleaning and/or deicing, appurtenant equipment replacement, site work, repairs, minor maintenance, proper on-site storage of abrasive blast residue, new manhole gaskets, disinfection, sampling, and testing, protection of the surrounding area and clean-up. Disposal of interior abrasive blast residue following required sampling and testing of residue is also included. Additional payment will be made under the respective bid item if the residue is hazardous based on the test results. All work obviously necessary for completion of the contract shall be included, whether or not specifically shown or specified. For “wet” interior painting, including surface preparation, include one test blast of a 30 square foot area; location to be decided by Engineer. Construction photographs as specified in Section 01322 shall also be included in this item for all work on all tanks included in this contract.
- b. Concrete Tanks – Bid Item 3.1 - This item includes all labor, materials, equipment and incidentals required to blast clean and recoat the interior piping of the existing storage tank as described in these specifications, including initial tank cleaning and/or deicing, appurtenant equipment replacement, site work, repairs,

minor maintenance, proper on-site storage of abrasive blast residue, new manhole gaskets, new dome access hatch gasket, disinfection, sampling, and testing, protection of the surrounding area and clean-up. Disposal of interior abrasive blast residue following required sampling and testing of residue is also included. Additional payment will be made under the respective bid item if the residue is hazardous based on the test results. All work obviously necessary for completion of the contract shall be included, whether or not specifically shown or specified. Construction photographs as specified in Section 01322 shall also be included in this item for all work on all tanks included in this contract.

3. Measurement:
 - a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the amount of Work completed.
4. Payment:
 - a. The lump sum price bid for interior tank painting shall be full compensation for furnishing labor, materials, equipment and incidentals necessary to recoat the interior of the water tank.

B. Exterior Painting

1. Relevant Bid Items:
 - 1.2 Rice Hill Tank
 - 2.2 Wohlhueter Tank
 - 3.7A Crestwood
2. Work Included:
 - a. General - This item includes all labor, materials, equipment, and incidentals required to paint the exterior of the existing storage tank as described in the specifications including site work, repairs, minor maintenance, proper onsite storage of abrasive blast residue, protection of the existing tank nameplate, protection of the surrounding area and clean-up. All work necessary for completion of the contract shall be included, whether or not specifically shown or specified. Construction photographs shall also be included in this item.

- b. Recoat System - Bid Item 2.2 - also includes all labor materials, equipment and incidentals required to recoat the exterior of the tank, including surface preparation and one test blast of a 30 square foot area; location to be determined by the ENGINEER. Disposal of exterior abrasive blast residue following required sampling and testing of residue is also included. Additional payment will be made under the respective bid item if the residue is hazardous based on the test results.
- c. Roof Overcoat System – Bid Item 1.2 – also includes all labor, materials, equipment, and incidentals required to overcoat the exterior roof of the tank. Existing tank roof shall be pressure washed and loose or rusted areas cleaned to, prior to applying the overcoat system.
- d. Architectural Coating - Bid Item 3.7A – also includes all labor, materials, equipment, and incidentals required to overcoat the exterior of the concrete tank with an architectural coating.

3. Measurement:

- a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the amount of Work completed.

4. Payment:

- a. The lump sum price bid for exterior tank painting shall be full compensation for furnishing labor, materials, equipment, and incidentals necessary to paint the exterior of the water tank.

C. Disposal of Wet Interior Hazardous Abrasive Blast Residual

1. Relevant Bid Items:

- 1.3 Rice Hill Tank
- 2.3 Wohlhueter Tank
- 3.2 Crestwood Tank

2. Work Included:

- a. This work shall include all labor, materials, equipment and incidentals required to properly dispose of all hazardous abrasive blast residue collected while performing work related to painting the interior of the tank. Wet interior abrasive blast residue shall be stored separately from blast residue from other areas of the tank and labeled accordingly. This item is for the additional cost required to dispose of wet interior abrasive blast residue which has been classified as hazardous following required sampling and testing. There will be no payment for this item if the residue is determined to be non-hazardous

3. Measurement:
 - a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the amount of Work completed.
4. Payment:
 - a. The lump sum price bid for disposal shall be full compensation for furnishing labor, materials, equipment and incidentals necessary to properly dispose of all hazardous abrasive blast residue collected during tank surface preparation. Payment is in addition to the cost of waste disposal (non-hazardous) which is included in the interior painting item.

D. Disposal of Exterior Hazardous Abrasive Blast Residue

1. Relevant Bid Items:
 - 2.4 Wohlhueter Tank
2. Work Included:
 - a. This work shall include all labor, materials, equipment and incidentals required to properly dispose of all hazardous abrasive blast residue collected while performing work related to painting the exterior of the tank. Exterior abrasive blast residue shall be stored separately from blast residue from other areas of the tank and labeled accordingly. This item is for the additional cost required to dispose of exterior abrasive blast residue which has been classified as hazardous following required sampling and testing. There will be no payment for this item if the residue is determined to be non-hazardous.
3. Measurement:
 - a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the amount of Work completed.
4. Payment:
 - a. The lump sum price bid for disposal shall be full compensation for furnishing labor, materials, equipment and incidentals necessary to properly dispose of all hazardous abrasive blast residue collected during tank surface preparation. Payment is in addition to the cost of waste disposal (non-hazardous) which is included in the exterior painting item.

E. Exterior Cleaning

1. Relevant Bid Items:

3.3 Crestwood Tank

2. Work Included:

a. This item includes all labor, materials, equipment, and incidentals required to power wash clean the entire tank exterior of the existing storage tank as described in the specifications including protection of existing tank name plate, protection of the surrounding area and clean-up. All work necessary for completion of the contract shall be included, whether or not specifically shown or specified.

3. Measurement:

a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the amount of Work completed.

4. Payment:

a. The lump sum price bid for exterior tank cleaning shall be full compensation for furnishing labor, materials, equipment and incidentals necessary to power wash clean the entire tank exterior.

F. Concrete Spall Repair

1. Relevant Bid Items:

3.4 Crestwood Tank

2. Work Included:

a. This item includes all labor, materials, equipment, and incidentals required to repair concrete spall on tank dome exterior of the existing storage tank as described in the Concrete Tank Repair specification section. All work necessary for completion of the repair shall be included, whether or not specifically shown or specified.

3. Measurement:

a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the amount of Work completed.

4. Payment:

a. The lump sum price bid for concrete spall repair shall be full compensation for furnishing labor, materials, equipment and incidentals necessary to perform the concrete spall repair.

G. Roof Repair/Steel Reinforcement

1. Relevant Bid Items:
 - 1.4 Rice Hill Tank
2. Work Included:
 - a. This item includes all labor, materials, equipment, and incidentals required to reinforce or replace the existing roof support structure at the existing storage tank as indicated on the details in Appendix E.
3. Measurement:
 - a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the amount of Work completed.
4. Payment:
 - a. The lump sum price bid for roof repair/steel reinforcement shall be full compensation for furnishing labor, materials, equipment and incidentals necessary to perform the roof repair/steel reinforcement.

H. Shell Plate and Floor Repair – Cover Plate

1. Relevant Bid Items:
 - 1.5 Rice Hill Tank
2. Work Included:
 - a. This item includes all labor, materials, equipment, and incidentals required to furnish and install cover plates over the severely corroded/pitted tank shell plates and floor, the location of which will be reviewed and accepted by the Engineer prior to repair, as described in the Steel Storage Tank Repair specification section.
3. Measurement:
 - a. The quantity to be paid for under this item shall be for the actual amount, in square feet, of cover plate installed as shown, specified or directed.
4. Payment:
 - a. The unit price bid per square foot shall be the full compensation for furnishing all labor, materials, equipment, and incidentals necessary to perform tank shell plate and floor repair.

I. Steel Plate Butt Weld Repair

1. Relevant Bid Items:

1.6 Rice Hill Tank

2. Work Included:

a. This item includes all labor, materials, equipment, and incidentals required to repair defective welds, the locations of which will be reviewed and accepted by the Engineer prior to welding, as described in the TANK SHELL PLATE REPAIR section of the Steel Storage Tank Repair specification section.

3. Measurement:

a. The quantity to be paid for under this item shall be for the actual amount, in linear feet, of completed weld as shown, specified or directed.

4. Payment:

a. The unit price bid per linear foot shall be the full compensation for furnishing all labor, materials, equipment, and incidentals necessary to perform shell plate butt weld repair.

J. Pit Welding

1. Relevant Bid Items:

1.7 Rice Hill Tank

2.5 Wohlhueter Tank

2. Work Included:

a. This item includes all labor, materials, equipment, and incidentals required to fill pits, by method of welding from a certified welder, on the interior of the storage tank. The location will be reviewed and accepted by the Engineer prior to filling. Pit welding shall apply to pits greater than 50% of the plate thickness in depth and no greater than 1" diameter.

3. Measurement:

a. The quantity to be paid for under this item shall be for each pit, approved and directed by the ENGINEER, welded in the field.

4. Payment:

a. The unit price bid per each pit shall be the full compensation for furnishing all labor, materials, equipment, and incidentals necessary to perform pit welding.

K. Epoxy Seam Sealing and Pit Filling

1. Relevant Bid Items:
 - 1.8 Rice Hill Tank
 - 2.6 Wohlhueter Tank
2. Work Included:
 - a. This item includes all labor, materials, equipment, and incidentals required to seal seams and/or fill pits on the interior of the storage tank with an approved epoxy, the location of which will be reviewed and accepted by the Engineer prior to sealing/filling.
3. Measurement:
 - a. The quantity to be paid for under this item shall be for the actual amount, in gallons, of epoxy material applied as shown, specified or directed.
4. Payment:
 - a. The unit price bid per gallon shall be the full compensation for furnishing all labor, materials, equipment, and incidentals necessary to perform epoxy seam sealing and/or pit filling.

L. Miscellaneous Modifications

1. Relevant Bid Items:
 - 1.9 Rice Hill Tank
 - 2.7 Wohlhueter Tank
 - 3.5 Crestwood Tank
2. Work Included:
 - a. Rice Hill Tank: This item includes all labor, materials, equipment, and incidentals required to furnish and install the following modifications:
 - i. Remove and replace section of approximately two (2) feet of grout as determined by the ENGINEER, install new non-shrink cementitious grout
 - ii. Remove and replace section of approximately five (5) feet of sealant as directed by the ENGINEER, seal joint around with elastomeric joint sealant.
 - iii. On shell manholes, plug weep holes.
 - iv. Removal of existing safety climbing system and replace with a new cable-style safety climbing system.
 - v. Provide two (2) climbing safety devices to remain at the tank.
 - vi. Install slip-resistant rungs on exterior shell ladder.

- vii. Installation of a dome handrail, and tie-off points and repair of existing platform in accordance with OSHA requirements.
 - viii. Install self closing gate on dome hand rail ladder opening (top of shell ladder) and add flare to top of shell ladder.
 - ix. Installation of new clog-resistant vent.
 - x. Relocate existing mixing system pipe to pipe penetration through tank roof. Weld plate over hole in roof manhole curb.
 - xi. New elastomeric check valve on existing tank overflow pipe and necessary modifications.
 - xii. Seal unwelded lapped roof seams and gap between roof plates and skip welded roof support structure with Sikaflex 1a caulking.
 - xiii. Coating restoration required for the miscellaneous modifications.
- b. Wohlhueter Tank: This item includes all labor, materials, equipment, and incidentals required to furnish and install the following modifications:
- i. Add stone fill around catch basin and install a 4" perforated underdrain adjacent to the tank foundation as shown on the details in Appendix E.
 - ii. Chip away loose grout and remove any shim plates that can be easily removed. Fill voids with non-shrinking, non-staining, structural grout material. Fill any gaps between steel bottom plate and grout with flexible sealant.
 - iii. Remove and replace existing sealant located between the bottom plate and the foundation sealant.
 - iv. Clean and paint section of metal piping and valves in valve vault as directed by the ENGINEER.
 - v. Replace existing electrical outlets in valve vault with GFCI receptacles.
 - vi. Replace junction box in valve vault. New junction box shall include a cover.
 - vii. Replace existing electrical outlets in valve vault shed with GFCI receptacles.
 - viii. On shell manholes, install new nuts and bolts. All new hardware shall be galvanized steel.
 - ix. New elastomeric check valve on existing tank overflow pipe and necessary modifications.
 - x. Relocate conduit and antenna away from shell ladder side rails.
 - xi. Removal of existing safety climbing system and replace with a new cable-style safety climbing system.

- xii. Provide two (2) climbing safety devices to remain at the tank.
 - xiii. Install side plates on both sides of the ladder at the existing vandal deterrent.
 - xiv. Install swing style self closing gate on dome hand rail ladder opening (top of shell ladder).
 - xv. Provide two (2) climbing safety devices to remain at the tank.
 - xvi. Repair bent flange at vent attachment.
 - xvii. Modify roof manhole lid to have a 2 inch overlap.
 - xviii. Relocate mixing system pipe from roof manhole lid to new penetration through tank roof. Weld plate over penetration in the roof manhole.
 - xix. Seal unwelded lapped roof seams and gap between roof plates with Sikaflex 1a caulking.
 - xx. Coating restoration required for the miscellaneous modifications.
- c. Crestwood Tank: This item includes all labor, materials, equipment, and incidentals required to furnish and install the following modifications:
- i. Install new check valve on existing tank overflow pipe including modifications to existing overflow pipe. Remove two 45 degree angles and replace with one 90 degree angle.
 - ii. Replace shell manholes bolts with new galvanized bolts.
 - iii. Relocate conduit and antenna away from shell ladder side rails.
 - iv. Provide two (2) climbing safety devices to remain at the tank.
 - v. Installation of a dome handrail and tie-off points in accordance with OSHA requirements.
 - vi. Install swing style self closing gate on dome hand rail ladder opening (top of shell ladder).
 - vii. Installation of new clog-resistant vent.
 - viii. Clean interior wet stainless steel piping to SSPC-SP10 standards and recoat piping.
 - ix. Repair and coat cracks on exterior roof. Quantity to be included in the lump sum item is as follows:
 - a. 200' of >1/8"
 - b. 200' of 1/8" to 1/4"
 - c. 200' of 1/4" to 1/2"
 - x. Trim trees and branches within 10 feet of tank.
 - xi. Install conduit on tank for existing mixing system including core through dome hatch curb.
 - xii. Coating restoration required for the miscellaneous modifications.

3. Measurement:

- a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the amount of Work completed.

4. Payment:
 - a. The lump sum price bid shall be full compensation for furnishing all labor, materials, equipment and incidentals necessary to perform miscellaneous modifications.

M. Containment

1. Relevant Bid Items
 - 2.8 Wohlhueter Tank
2. Work Included:
 - a. This work shall include all labor, materials, equipment and incidentals required to furnish, install, maintain and remove a SSPC Class 2A Containment system of the exterior, including the roof.
3. Measurement:
 - a. The quantity to be paid for under this Item will be made on a lump sum basis in proportion to the amount of Work completed.
4. Payment:
 - a. The lump sum price bid for containment shall be full compensation for furnishing labor, materials, equipment and incidentals necessary to furnish, install, maintain, and remove the containment system for the water tank.

N. Contingency Allowance for Repairs

1. Relevant Bid Items
 - 1.10 Rice Hill Tank
 - 2.9 Wohlhueter Tank
 - 3.6 Crestwood
2. Work Included:
 - a. This item includes all labor, materials, equipment, staging, and incidentals required to furnish and install repairs and work identified during construction, including but not limited to:
 - i. Remove and replace defective fillet welds.
 - ii. Grinding on interior of tank to remove unused brackets, weld burrs, spatter, scars, and/or rough edges in steel.
 - iii. Repair and replace structural members on the interior of the tank.
 - iv. Additional work identified by the OWNER or ENGINEER.

3. Measurement:
 - a. Section 01210 Allowances includes a stipulated amount available as reserve for sole use by OWNER to cover costs and procedures for approving work and payment. All work, sizes and locations must be reviewed and accepted by the ENGINEER prior to making repairs.

4. Payment:
 - a. Payment for Work authorized under this Item will be full compensation for providing Work authorized under the allowance, complete as specified or directed by the ENGINEER. Work authorized under the allowance may be included in subsequent Application(s) for Payment, as applicable, following authorization and performance of contingency allowance Work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01290
SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Schedule of Values is an itemized list that establishes the value or cost of each part of the Work. It shall be used as the basis for preparing progress payments and may be used as a basis for negotiations concerning additional work or credits, which may arise during the construction. Quantities and unit prices may be included in the schedule when approved by or required by the ENGINEER.

1.02 PREPARATION

- A. Schedule shall show breakdown of labor, materials, equipment, and other costs used in preparation of the Bid.
- B. Costs shall be in sufficient detail to indicate separate amounts for each Section of the Specifications.
- C. CONTRACTOR may include an item for bond, insurance, temporary facilities and job mobilization on lump sum project only. This item will be included for payment at a rate of 25 percent per month for the first four months.
- D. Schedule of Values shall be prepared on 8 1/2-inch by 11-inch white paper and submitted electronically.
- E. Use Table of Contents of the Specifications as basis for Schedule format and identify each item with number and title in the Table of Contents. List sub-items of major products or systems as appropriate or when requested by ENGINEER. This includes individual improvements listed under Miscellaneous Modifications.
- F. When requested by ENGINEER, support values with data that will substantiate their correctness.
- G. The sum of the individual values shown on the Schedule of Values must equal the total Contract Price.
- H. Each item shall include a directly proportional amount of the CONTRACTOR'S overhead and profit.

- I. Schedule shall show the purchase and delivery costs for materials and equipment that the CONTRACTOR anticipates he shall request payment for prior to their installation.
- J. Included in the detailed breakdown shall be a line item for “record documents”. This amount is for preparing and supplying required information and documentation.

1.03 SUBMITTAL

- A. Submit two copies of Schedule to ENGINEER for approval at least 20 days prior to submitting first application for a progress payment but no later than 10 days after date of execution of agreement. After review by ENGINEER, revise and resubmit Schedule as required until it is approved.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01310

PROJECT COORDINATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. As more fully set forth in Article 6 of the General Conditions, CONTRACTOR shall be solely responsible for coordination of all of the Work. They shall supervise, direct and cooperate fully with all Subcontractors, manufacturers, fabricators, suppliers, distributors, installers, testing agencies and all others whose services, materials or equipment are required to ensure completion of the Work within the Contract Time.
- B. As more fully set forth in Article 7 of the General Conditions, CONTRACTOR shall cooperate with and coordinate his Work with the work of any other contractor, utility service company or OWNER'S employees performing additional work related to the Project at the site.
- C. CONTRACTOR shall not be responsible for damage done by contractors not under his jurisdiction. They will not be liable for any such loss or damage unless it is through the negligence of CONTRACTOR.
- D. CONTRACTOR shall maintain sufficient competent personnel, drafting equipment and supplies at the site for the purpose of preparing layout and coordination drawings. These drawings shall supplement the contract documents, and the Shop Drawings, as necessary to correlate the work of various trades. Where such drawings are to be prepared by the mechanical, electrical, or plumbing Subcontractors, CONTRACTOR will ensure that each Subcontractor maintains the required personnel and facilities at the site.
- E. CONTRACTOR shall also coordinate his Work with the work of others to assure compliance with schedules.
- F. CONTRACTOR shall attend and participate in all project coordination or progress meetings and report on the progress of all Work and compliance with schedules.

PART 2 - PRODUCT (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01311

COORDINATION WITH OWNER'S OPERATIONS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall carry out all operations to avoid interference with the operations of the existing facilities.
- B. The CONTRACTOR shall not have exclusive possession of the sites of the work to be done under this contract.
- C. In the performance of the work, the CONTRACTOR shall schedule and cooperate fully with the OWNER and other Contractors, affording them facilities for the performance of their work even though it interferes with his own.
- D. Related Work Specified Elsewhere:
 - 1. Divisions 2-15, Technical Specifications.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01312

PRECONSTRUCTION CONFERENCE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Date, Time, and Location: Conference will be held after execution of the Agreement and before construction is started at the site. ENGINEER will fix the date, time and location of the meeting in accordance with the General Conditions.
- B. ENGINEER shall prepare agenda, preside at meeting, and prepare and distribute a transcript of proceedings to all parties.
- C. CONTRACTOR(S) shall provide data required, contribute appropriate items for discussion, and be prepared to discuss all items on agenda.
- D. CONTRACTOR shall prepare and distribute a preliminary construction schedule.

1.02 REQUIRED ATTENDANCE

- A. CONTRACTOR(S) and major Subcontractors.
- B. OWNER'S representative.
- C. ENGINEER.
- D. Representatives of governmental agencies having any degree of control or responsibility, if available.
- E. Cell Phone Providers

1.03 AGENDA

- A. Agenda will include, but will not necessarily be limited to, the following:
 - 1. Designation of responsible personnel.
 - 2. Subcontractors.
 - 3. Coordination with other contractors.
 - 4. Construction schedule.
 - 5. Review preliminary construction schedule.
 - 6. Processing of Shop Drawings.
 - 7. Schedule of Shop Drawing submittals.
 - 8. Processing of Field Orders and Change Orders.

9. Requirements for copies of Contract Documents.
10. Insurance in force.
11. Schedule of Values.
12. Processing of progress payments.
13. Cash flow.
14. Use of premises.
15. CONTRACTOR(S) responsibility for safety and first aid procedures.
16. Security.
17. Housekeeping.
18. Field Offices.
19. Record Drawings.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01313
PROGRESS MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Date and Time:
 - 1. Regular bi-weekly meetings: As mutually agreed upon by OWNER, ENGINEER, and CONTRACTOR.
 - 2. Other Meetings: On call.
 - 3. Final Inspection on project completion.
- B. Place: ENGINEER'S field office or OWNER'S Conference Room office at Project site or other mutually agreed upon location.
- C. ENGINEER shall prepare agenda, preside at meetings, and prepare and distribute a transcript of proceedings to all parties.
- D. CONTRACTOR shall provide data required and be prepared to discuss all items on agenda.

1.02 MINIMUM ATTENDANCE

- A. CONTRACTOR:
 - 1. When needed for the discussion of a particular agenda item, CONTRACTOR shall require representatives of Subcontractors or suppliers to attend a meeting.
- B. ENGINEER.
- C. OWNER'S representative, if required.
- D. Others as appropriate.
- E. Representatives present for each party shall be authorized to act on their behalf.

1.03 AGENDA

- A. Agenda will include, but will not necessarily be limited to, the following:
 - 1. Transcript of previous meeting.
 - 2. Progress since last meeting.
 - 3. Planned progress for next period.
 - 4. Problems, conflicts and observations.

5. Change Orders.
6. Status of Shop Drawings.
7. Quality standards and control.
8. Schedules, including off-site fabrication and delivery schedules.
Corrective measures, if required.
9. Coordination between parties.
10. Safety concerns.
11. Other business.

1.04 FINAL INSPECTION

- A. A Final Inspection shall not be scheduled until the ENGINEER is satisfied that all requirements of the contract have been met and the Work is acceptable.
- B. ENGINEER shall schedule final inspection at least 72 hours in advance, and shall notify CONTRACTOR and OWNER.
- C. The ENGINEER, OWNER and CONTRACTOR shall be present during the final inspection.
- D. CONTRACTOR shall provide sufficient manpower during final inspection.
- E. CONTRACTOR shall furnish necessary equipment to demonstrate the new Work to ENGINEER and OWNER for approval.
- F. ENGINEER shall itemize deficiencies and provide list to OWNER and CONTRACTOR.
- G. CONTRACTOR shall rectify any items identified by ENGINEER prior to final payment.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01321

CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Provide construction schedule, which conforms to the requirements below, unless otherwise approved by ENGINEER.
- B. Update schedules every month and for progress meetings unless otherwise specified or directed by ENGINEER.
- C. Submit cash flow schedule with each updated construction schedule.

1.02 CONTENT

- A. Shop Drawing submittal dates and required approval dates.
- B. Product delivery dates.
- C. Factory and field testing dates.
- D. Dates for beginning and completing each phase of the Work by activity and by trades.
- E. Cash flow schedule shall be based on monthly cash flow.

1.03 FORMAT

- A. Schedule will be created on computer using Microsoft Project, latest version, or equivalent scheduling tool.
- B. Type: Horizontal bar chart.
- C. Sheet Size: 8¹/₂" x 11" or 11" x 17".
- D. Time Scale: Indicate first date in each work week.
- E. Organization:
 - 1. Organize schedules by tank project/milestone.
 - 2. Group Shop Drawing submittals and reviews into a separate subschedule.
 - 3. Group product deliveries into a separate subschedule.
 - 4. Group construction work into a separate subschedule by activity.

5. Group critical activities which dictate the rate of progress into a separate subschedule.
 6. Organize each subschedule by Specification Section number.
- F. Activity Designations: Show title and related Specification Section number.
- G. Provide electronic copies of project schedule to ENGINEER via email as requested.

1.04 SUBMITTALS

- A. Submit initial schedule at least 20 days prior to submitting first application for a progress payment but no later than 10 days after date of execution of Agreement. Subsequent schedule updates shall be submitted concurrently with monthly payment applications.
- B. Submit updated schedules at progress meetings. If a schedule remains unchanged from one period to the next, submit a written notice to that effect. Updated schedules shall show progress completed to date.
- C. Make submittals to ENGINEER, three copies of all requirements.
- D. Unless otherwise specified, submit four hardcopies of each schedule and one via email. One copy each will be reviewed by the OWNER and ENGINEER and returned. The other copies will be retained by the ENGINEER.
- E. Attach a letter of transmittal to each submittal and include the following information in the letter:
1. A listing of items which have changed since the last submittal.
 2. Discussion of problems causing delays, anticipated length of delays, and proposed countermeasures.
- F. Submit updated cash flow schedule based on each updated schedule.
- G. Payment of partial estimates shall not be made unless the CONTRACTOR has, in force, an approved construction schedule.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01322

CONSTRUCTION PHOTOGRAPHS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall retain a professional photographer to perform the services specified below.
- B. Obtain ENGINEER'S approval of the photographer selected prior to taking first photographs. Submit qualifications and experience record of photographer and representative firm.
- C. Digital photography will be accepted if evidence of quality is provided to ENGINEER.

1.02 PRECONSTRUCTION PHOTOGRAPHS

- A. CONTRACTOR shall be responsible for taking a sufficient number of preconstruction photographs so as to resolve any disputes which may arise regarding the conditions prior to and subsequent to construction.
- B. If a dispute arises where no preconstruction photographs were taken, the disputed area shall be restored to the extent directed by the ENGINEER and to the complete satisfaction of the ENGINEER.
- C. The CONTRACTOR must furnish one set of color prints of the preconstruction photographs to the ENGINEER, and must make others available for review in settling any disputes.
- D. The ENGINEER may, at his option, take additional preconstruction photographs which may be used to settle disputes, but he will not be required to make these photographs available to the CONTRACTOR.
- E. Preconstruction photographs taken by the CONTRACTOR will not be considered as part of the required number of construction photographs required in Paragraph 1.03 below.

1.03 PHOTOGRAPHS

- A. Take a minimum of 25 color, glossy finish photographs during the construction period at each location.

- B. Photographs shall be taken approximately twice each month when requested by the ENGINEER.
- C. ENGINEER will approve the views to be taken and select the time at which they will be taken.
- D. A minimum of 5 photographs will be taken each time the photographer is at each site.
- E. For outside construction projects, take photographs in good weather with sufficient ambient light. For inside construction projects, use a flash as necessary in low-light conditions.

1.04 PRINTS

- A. Furnish three prints and negatives of each photograph to the ENGINEER as soon as they are available from the photographer.
- B. Furnish additional photographs or prints requested by ENGINEER at cost.
- C. Provide high quality 5-inch by 7-inch standard weight prints with a glossy finish.
- D. Place the following information on the back of each print:
 - 1. Date photograph was taken.
 - 2. Title of Project.
 - 3. Description of view shown in photograph.
 - 4. Name and address of photographer.
 - 5. Photographer's numbered identification of exposure.

1.05 DIGITAL PHOTOS (IF ACCEPTED AS ALTERNATE)

- A. Furnish three prints of each photograph to the ENGINEER as soon as they are available from the photographer. Also, furnish a compact disk (CD) with each photograph dated and project title identified.
- B. Furnish additional photographs or prints requested by ENGINEER at cost.
- C. Provide high quality 5-inch by 7-inch standard weight prints with a glossy finish.
- D. The following information on the back of each print:
 - 1. Date photograph was taken.
 - 2. Title of Project.
 - 3. Description of view shown in photograph.

4. Name and address of photographer.
5. Photographer's numbered identification of exposure.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01331

SHOP DRAWING PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Shop Drawing procedures shall conform to requirements of General Conditions and as described in this Section.

1.02 PROCEDURE

- A. Submittals of Shop Drawings shall be made to the ENGINEER at the address listed in the Notice to Bidders.
- B. A letter of transmittal shall accompany each submittal. If data for more than one Section of the Specifications is submitted, a separate transmittal letter shall accompany the data submitted for each Section.
- C. Copies of submittals shall be sent to the OWNER at ERIE COUNTY WATER AUTHORITY at the Service Center Address at 3030 Union Road, Buffalo, New York 14227 at the time CONTRACTOR submits to ENGINEER.
- D. At the beginning of each letter of transmittal provide a reference heading indicating the following:
 - 1. OWNER'S Name _____
 - 2. Project Name _____
 - 3. Contract No. _____
 - 4. Transmittal No. _____
 - 5. Section No. _____
- E. If a Shop Drawing deviates from the requirements of the Contract Documents, CONTRACTOR shall specifically note each variation in his letter of transmittal.
- F. All Shop Drawings submitted for approval shall have a title block with complete identifying information satisfactory to ENGINEER.
- G. All Shop Drawings submitted shall bear the stamp of approval and signature of CONTRACTOR as evidence that they have been reviewed by CONTRACTOR. Submittals without this stamp of approval will not be reviewed by ENGINEER

and will be returned to CONTRACTOR. CONTRACTOR'S stamp shall contain the following minimum information:

Project Name: _____

CONTRACTOR'S Name: _____

Date: _____

-----Reference-----

Item: _____

Specifications:

Section: _____

Page No.: _____

Para. No.: _____

Drawing No.: _____ of _____

Location: _____

Submittal No.: _____

Approved By: _____

- H. A number shall be assigned to each submittal by CONTRACTOR starting with No. 1 and thence numbered consecutively. Resubmittals shall be identified by the original submittal number followed by the suffix "A" for the first resubmittal, the suffix "B" for the second resubmittal, etc.

- I. The CONTRACTOR shall initially submit to ENGINEER a minimum of 4 copies of all submittals that are on 8¹/₂-inch by 11-inch or smaller sheets, and one unfolded sepia and 2 prints made from that sepia for all submittals on sheets larger than 8¹/₂-inch by 11-inch. The OWNER and ENGINEER shall receive one copy only of each submittals which will be stamped "Preliminary - Not For Construction."

- J. After ENGINEER completes his review, Shop Drawings will be marked with one of the following notations:
 - 1. Approved.
 - 2. Approved as Corrected.
 - 3. Revise and Resubmit.
 - 4. Not Approved.

5. Submitted for Information.
- K. If a submittal is acceptable, it will be marked “Approved” or “Approved as Corrected”. One copy of the submittal will be returned to CONTRACTOR.
- L. Upon return of a submittal marked “Approved” or “Approved as Corrected”, CONTRACTOR may order, ship or fabricate the materials included on the submittal, provided it is in accordance with the corrections indicated.
- M. If a Shop Drawing marked “Approved as Corrected” has extensive corrections or corrections affecting other drawings or Work, ENGINEER may require that CONTRACTOR make the corrections indicated thereon and resubmit the Shop Drawings for record purposes. Such drawings will have the notation, “Approved as Corrected - Resubmit.”
- N. If a submittal is unacceptable, one copy will be returned to CONTRACTOR with one of the following notations:
1. “Revise and Resubmit”
 2. “Not Approved”
- O. Upon return of a submittal marked “Revise and Resubmit”, CONTRACTOR shall make the corrections indicated and repeat the initial approval procedure. The “Not Approved” notation is used to indicate material or equipment that is not acceptable. Upon return of a submittal so marked, CONTRACTOR shall repeat the initial approval procedure utilizing acceptable material or equipment.
- P. Any related Work performed or equipment installed without an “Approved” or “Approved as Corrected” Shop Drawing will be at the sole responsibility of the CONTRACTOR.
- Q. Shop Drawings shall be submitted well in advance of the need for the material or equipment for construction and with ample allowance for the time required to make delivery of material or equipment after data covering such is approved. CONTRACTOR shall assume the risk for all materials or equipment, which are fabricated or delivered prior to the approval of Shop Drawings. Materials or equipment will not be included in periodic progress payments until approval thereof has been obtained in the specified manner.
- R. ENGINEER will review and process all submittals promptly, but a reasonable time should be allowed for this, for the Shop Drawings being revised and resubmitted, and for time required to return the approved Shop Drawings to CONTRACTOR.
- S. It is CONTRACTOR’S responsibility to review submittals made by his suppliers and Subcontractors before transmitting them to ENGINEER to assure proper coordination of the Work and to determine that each submittal is in accordance

with his desires and that there is sufficient information about materials and equipment for ENGINEER to determine compliance with the Contract Documents. Incomplete or inadequate submittals will be returned for revision without review.

- T. CONTRACTOR shall furnish required submittals with complete information and accuracy in order to achieve required approval of an item within three submittals. All costs to ENGINEER involved with subsequent submittals of Shop Drawings, Samples or other items requiring approval, will be backcharged to CONTRACTOR, at the rate of 3.0 times direct technical labor cost, by deducting such costs from payments due CONTRACTOR for Work completed. In the event that CONTRACTOR requests a substitution for a previously approved item, all of ENGINEER'S costs in the reviewing and approval of the substitution will be backcharged to CONTRACTOR unless the need for such substitution is beyond the control of CONTRACTOR.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01332

SAMPLES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The submittal of Samples shall conform to the requirements of the General Conditions and to procedures described in the Section.
- B. Samples and Shop Drawings which are related to the same unit of Work or Specification Section shall be submitted at the same time. If related Shop Drawings and Samples are submitted at different times, they cannot be reviewed until both are furnished to the ENGINEER.

1.02 PROCEDURE

- A. CONTRACTOR shall review, approve and submit all Samples promptly. Samples shall be identified with correct reference to Specification Section, page, article and paragraph number, the Drawing No. when applicable. Samples shall clearly illustrate functional characteristics of the product and all related parts and attachments, and full range of color, texture, pattern and material. Samples shall be furnished so as not to delay fabrication, allowing the ENGINEER reasonable time for the consideration of the Samples submitted.
- B. CONTRACTOR shall submit at least two Samples of each item required for the ENGINEER'S approval. Submission of Samples shall conform to all applicable provisions under Shop Drawing Submittal and Correspondence procedure. One of the Samples shall be delivered to the ENGINEER'S main office unless otherwise authorized by the ENGINEER. One Sample shall be delivered to the ENGINEER'S field office. If the CONTRACTOR requires a Sample for his use he shall notify the ENGINEER in writing.
- C. The CONTRACTOR shall make all corrections required and shall resubmit the required number of new Samples until acceptable to the ENGINEER.

1.03 SAMPLES FOR TESTS

- A. CONTRACTOR shall furnish such Samples of material as may be required for examination and test. All Samples of materials for tests shall be taken according to standard methods and as required by the Contract Documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01421

REFERENCE STANDARDS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. When a reference standard is specified, comply with requirements and recommendations stated in that standard, except when they are modified by the Contract Documents, or when applicable laws, ordinances, rules, regulations or codes establish stricter standards. The latest provisions of applicable standards shall apply to the Work, unless otherwise specified. Reference standards include, but are not necessarily limited to, the following:
1. American Association of State Highway and Transportation Officials.
 2. American Concrete Institute.
 3. American Gear Manufacturers Association.
 4. American Institute of Steel Construction.
 5. American Iron and Steel Institute.
 6. American National Standards Institute.
 7. American Society of Heating, Refrigerating and Air Conditioning Engineers.
 8. American Society of Mechanical Engineers.
 9. American Society for Testing and Materials.
 10. American Water Works Association.
 11. American Welding Society.
 12. Concrete Reinforcing Steel Institute.
 13. Factory Mutual Research Corporation.
 14. Institute of Electrical and Electronics Engineers.
 15. National Electrical Manufacturer's Association.
 16. Occupational Safety and Health Administration.
 17. National Fire Protection Association.
 18. Prestressed Concrete Institute.
 19. Underwriters' Laboratories, Inc.
 20. NSF International.
 21. International Organization for Standardization (ISO).
 22. SSPC: The Society for Protective Coatings.
 23. American Petroleum Institute.
 24. NACE International.

25. All other applicable standards listed in the Specifications, and the standards of utility service companies, where applicable.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01422

ABBREVIATIONS AND SYMBOLS

PART 1 - GENERAL

1.01 ABBREVIATIONS

A. Common abbreviations which may be found in the Specifications are:

alternating current	a-c	foot-pound	ft-lb
ante meridiem	am	gallon	gal
ampere	A	gallons per minute	gpm
average	avg	gallons per second	gps
		gram	g
biochemical oxygen demand	BOD		
brake horsepower	bhp	Hertz	Hz
British thermal unit	Btu	hour	hr
		horsepower	hp
Centigrade	°C		
Company	Co	inch	in.
cubic inch	cu in	inch-pound	in.-lb
cubic foot	cu ft	inside diameter	id
cubic yard	cu yd		
cubic feet per minute	cfm	kilovolt-ampere	kva
cubic feet per second	cfs	kilowatt	kw
		kilowatt-hour	hw hr
decibel	db		
degree Centigrade		linear foot	lin ft
(or Celsius) (say)	20°C	liter	l
degree Fahrenheit (say)	68°F		
diameter	diam	maximum	max
direct current	d-c	mercury	Hg
dollars	\$	milligram	mg
		milligrams per liter	mg/l
each	ea	milliliter	ml
efficiency	eff	millimeter	mm
		million gallon	mil
Fahrenheit	EF	million gallons per day	mgd
feet	ft	minimum	min
feet per hour	fph		
feet per minute	fpm	net positive suction head	npsh
feet per second	fps	number	No.
Figure	Fig	National Pipe Threads	NPT
flange	flg		

ounce	oz	second	sec
outside diameter	od	specific gravity	sp gr
		square	sq
		square foot	sq ft
parts per million	ppm	square inch	sq in
post meridiem	pm	square yard	sq yd
pound	lb	standard	std
pounds per square foot	psf	standard cubic feet	
pounds per square inch		per minute	scfm
absolute	psia		
pounds per square inch		total dynamic head	tdh
gage	psig	totally-enclosed-	
		fan-cooled	tefc
revolutions per minute	rpm		
		volt	v

1.02 ORGANIZATION ABBREVIATIONS

A. Abbreviations of organizations which may be used in these Specifications are:

ACS	American Chemical Society
ACI	American Concrete Institute
AGMA	American Gear Manufacturers Association
AIChE	American Institute of Chemical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
APHA	American Public Health Association
API	American Petroleum Institute
AREA	American Railway Engineering Association
ASTM	American Society for Testing and Materials
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
AWWA	American Water Works Association
AWS	American Welding Society
CRSI	Concrete Reinforcing Steel Institute
ECWA	Erie County Water Authority
EPA	Environmental Protection Agency
FM	Factory Mutual Research Corporation
HEW	Department of Health, Education and Welfare
HUD	Department of Housing and Urban Development
IEEE	Institute of Electrical and Electronic Engineers
IRI	Industrial Risk Insurance
NAAMM	National Association of Architectural Metal Manufacturers

NACE	NACE International
NARUC	National Association of Railroad and Utilities Commissioners
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation
OSHA	Occupational Safety and Health Administration
PCI	Precast Concrete Institute
SMACNA	Sheet Metal and Air Conditioning National Association
SSPC	Steel Structures Painting Council
UL	Underwriters' Laboratories, Inc.
USGS	United States Geological Survey
USPHS	United States Public Health Service
WWEMA	Water and Wastewater Equipment Manufacturers Association

1.03 MISCELLANEOUS ABBREVIATIONS

ACP	Asbestos Cement Pipe
DIP	Ductile Iron Pipe
mj	mechanical joint
PCCP	Prestressed Concrete Cylinder Pipe
pe	plain end
PVC	Polyvinyl Chloride Pipe
s	spigot
w/	with

1.04 SYMBOLS

- A. Refer to Drawings for symbols used on the Contract Drawings.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01450

TESTING LABORATORY SERVICES FURNISHED BY CONTRACTOR

PART 1 – GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall employ and pay for an independent testing laboratory to perform the specified services. Laboratory selected shall be subject to approval by the ENGINEER.
- B. Inspection, sampling and testing shall be as specified in the Technical Sections and shall include, but not be limited to, ambient air quality monitoring, hazardous material testing on spent blast material, chlorine residual sampling, and bacteriological and VOC testing prior to placing tanks and piping into service.

1.02 QUALIFICATIONS OF LABORATORY

- A. Where applicable, meet “Recommended Requirements for Independent Laboratory Qualification”, latest edition, published by American Council of Independent Laboratories and the basic requirements of ASTM E329, Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
- B. The laboratory shall be certified by New York State for testing potable water. A NYS ELAP number shall be referenced on all test results.
- C. Submit copies of ELAP certificates for all potable water testing.
- D. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during most recent tour of inspection; with memorandum of remedies of any deficiencies reported by inspection.
- E. Testing Equipment:
 - 1. Calibrated at maximum 12 month intervals by devices of accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.
 - 2. Submit copy of certificate of calibration, made by accredited calibration agency.

1.03 LABORATORY DUTIES

- A. Cooperate with ENGINEER and provide qualified personnel promptly on notice.

- B. Perform specified inspections, sampling and testing of materials and methods of construction; comply with applicable standards; ascertain compliance with requirements of Contract Documents.
- C. Promptly notify ENGINEER and CONTRACTOR of irregularities or deficiencies of Work, which are observed during performance of services.
- D. Promptly submit 5 copies of reports of inspections and tests to ENGINEER including:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Testing laboratory name and address.
 - 4. Name and signature of inspector.
 - 5. Date of inspection or sampling.
 - 6. Record of temperature and weather.
 - 7. Date of test.
 - 8. Identification of product and Specification Section.
 - 9. Location in Project.
 - 10. Type of inspection or test.
 - 11. Results of tests and observations regarding compliance with Contract Documents.
- E. Perform additional tests and services as required to assure compliance with the Contract Documents.

1.04 CONTRACTOR'S COORDINATION WITH LABORATORY

- A. Cooperate with laboratory personnel; provide access to Work and to manufacturer's operations.
- B. Provide to laboratory, representative samples of materials to be tested, in required quantities.
- C. Furnish labor and facilities:
 - 1. To provide access to Work to be tested.
 - 2. To obtain and handle samples at the site.
 - 3. To facilitate inspections and tests.
 - 4. For laboratory's exclusive use for storage and curing of test samples.
 - 5. Forms for preparing concrete test beams and cylinders.
- D. Notify laboratory and ENGINEER sufficiently in advance of operations to allow for assignment of personnel and scheduling of tests.
- E. Arrange with laboratory and pay for, additional samples and tests required for CONTRACTOR'S convenience.

1.05 PRODUCT TEST REPORTS

- A. Furnish copies of product test reports where required by the Specifications or requested by ENGINEER.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01520

TEMPORARY CONSTRUCTION FACILITIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall be responsible for all temporary construction facilities required for the Work. CONTRACTOR shall make all arrangements with utility service companies for temporary services and shall pay all costs associated therewith.
- B. Temporary construction facilities include:
 - 1. Water.
 - 2. Electricity and Lighting.
 - 3. Telephone.
 - 4. Heat, Weather Protection and Ventilation.
 - 5. Fire Protection.
 - 6. Sanitary and First Aid Facilities.
- C. CONTRACTOR shall abide by all rules and regulations of the utility service company, OWNER or authority having jurisdiction. CONTRACTOR shall coordinate and schedule all utilization and tie-in work of existing electric, lighting and water service and shall provide OWNER and ENGINEER written notice at least 48 hours before utilizing existing electric, lighting and water service. CONTRACTOR shall carry out all operations to avoid interference with operations of the existing facilities.
- D. Sufficient temporary heat and ventilation shall be provided to assure safe working conditions and that no damage will occur to any of the Work.
- E. Provide all materials, equipment and power required for temporary electricity and lighting. Include continuous power for construction site offices. Provide all outlets with circuit breaker protection and comply with ground fault protection requirements of NEC. Provide minimum of one 300 watt lamp each 20 feet in work areas.
- F. Suitably enclosed chemical or self-contained toilets shall be provided for the use of the men employed on the Work. Toilets shall be located near the Work site and secluded from observation insofar as possible. Toilets shall be serviced at regular intervals, kept clean and supplied throughout the course of the Work.
- G. CONTRACTOR shall furnish and maintain a safe drinking water supply readily available to all workers.

- H. CONTRACTOR shall be responsible for all utility service costs if constructing a building or facility until the Work is substantially complete. Included are all fuel, power, light, heat and other utility services necessary for execution, completion, testing, and initial operation of the Work.
- I. CONTRACTOR shall:
1. Comply with applicable requirements specified in the Technical Specifications.
 2. Maintain and operate systems to assure continuous service.
 3. Modify and extend systems as Work progress requires.
 4. Completely remove temporary materials and equipment when their use is no longer required.
 5. Clean and repair damage caused by temporary installations or use of temporary facilities.
 6. Restore existing facilities used for temporary services to specified or to original condition.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01523

EMERGENCY TELEPHONE NUMBERS

PART 1 - GENERAL

1.01 EMERGENCY TELEPHONE NUMBERS

- A. The CONTRACTOR shall, at the CONTRACTOR'S expense, furnish to the ENGINEER an emergency phone number list for 24-hour contact during the construction period. Include numbers for office phones, pagers, and cellular phones, as applicable.
- B. The list should include, but not be limited to:
 - 1. CONTRACTOR'S office representative,
 - 2. CONTRACTOR'S field superintendent,
 - 3. CONTRACTOR'S foreman,
 - 4. OWNER'S main office,
 - 5. OWNER'S 24 hour emergency number,
 - 6. The Authority's main office,
 - 7. The Authority's 24-hour emergency number,
 - 8. PROJECT ENGINEER,
 - 9. PROJECT INSPECTOR,
 - 10. Utility companies such as gas, water, sewer, oil, telephone, cable, TV, etc.,
 - 11. Highway Departments,
 - 12. Cell Phone Provider tenants and their contractor(s), as applicable.
 - 13. Other involved agencies.
- C. CONTRACTOR shall add names and numbers given to him by ENGINEER and resubmit to ENGINEER as requested.
- D. Emergency phone list must be submitted and considered acceptable to ENGINEER prior to the start of construction.
- E. Phone list must be neatly typed or word processed and submitted on 8-1/2 x 11 inch paper.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01550

ACCESS ROAD AND PARKING AREAS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall provide temporary construction roads, walks, parking areas, and appurtenances required during the Project for use by CONTRACTOR, OWNER'S operations, other contractors working on the Project, and emergency vehicles. Temporary roads and parking areas shall be designed and maintained by CONTRACTOR and be fully usable in all weather conditions.
- B. Use of Existing Access Roads:
1. CONTRACTOR will be allowed to use OWNER'S existing roads upon obtaining OWNER'S written permission.
 2. Prevent interference with traffic on existing roads and parking areas. At all times, keep access roads and entrances serving the Site clear and available to OWNER, OWNER'S employees, emergency vehicles, and other contractors. Do not use these areas for parking or storage of materials.
 3. CONTRACTOR shall indemnify and hold harmless OWNER from expenses caused by CONTRACTOR'S operations over existing roads and parking areas.
 4. Schedule deliveries to minimize use of driveways and entrances.

1.02 TEMPORARY ROADS AND PARKING AREAS

- A. Temporary Roads and Parking in Same Areas as Permanent Pavement: Construct temporary roads and parking areas adequate to support construction loads and to withstand exposure to traffic during the Project. Locate temporary roads and parking areas in same location as permanent roads and parking areas. Extend temporary roads and parking areas, within construction limits indicated or agreed to with Owner, as required for construction operations.
1. Coordinate elevations of temporary roads and parking areas with permanent roads and parking areas.
 2. Prepare subgrade, subbase, and base for temporary roads and parking areas per appropriate Specification sections in Division 2. Where required by subgrade conditions and construction loads and traffic, provide geotextile or geogrid on compacted subgrade for subbase support and separation of subbase and subgrade materials.
 3. Re-condition granular subbase of temporary roads and parking, including removing and properly disposing of contaminated material. Re-grading, proof rolling, compacting, and testing.

4. Delay installation of final courses of permanent bituminous pavement until road will not be subject to further heavy construction traffic. Repair damage to bituminous base course of pavement before installing permanent top courses.

1.03 TRAFFIC CONTROLS

- A. Provide temporary traffic controls at intersections of temporary roads with public roads, and intersections of temporary roads with permanent access roads at the Site. Provide warning signs on permanent roads and drives, and provide "STOP" signs for traffic on temporary roads at entrances onto permanent pavement. Comply with requirements of authorities having jurisdiction.

1.04 CONTRACTOR PARKING

- A. CONTRACTOR employee vehicles shall be parked in an area specifically designated by OWNER, per Section 01561, Security.
- B. Construction vehicles and equipment shall be parked in work areas off of permanent roads and parking areas, in areas of the Site designated for CONTRACTOR staging.

1.05 MAINTENANCE OF ROADS

- A. General:
 1. CONTRACTOR shall maintain temporary roads and parking to continuously provide at the Site access for construction vehicles and trucks, OWNER vehicles, deliveries for OWNER, emergency vehicles, and parking areas for OWNER'S personnel.
 2. Public roads shall be passable at all times unless a road closure is allowed in writing by authority having jurisdiction.
 3. When temporary roads and parking without hard surfacing become contaminated with soil and create a nuisance, remove contaminated material and replace with clean aggregate as required.
 4. Provide snow and ice removal for temporary roads and parking areas.
- B. Clean paved roads and parking areas over which CONTRACTOR'S vehicles travel. Cleaning shall be done a minimum of 2 times per week or more frequently as directed by ENGINEER, and shall be by mechanical sweeper. Roads to be cleaned include:
 1. Roads within limits of the Project.
 2. Permanent roads at Site from Site entrance to work areas and construction parking and staging areas.
 3. Public roads that require sweeping and cleaning due to CONTRACTOR'S operations.

- C. Dust resulting from CONTRACTOR'S activities shall be controlled by CONTRACTOR to prevent nuisances at Site and nearby areas. Apply water or use other methods subject to ENGINEER'S acceptance that will minimize airborne dust. Do not use water when water will cause hazardous or objectionable conditions such as ice, mud, ponds, and pollution.
- D. Provide temporary, heavy-duty steel roadway plates to protect existing manholes, handholes, valve boxes, vaults, and similar buried facilities.

1.06 REMOVALS AND RESTORATION

- A. Removals:
 - 1. Remove temporary roads, walks, and parking areas that are not intended for, or acceptable for, integration into permanent pavement. Return areas of temporary roads, walks, and parking to pre-construction condition unless otherwise required by the Contract Documents. Remove temporary gates, fencing, and traffic controls associated with temporary roads and parking areas.
 - 2. Where areas of temporary roads and parking will be permanently landscaped, remove pavement, aggregate, soil and other material that does not comply with requirements for fill or subsoil and landscaping. Remove and properly dispose of materials contaminated with oil, bitumen, and other petrochemical compounds, and other substances that might impair growth of plants and lawns.
- B. Restoration:
 - 1. Repair or replace paving, curbs, gutters, grass areas, lawns, and sidewalks affected by temporary roads and parking, and restore to required conditions, per authorities having jurisdiction.
 - 2. Restore to pre-construction conditions existing roads, walks, and parking areas damaged by CONTRACTOR, subject to approval of owner roads, walks, and parking areas.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 01561

SECURITY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall safely guard all Work, materials, equipment and property from loss, theft, damage and vandalism. CONTRACTOR'S duty to safely guard property shall include the OWNER'S property and other private property from injury or loss in connection with the performance of the Contract.
- B. He shall employ watchmen as needed to provide the required security and prevent unauthorized entry.
- C. CONTRACTOR may make no claim against the OWNER for damage resulting from trespass.
- D. Party responsible for security shall make good all damage to property of OWNER and others arising from failure to provide adequate security.
- E. If existing fencing or barriers are breached or removed for purposes of construction, CONTRACTOR shall provide and maintain temporary security fencing equal to the existing in a manner satisfactory to the ENGINEER and OWNER.
- F. Security measures taken by the CONTRACTOR shall be at least equal to those usually provided by OWNER to protect his existing facilities during normal operation.
- G. Maintain security program throughout construction until OWNER'S acceptance and occupancy precludes need for CONTRACTOR'S security program.

1.02 CONTRACTOR'S SITE ACCESS AND SECURITY PROCEDURES

- A. Conform to requirements of Section 01550, Access Roads and Parking Areas.
- B. Conform to OWNER'S security procedures and access restrictions at Site throughout entire Project. CONTRACTOR, including Subcontractors and Suppliers, shall comply with the following:
 - 1. Personnel Identification: All CONTRACTOR personnel shall wear at all times on-site a badge bearing CONTRACTOR'S name, employee's name and, as applicable, employee number.

2. Vehicle Identification: While on-site, all CONTRACTOR vehicles, including employee, shall display vehicle identification tag in a clearly visible location on the dashboard. Vehicle tag shall be issued by the CONTRACTOR. Vehicle tag shall include the following information: Site name, CONTRACTOR name, contract number, vehicle license plate number and state of issue, name and employer of vehicle owner, and vehicle owner contact telephone number.
3. Parking: Do not park outside of designated CONTRACTOR parking area, as agreed to with the Owner. Prepare and maintain parking area as required. Personal vehicles are not allowed outside CONTRACTOR parking area.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01562

PROTECTION OF THE WORK AND PROPERTY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall be responsible for taking all precautions, providing all programs, and taking all actions necessary to protect the Work and all public and private property and facilities from damage as specified in the General Conditions and herein.
- B. In order to prevent damage, injury or loss, CONTRACTOR'S actions shall include, but not be limited to, the following:
 - 1. Store apparatus, materials, supplies, and equipment in an orderly, safe manner that will not unduly interfere with the progress of the Work or the Work of any other contractor or utility service company.
 - 2. Provide suitable storage facilities for all materials which are subject to injury by exposure to weather, theft, breakage, or otherwise.
 - 3. Place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work.
 - 4. Clean up frequently all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the Work shall present a safe, orderly and workmanlike appearance.
 - 5. Provide barricades and guard rails around openings, for scaffolding, for temporary stairs and ramps, around excavations, elevated walkways and other hazardous areas.
- C. CONTRACTOR shall not, except after written consent from proper parties, enter or occupy privately-owned land with men, tools, materials or equipment, except on easements provided herein.
- D. CONTRACTOR shall assume full responsibility for the preservation of all public and private property or facility on or adjacent to the site. If any direct or indirect damage is done by or on account of any act, omission, neglect or misconduct in the execution of the Work by the CONTRACTOR, it shall be restored by the CONTRACTOR, at his expense, to a condition equal to that existing before the damage was done

1.02 BARRICADES AND WARNING SIGNALS

- A. Where Work is performed on or adjacent to any roadway, right-of-way, or public place, CONTRACTOR shall provide barricades, fences, lights, warning signs, danger signals, watchmen, and shall take other precautionary measures for the

protection of persons or property and of the Work. Barricades shall be painted to be visible at night. From sunset to sunrise, CONTRACTOR shall furnish and maintain at least one light at each barricade. Sufficient barricades shall be erected to keep vehicles from being driven on or into Work under construction. CONTRACTOR shall furnish watchmen in sufficient numbers to protect the Work. CONTRACTOR'S responsibility for the maintenance of barricades, signs, lights, and for providing watchmen shall continue until the Project is accepted by OWNER.

1.03 TREE AND PLANT PROTECTION

- A. CONTRACTOR shall protect existing trees, shrubs and plants on or adjacent to the site that are shown or designated to remain in place against unnecessary cutting, breaking or skinning of trunk, branches, bark or roots.
- B. Materials or equipment shall not be stored or parked within the drip line.
- C. Temporary fences or barricades shall be installed to protect trees and plants in areas subject to traffic.
- D. Fires shall not be permitted under or adjacent to trees and plants.
- E. Within the limits of the work, water trees and plants that are to remain, in order to maintain their health during construction operations.
- F. Cover all exposed roots with burlap that shall be kept continuously wet. Cover all exposed roots with earth as soon as possible. Protect root systems from mechanical damage and damage by erosion, flooding, run-off or noxious materials in solution.
- G. If branches or trunks are damaged, prune branches immediately and protect the cut or damaged areas with a nursery product specifically for horticultural use in a manner approved by the ENGINEER.
- H. All damaged trees and plants that die or suffer permanent injury shall be removed when ordered by the ENGINEER and replaced by a specimen of equal or better quality.

1.04 PROTECTION OF EXISTING STRUCTURES

- A. Underground Structures:
 - 1. Underground structures are defined to include, but not be limited to, all sewer, water, gas, and other piping, and manholes, chambers, electrical conduits, tunnels and other existing subsurface work located within or adjacent to the limits of the Work.

2. All underground structures known to ENGINEER except water, sewer, electric, and telephone service connections are shown. This information is shown for the assistance of CONTRACTOR in accordance with the best information available, but is not guaranteed to be correct or complete.
3. CONTRACTOR shall explore ahead of his trenching and excavation Work and shall uncover all obstructing underground structures sufficiently to determine their location, to prevent damage to them and to prevent interruption to the services which such structures provide. If CONTRACTOR damages an underground structure, he shall restore it to original condition at his expense.
4. Necessary changes in the location of the Work may be made by ENGINEER, to avoid unanticipated underground structures.
5. If permanent relocation of an underground structure or other subsurface facility is required and is not otherwise provided for in the Contract Documents, ENGINEER will direct CONTRACTOR in writing to perform the Work, which shall be paid for under the provisions of Article 11 of the General Conditions.

B. Surface Structures:

1. Surface structures are defined as all existing buildings, structures and other facilities above the ground surface. Included with such structures are their foundations or any extension below the surface. Surface structures include, but are not limited to, buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, poles, wires, cables, posts, signs, markers, curbs, walks and all other facilities that are visible above the ground surface.

C. Protection of Underground and Surface Structures:

1. CONTRACTOR shall sustain in their places and protect from direct or indirect injury all underground and surface structures located within or adjacent to the limits of the Work. Such sustaining and supporting shall be done carefully and as required by the party owning or controlling such structure. Before proceeding with the work of sustaining and supporting such structure, CONTRACTOR shall satisfy the ENGINEER that the methods and procedures to be used have been approved by the party owning same.
2. CONTRACTOR shall assume all risks attending the presence or proximity of all underground and surface structures within or adjacent to the limits of the Work. CONTRACTOR shall be responsible for all damage and expense for direct or indirect injury caused by his Work to any structure. CONTRACTOR shall repair immediately all damage caused by his work, to the satisfaction of the owner of the damaged structure.

- D. All other existing surface facilities, including but not limited to, water storage tank name plates, guard rails, posts, guard cables, signs, poles, markers, and curbs which are temporarily removed to facilitate installation of the Work shall be replaced and restored to their original condition at CONTRACTOR'S expense.

1.05 PROTECTION OF FLOORS, ROOFS, AND CEILINGS

- A. CONTRACTOR shall protect floors, roofs and ceilings during the entire construction period.
- B. Proper protective covering shall be used when moving heavy equipment, handling materials or other loads, when painting, handling mortar and grout and when cleaning walls and ceilings.
- C. Use metal pans to collect all oil and cuttings from pipe, conduit, or rod threading machines and under all metal cutting machines.
- D. Roofs and ceilings shall not be loaded without written permission of the ENGINEER.

1.05 PROTECTION OF INSTALLED PRODUCTS AND LANDSCAPING

- A. Provide protection of installed products to prevent damage from subsequent operations. Remove protection facilities when no longer needed, prior to completion of Work.
- B. Control traffic to prevent damage to equipment, materials and surfaces.
- C. Provide coverings to protect equipment and materials from damage.
 - 1. Cover projections, wall corners, and jambs, sills and soffits of openings, in areas used for traffic and for passage of products in subsequent work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01563

TEMPORARY CONTROLS

PART1 - GENERAL

1.01 DESCRIPTION

- A. Provide and maintain methods, equipment, and temporary construction, as necessary to provide controls over environmental conditions at the construction site and adjacent areas. Remove physical evidence of temporary facilities at completion of Work.

1.02 NOISE CONTROL

- A. CONTRACTOR'S vehicles and equipment shall be such as to minimize noise to the greatest degree practicable. Noise levels shall conform to the latest OSHA standards and in no case will noise levels be permitted which interfere with the work of the OWNER or others.

1.03 DUST CONTROL

- A. CONTRACTOR shall be responsible for controlling objectionable dust caused by his operation of vehicles and equipment, clearing or for any reason whatever. CONTRACTOR shall apply water or use other methods subject to the ENGINEER'S approval which will keep dust in the air to a minimum. See further requirements for blast and paint spray control in Division 09 and 13.

1.04 PEST AND RODENT CONTROL

- A. Provide rodent and pest control as necessary to prevent infestation of construction or storage area.
 - 1. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

1.05 WATER CONTROL

- A. Provide methods to control surface water and water from excavations and structures to prevent damage to the Work, the site, or adjoining properties
 - 1. Control fill, grading and ditching to direct water away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper runoff courses so as to prevent any erosion, damage or nuisance.
- B. Provide, operate and maintain equipment and facilities of adequate size to control surface water.

- C. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas and in conformance with all environmental requirements.

1.06 POLLUTION CONTROL

- A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.
- B. Provide equipment and personnel, perform emergency measures required to contain any spillages, and to remove contaminated soils or liquids.
 - 1. Excavate and dispose of any contaminated earth offsite, and replace with suitable compacted fill and topsoil.
- C. Take special measures to prevent harmful substances from entering public waters.
 - 1. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams, or in sanitary or storm sewers.
- D. Provide systems for control of atmospheric pollutants.
 - 1. Prevent toxic concentrations of chemicals.
 - 2. Prevent harmful dispersal of pollutants into the atmosphere.
- E. All CONTRACTOR'S equipment used during construction shall conform to all current federal, state and local laws and regulations.

1.07 EROSION CONTROL

- A. Plan and execute construction and earthwork by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas, to prevent erosion and sedimentation.
 - 1. Hold the areas of bare soil exposed at one time to a minimum.
 - 2. Provide temporary control measures such as berms, dikes, and drains.
- B. Construct fills and waste areas by selective placement to eliminate surface silts or clays, which will erode.
- C. Periodically inspect earthwork to detect any evidence of the start of erosion, apply corrective measures as required to control erosion.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01630

SUBSTITUTIONS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Requests for review of a substitution shall conform to the requirements of the General Conditions and shall contain complete data substantiating compliance of proposed substitution with Contract Documents.

1.02 CONTRACTOR'S OPTIONS

- A. For materials or equipment (hereinafter products) specified only by reference standard, select product meeting that standard, by any manufacturer, fabricator, supplier or distributor (hereinafter manufacturer). To the maximum extent possible, provide products of the same generic kind from a single source.
- B. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named which complies with Specifications.
- C. For products specified by naming one or more products or manufacturers and stating "or equal", submit a request for a substitution for any product or manufacturer which is not specifically named.
- D. For products specified by naming only one product or manufacturer and followed by words indicating that no substitution is permitted, there is no option and no substitution will be allowed.
- E. Where more than one choice is available as a CONTRACTOR'S option, select product which is compatible with other products already selected or specified.

1.03 SUBSTITUTIONS

- A. During a period of ~~530~~ days after date of commencement of Contract Time, ENGINEER will consider written requests from CONTRACTOR for substitution of products or manufacturers, and construction methods (if specified).
 - 1. After end of specified period, requests will be considered only in case of unavailability of product or other conditions beyond control of CONTRACTOR.
- B. Submit 5 copies of request for substitution. Submit separate request for each substitution. In addition to requirements set forth in Article 6.05 of General Conditions, include in request the following:

1. For products or manufacturers:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature with product description, performance and test data, and reference standards.
 - c. Samples, if appropriate.
 - d. Name and address of similar projects on which product was used, and date of installation.
 2. For construction methods (if specified):
 - a. Detailed description of proposed method.
 - b. Drawings illustrating method.
 3. Such other data as the ENGINEER may require to establish that the proposed substitution is equal to the product, manufacturer or method specified.
- C. In making request for substitution, CONTRACTOR represents that:
1. CONTRACTOR has investigated proposed substitution, and determined that it is equal to or superior in all respects to the product, manufacturer or method specified.
 2. CONTRACTOR will provide the same or better guarantees or warranties for proposed substitution as for product, manufacturer or method specified.
 3. CONTRACTOR waives all claims for additional costs or extension of time related to proposed substitution that subsequently may become apparent.
- D. A proposed substitution will not be accepted if:
1. Acceptance will require changes in the design concept or a substantial revision of the Contract Documents.
 2. It will delay completion of the Work, or the work of other contractors.
 3. It is indicated or implied on a Shop Drawing and is not accompanied by a formal request for substitution from CONTRACTOR.
- E. If the ENGINEER determines that a proposed substitute is not equal to that specified, CONTRACTOR shall furnish the product, manufacturer or method specified at no additional cost to OWNER.
- F. Approval of a substitution will not relieve CONTRACTOR from the requirement for submission of Shop Drawings as set forth in the Contract Documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01640

TRANSPORTATION AND HANDLING OF MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall make all arrangements for transportation, delivery and handling of equipment and materials required for prosecution and completion of the Work. Included in CONTRACTOR'S work shall be acceptance of consignment and coordination of equipment deliveries for equipment purchased by OWNER.
- B. Shipments of materials to CONTRACTOR or Subcontractors shall be delivered to the site only during regular working hours. Shipments shall be addressed and consigned to the CONTRACTOR giving name of Project, street number and city. Shipments shall not be delivered to OWNER except where otherwise directed.
- C. If necessary to move stored materials and equipment during construction, CONTRACTOR shall move or cause to be moved materials and equipment without any additional compensation.

1.02 DELIVERY

- A. Arrange deliveries of products in accordance with construction schedules and in ample time to facilitate inspection prior to installation.
- B. Coordinate deliveries to avoid conflict with Work and conditions at site and to accommodate the following:
 - 1. Work of other contractors, or OWNER.
 - 2. Limitations of storage space.
 - 3. Availability of equipment and personnel for handling products.
 - 4. OWNER'S use of premises.
 - 5. Work under other construction projects on OWNER'S site.
- C. Do not have products delivered to project site until related Shop Drawings have been approved by the ENGINEER.
- D. Do not have products delivered to site until required storage facilities have been provided.
- E. Have products delivered to site in manufacturer's original, unopened, labeled containers. Keep ENGINEER informed of delivery of all equipment to be incorporated in the Work.

- F. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.
- G. Immediately on delivery, inspect shipment to assure:
 - 1. Product complies with requirements of Contract Documents and reviewed submittals.
 - 2. Quantities are correct.
 - 3. Containers and packages are intact, labels are legible.
 - 4. Products are properly protected and undamaged.

1.03 PRODUCT HANDLING

- A. Provide equipment and personnel necessary to handle products by methods to prevent soiling or damage to products or packaging.
- B. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
- C. Handle products by methods to prevent bending or overstressing.
- D. Lift heavy components only at designated lifting points.
- E. Materials and equipment shall at all times be handled in a safe manner and as recommended by manufacturer or supplier so that no damage will occur to them. Do not drop, roll or skid products off delivery vehicles. Hand carry or use suitable materials handling equipment.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01660

STORAGE OF MATERIAL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Store and protect materials in accordance with manufacturer's recommendations and requirements of Specifications.
- B. CONTRACTOR shall make all arrangements and provisions necessary for the storage of materials and equipment. All excavated materials, construction equipment, and materials and equipment to be incorporated into the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Materials and equipment shall be kept neatly and compactly stored in locations that will cause a minimum of inconvenience to other contractors, public travel, adjoining owners, tenants and occupants. Arrange storage in a manner to provide easy access for inspection.
- C. CONTRACTOR shall be consigned responsibility for scheduling, coordination of delivery and manufacturer's representatives' services, on-site storage, and handling of equipment items purchased directly by OWNER for this project. CONTRACTOR shall make provisions for temporary storage, if required, and all handling of said equipment items.
- D. Areas available on the construction site for storage of material and equipment shall be as shown or approved by the ENGINEER.
- E. Materials and equipment which are to become the property of the OWNER shall be stored to facilitate their inspection and insure preservation of the quality and fitness of the Work, including proper protection against damage by freezing and moisture. They shall be placed inside storage areas unless otherwise acceptable to OWNER.
- F. Lawns, grass plots or other private property shall not be used for storage purposes without written permission of the property owner or other person in possession or control of such premises.
- G. CONTRACTOR shall be fully responsible for loss or damage to stored materials and equipment.
- H. Do not open manufacturers' containers until time of installation unless recommended by the manufacturer or otherwise specified.

- I. Do not store products in the structures being constructed unless approved in writing by the ENGINEER.

1.02 UNCOVERED STORAGE

- A. The following types of materials may be stored out-of-doors without cover:
 - 1. Reinforcing steel.
 - 2. Precast concrete items.
 - 3. Masonry block and brick.
 - 4. Castings.
 - 5. Manholes and exterior buried pipe.
- B. Store the above materials on wood blocking so there is no contact with the ground.

1.03 COVERED STORAGE

- A. The following types of materials may be stored out-of-doors if covered with material impervious to water:
 - 1. Rough lumber.
 - 2. Piping.
 - 3. Coating materials (see section 09900 for additional requirements relative to storage of materials).
 - 4. Abrasive blasting materials (see section 09900 for additional requirements related to storage of materials).
- B. Tie down covers with rope and slope to prevent accumulation of water on covers.
- C. Store materials on wood blocking.

1.04 FULLY PROTECTED STORAGE

- A. Store all products not named above in buildings or trailers which have a concrete or wooden floor, a roof, and fully closed walls on all sides.
- B. Provide heated storage space for materials which would be damaged by freezing.
- C. Protect mechanical and electrical equipment from being contaminated by dust, dirt and moisture.
- D. Maintain humidity at levels recommended by manufacturers for electrical and electronic equipment.

1.05 MAINTENANCE OF STORAGE

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
1. State of storage facilities is adequate to provide required conditions.
 2. Required environmental conditions are maintained on continuing basis.
 3. Products exposed to elements are not adversely affected.
 4. Remove empty paint containers and debris from the site and dispose of properly on a daily basis.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01730
INSTALLATION DATA

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Installation data is defined as written instruction; drawings; illustrative, wiring and schematic diagrams; diagrams identifying external connections, terminal block numbers and internal wiring; and all other such information pertaining to the location of materials and equipment that is not furnished with Shop Drawings. Included are all printed manufacturers installation instructions, including those that may be attached to equipment and for which review by the ENGINEER is not required.

1.02 SUBMITTAL

- A. CONTRACTOR shall submit two copies of all such data to the ENGINEER for each piece of equipment, which he furnished and for all other construction products for which such information is available from the manufacturer. Data shall be acceptably identified and accompanied with a letter of transmittal.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 02316

SELECT GRANULAR MATERIALS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Specified
Select granular materials shall be used in bedding, pipe encasement, or backfill and as specified or as directed by the ENGINEER.
- B. Related Work Specified Elsewhere
 - 1. Section 02351 - Excavation, Backfill and Trenching

1.02 QUALITY ASSURANCE

- A. Reference Standards
 - 1. NYSDOT Standards, latest revision

1.03 SUBMITTALS

- A. The CONTRACTOR shall furnish representative samples, sieve analysis and certification of specification compliance for the select granular materials to the ENGINEER and advise on the location of the source.
- B. The CONTRACTOR shall submit copies of proposed materials, methods and operations of backfilling and compaction to the ENGINEER for review prior to the start of work. A list of equipment to be used in CONTRACTOR'S Methods and Operations must be included.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Bedding and Pipe Encasement
 - 1. NYSDOT No. 1 Crushed Stone or Crushed Gravel – bedding for PVC, DIP, and PCCP watermain.
Thoroughly washed, clean, sound, tough, hard, crushed limestone conforming to the requirements of NYSDOT Item No. 703.0201 or crushed gravel conforming to the requirements of NYSDOT Item No. 703.0202, having the following gradation by weight:

<u>% Passing</u>	<u>Sieve</u>
100	1-inch
90 - 100	1/2-inch
0 - 15	1/4-inch

2. NYSDOT No. 2A Crushed Stone or Crushed Gravel – bedding for DIP and PCCP watermain.
 Shall be a No. 1 and No. 2 blend, thoroughly washed, clean, sound, tough, hard, crushed limestone conforming to the requirements of NYSDOT Item No. 703.0201 or crushed gravel conforming to the requirements of NYSDOT Item No. 703.0202, having the following gradation by weight:

<u>% Passing</u>	<u>Sieve</u>
100	1-1/2-inch
93-100	1-inch
27-58	1/2-inch
0-8	1/4-inch

3. NYSDOT Concrete Sand – bedding for copper and polyethylene tubing.
 Washed, fine aggregate sand shall conform to the requirements of NYSDOT Item No. 703.07, having the following gradation by weight:

<u>% Passing</u>	<u>Sieve</u>
100	3/8-inch
90 - 100	No. 4
75 - 100	No. 8
50 - 85	No. 16
25 - 60	No. 30
10 - 30	No. 50
1 - 10	No. 100
0 - 3	No. 200

B. Select Backfill

1. NYSDOT Subbase Type 2 Crusher Run Stone or Crusher Run Gravel.
 Material shall conform to the requirements of NYSDOT Item No. 304.12, having the following gradation by weight:

<u>% Passing</u>	<u>Sieve</u>
100	2-inch
25 - 60	1/4-inch
5 - 40	No. 40
0 - 10	No. 200

- C. Peagravel
 - 1. NYSDOT Type 1A Screened Gravel for the annular space between the carrier pipe and the casing pipe.
Screened gravel shall conform to the requirements of NYSDOT Item No. 703.0203 and have the following gradation by weight:

<u>% Passing</u>	<u>Sieve</u>
100	1/2-inch
90 - 100	1/4-inch
0 - 15	1/8-inch
- D. Flowable Fill
 - 1. For filling abandoned watermain pipe and/or casing pipe only.
Material shall conform to the requirements of NYSDOT specification section 733.01, Item No. 204.01 for Controlled Low Strength Material (CLSM) and may contain fly ash.
- E. Follow NYSDOT Standard Specifications if gradation data varies from those listed above.
- F. Recycled concrete or asphalt pavement shall not be allowed.
- G. Slag of any type shall not be allowed.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General
 - 1. Select granular material as specified or directed for watermain bedding or encasement shall be placed in accordance with Section 02351 - Excavation, Backfill and Trenching.
 - 2. Select backfill where specified or directed shall be placed in accordance with the backfilling provisions of Section 02351 - Excavation, Backfill & Trenching.

3.02 DISPOSAL OF DISPLACED MATERIALS

- A. Materials displaced through the use of the above materials shall be wasted or disposed of by the CONTRACTOR and the cost of such disposal shall be included in the appropriate bid item.

END OF SECTION

SECTION 02351

EXCAVATION, BACKFILL, AND TRENCHING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Specified
 - 1. The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals necessary for excavation, trenching, backfill, and compaction as shown and specified. Disposal of excess and unsuitable excavated material is included.
 - 2. Backfill of excavations with acceptable materials as specified in other Sections.
- B. Related Work Specified Elsewhere
 - 1. Section 02316 - Select Granular Materials
 - 2. Section 02900 - Restoration

1.02 QUALITY ASSURANCE

- A. Reference Standards
 - 1. ASTM A36, Structural Steel
 - 2. ASTM A328, Steel Sheet Piling
 - 3. ASTM D422, Particle-Size Analysis of Soils
 - 4. ASTM D698, Moisture-Density Relations of Soils, using 5.5 lb. Rammer and 12-inch Drop
 - 5. ASTM D1556, Density of Soil in Place by the Sand-Cone Method
 - 6. ASTM D1557, Moisture-Density Relations of Soils, using 10 lb. Rammer and 18-inch Drop
 - 7. ASTM D2321, Recommended Practices for Underground Installation of Pipe for Sewers and Other Gravity Flow Applications
 - 8. ASTM D2922, Density of Soil and Soil-Aggregate in Place by Nuclear Method (Shallow Depth)
 - 9. AISC Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings
 - 10. Occupational Safety and Health Administration (OSHA) Regulations
 - 11. Industrial Code Rule 23

1.03 SUBMITTALS

- A. Before any excavation begins, the CONTRACTOR shall obtain all permits and licenses required by governing authorities having jurisdiction and submit certified copies to ENGINEER prior to work being performed.

- B. The CONTRACTOR shall submit drawings submitted with a PE stamp, for information only, for the following items as required:
1. Sheeting, shoring and bracing
 2. Dewatering systems
 3. Cofferdams
 4. Additional protection systems required
 5. Underpinning
 6. Underdraining
 7. Sediment and Erosion control
 8. Boring and Receiving Pits.
- C. The CONTRACTOR shall submit proposed materials, methods and operations of backfilling and compaction to the ENGINEER for review prior to the start of work. A list of equipment to be used in CONTRACTOR'S methods and operations must be included.
- D. All drawings shall be prepared and sealed by an independent professional engineer recognized as an expert in the specialty involved and licensed to practice in the State of New York. The drawings shall be submitted to the ENGINEER to establish compliance with the terms of the Contract Documents. Calculations shall not be submitted. Drawing submissions will not be checked and will not imply approval by the ENGINEER of the work involved. CONTRACTOR shall be wholly responsible for designing, installing, and operating whatever system is necessary to accomplish satisfactory sheeting, bracing, protection, underpinning, and dewatering.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Bedding and Select Backfill
1. Bedding and select backfill material shall be in accordance with Section 02316 - Select Granular Materials.
- B. Backfill and Fill Materials
1. Excavated materials may be used for backfill provided:
 - a. Material is sandy, loamy or similar to bank run gravel.
 - b. Material is free of debris, hazardous materials, frozen materials, organic or other deleterious materials. Material greater than 4-inches in any direction is unacceptable. Material greater than 2-inches in any direction is unacceptable for backfill directly against the watermain.
 - c. Maximum dry density and optimum moisture content are determined in accordance with the above.
 - d. Material is reviewed and deemed acceptable by the ENGINEER.

2. Use select granular backfill within 5 feet or within a 1 on 1 slope from the trench to the edge of pavement of all roadways.
- C. Topsoil
1. Topsoil shall be furnished and installed and coordinated with Section 02900, Restoration.
- D. Explosives
1. Explosives are not allowed to be used nor allowed on site.
- E. Sheeting, Shoring & Bracing
1. Used material shall be in good condition, not damaged or excessively pitted. Unless otherwise specified, all sheeting to remain in place shall be new. New or used sheeting may be used for temporary work.
 2. All timber used for breast boards (lagging) shall be new or used, meeting the requirements for Douglas Fir Dense Construction grade or Southern Pine No. 2 Dense S3. Where close or tight sheeting is required, wood sheeting shall be tongued and grooved.
 3. All steel work for sheeting, shoring, bracing, cofferdams, etc. shall be designed in accordance with the provisions of the "Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings", of the AISC except that field welding will be permitted.
 4. Steel sheet piling shall be manufactured from steel conforming to ASTM A328. Steel soldier piles, wales and braces shall be new or used and shall conform to ASTM A36.
 5. Steel sheeting shall have a minimum thickness of $\frac{3}{8}$ -inch in web, unless otherwise specified.

PART 3 - EXECUTION

3.01 INSPECTION

- A. The CONTRACTOR shall provide the ENGINEER with sufficient time and means to examine the areas and conditions under which excavating, filling and grading are to be performed. The CONTRACTOR shall notify the ENGINEER of conditions detrimental to the proper and timely completion of work. The CONTRACTOR shall not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the ENGINEER.

3.02 TEST PITS

- A. Where shown or ordered by the ENGINEER, the CONTRACTOR shall excavate and backfill test pits in advance of construction to determine conditions or location of existing facilities. The CONTRACTOR shall perform all work required in

connection with excavating, stockpiling, maintaining, sheeting, shoring, backfilling and restoring the surface for the test pits.

- B. Test pits which the CONTRACTOR excavates that are not shown on the Drawings or specified or ordered shall be at the CONTRACTOR'S expense.
- C. No test pits will be dug prior to utility company stakeout.
- D. Cold patch for temporary repair shall be placed as directed by the ENGINEER.

3.03 EROSION CONTROL

- A. All necessary precautions shall be taken to preclude the contamination of any wetland or waterway by suspended solids, sediment, fuels, solvents, lubricants, epoxy coatings, paints, concrete leachate or any other environmentally deleterious substance associated with the project.
- B. All necessary precautions shall be taken to prevent the entry of raw concrete or concrete liquors into the waters and/or wetlands of the State of New York. Equipment washwater from this project shall not be allowed to enter any waterway or wetland.
- C. All sediments are to be retained on the project site through the use of hay bales, silt fences or other barriers, as specified or approved by the local authority having jurisdiction, to prevent erosion.
- D. All areas of soil disturbance resulting from this project shall be seeded with an appropriate perennial grass seed and mulched with hay or straw within one week of final grading. Mulch shall be maintained until a suitable vegetative cover has been established.
- E. Pumped groundwater collected from excavations shall not be allowed to be discharged directly to any wetland, waterway, or other water body.
- F. Contamination of any wetland, waterway, or other water body shall be cleaned and/or restored to the satisfaction of the ENGINEER and governing authorities at the expense of the CONTRACTOR.

3.04 EXCAVATION

- A. The CONTRACTOR shall perform all excavation required to complete the work as shown and specified. Excavations shall include earth, sand, clay, gravel, hardpan, boulders and ledge rock, decomposed rock, pavements, rubbish and all other materials within the excavation limits, except rock.

- B. Excavations for pipelines, utilities and structures shall be open excavations, shored and braced where necessary, according to OSHA standards, to prevent possible injury to workmen and to new and existing structures or pipelines.
- C. Where the pipeline, utility or structure is to be placed below the ground water table, well-points, cofferdams or other acceptable methods shall be used to permit construction under dry conditions. Dry conditions shall prevail until concrete has reached sufficient strength to withstand earth and hydrostatic loads and until the pipelines are properly jointed, tested and backfilled.
- D. Pumping in excavations shall be done in such a manner so as to prevent damage to the existing subgrade, and to prevent the carrying away of unsolidified concrete materials.
- E. Excavations for pipelines shall be made sufficiently wide to permit proper laying and jointing of the pipe. The trench width at the top of the pipe should not be greater than the outside diameter of the pipe barrel plus 2 feet, but shall be sufficient to allow thorough compacting of earth refill adjacent to the bottom half of the pipe. The depth of trench shall be sufficient to allow a minimum cover over the top of the pipe as shown on the drawings. The use of excavating equipment which requires the trench to be excavated to an excessive width will not be allowed. All trenches for buried piping shall be excavated at least 6 inches below the bottom of the pipe and backfilled with pipe bedding material as specified in Section 02316 – Select Granular Materials.
- F. Acceptable excavated materials shall be stockpiled in specified areas until required for backfill or fill. Place, grade and shape stockpiles for proper drainage.
 - 1. Locate and retain soil materials away from edge of excavations.
 - 2. Unsuitable backfill material shall be kept separate from all other material and shall be disposed of as specified hereinafter. Disposal of unsuitable and excess excavated material shall be accomplished immediately upon removal from the excavation.
 - 3. Stockpiles shall not be located such that they interfere with traffic or access to public or private property. If necessary, the CONTRACTOR shall maintain additional stockpile areas located elsewhere on the site, and shall transport the suitable backfill material to and from such stockpile areas as required for the work.
 - 4. In built-up districts and in streets where traffic conditions render it necessary, the material excavated from the initial opening shall be removed by the CONTRACTOR as soon as excavated, and the material subsequently excavated, if suitable for the purpose, shall be used to backfill the trenches in which pipe has been laid or structures have been built, and neither the excavated material nor materials of construction shall be stored on the streets or sidewalks.

- G. If the material at the design grade is unsuitable as determined by the ENGINEER, the CONTRACTOR, when ordered in writing, shall excavate additional material to the depth necessary and shall backfill to the proposed grade with select granular material.
- H. Unless otherwise directed or permitted, not more than 100 feet of trench in advance of the end of the completed pipe or structure therein shall be opened at any time. Every trench in rock shall be fully opened at least 30 feet in advance of any place where masonry or pipe is being laid. Any time when the CONTRACTOR'S crews are not on the job working, a trench length equal to or less than one-half of the last length of pipe installed may be left open, but properly covered or barricaded to protect the public.
- I. At such locations where two pipes may be installed in parallel in a common trench, and where specified, the CONTRACTOR shall install the pipes a minimum of 2 feet apart as measured horizontally from the outside diameter of pipe.

3.05 UNAUTHORIZED EXCAVATION

- A. All excavation outside the lines and grades shown and not specified, together with the removal and disposal of the associated material shall be at the CONTRACTOR'S expense. The unauthorized excavation shall be filled as directed by the ENGINEER with select compacted backfill at the CONTRACTOR'S expense. Claims and damages resulting from the CONTRACTOR'S unauthorized excavation will be his sole responsibility.

3.06 DRAINAGE AND DEWATERING

- A. General
 - 1. Prevent surface and subsurface water from flowing into excavations and from flooding adjacent areas.
 - 2. Remove water from excavation as fast as it collects.
 - 3. Maintain the ground water level at least 2 feet below the bottom of the excavation to provide a stable surface for construction operations and to prevent damage to the work during all stages of construction.
 - 4. Provide and maintain pumps, sumps, suction and discharge lines and other dewatering system components necessary to convey water away from excavations.
 - 5. Provide sediment traps when water is conveyed into water courses.
 - 6. Notify the ENGINEER before shutting down dewatering systems for any reason.
 - 7. Standing water shall not be permitted in the excavation at any time. If the material at the design grade becomes unsuitable or contaminated due to the actions of the CONTRACTOR, the CONTRACTOR shall excavate additional material to the depth necessary and shall backfill to the proposed grade with select fill or crushed stone.

8. 100% stand-by pumps (gasoline powered) shall be maintained at the site at all times.
9. Any hardships created by the temporary dewatering for this Contract which adversely affects the water supply to local property owners, shall be satisfactorily resolved by the CONTRACTOR, including the provision of temporary water service, if required, at no additional cost to the OWNER.
10. Obtain required permits from agencies of jurisdiction, NYSDEC, and USACOE, for any water being discharged into rivers, streams, or water courses.

B. Disposal of Water Removed by Dewatering Systems

1. Dispose of all water removed from the excavation in such a manner as not to endanger public health, property, or any portion of the work under construction or completed.
2. Dispose of water in such a manner as to cause no inconvenience to the owner or others on or adjacent to the site.
3. Convey water from the excavation in a closed conduit. Do not use trench excavations as temporary drainage ditches.
4. Disposal of water shall be by specified methods and shall not cause erosion or sedimentation to occur in existing drainage systems. All sedimentation or blocking of existing systems shall be thoroughly cleaned and returned to original condition by the CONTRACTOR at his expense.
5. Damage caused by the CONTRACTOR'S operations to public or private property shall be repaired by him to the satisfaction of the ENGINEER and the damaged property owner at the CONTRACTOR'S expense.
6. The CONTRACTOR shall perform all work, furnish all materials and install all measures required to reasonably control soil erosion resulting from construction operations and prevent excessive flow of sediment from the construction site. Such work may include the installation of water diversion structures, diversion ditches and sediment basins and seeding, mulching or sodding critical areas to provide temporary protection. The CONTRACTOR shall submit a plan showing the methods to be used for controlling erosion and sedimentation during construction along with the schedule of construction operations to the ENGINEER for review.
7. All erosion and sediment control practices shall be in place prior to any grading operations and installation of proposed structures or utilities.
8. All erosion and sediment control practices shall be left in place until construction is completed and/or area is stabilized.
9. Where necessary, disturbed areas shall be temporarily seeded and/or mulched until proper weather conditions exist for establishment of a permanent vegetative cover.

3.07 SHEETING, SHORING, AND BRACING

A. General

1. Unless otherwise shown or specified, excavations shall be open, shored and braced or sheeted where necessary to prevent injury to workmen, structures, pipelines and utilities.
2. Structures within 100 feet of sheeting installations shall be subject to a pre-construction survey to identify and record existing structural conditions. In the instance of private residencies, the homeowners shall be contacted directly. These inspections shall be carried out by a pre-inspection firm experienced in this line of work.
3. During the actual construction process, the CONTRACTOR shall provide the monitoring and recording of the actual vibrations generated. A baseline of ambient vibration levels shall be established prior to driving sheet piling.
 - a. The particle acceleration during the driving of the sheet piling shall not exceed 2.0 FPS.
 - b. The CONTRACTOR will be required to change the construction methods if the work is resulting in unacceptable vibration levels.
4. All municipal, county, state, and federal ordinances, codes, regulations, and laws shall be observed. The CONTRACTOR shall provide all sheeting, shoring, and bracing which conforms to New York State Department of Labor – Industrial Code Note 23 and all applicable sections of the 1970 Occupational Safety and Health Act (OSHA), and any other requirements as necessary.
5. All municipal, county, state and federal ordinances, codes, regulations, laws and OSHA regulations shall be observed.
6. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down the shoring and bracing as excavation progresses.
7. Safe and satisfactory sheeting, shoring and bracing shall be the entire responsibility of the CONTRACTOR.
8. The CONTRACTOR shall be held accountable and responsible for the sufficiency of all shoring and bracing used and for all damage to persons or property resulting from the improper quality, strength, placing, maintaining or removing of the same.
9. The ENGINEER'S permission to proceed with work in either a sheeted, shored braced or open trench condition shall in no way relieve the CONTRACTOR from the above responsibilities.
10. The clearances and types of temporary structures, insofar as they affect the character of the finished work, and the design of steel sheeting to be left in place, will be subject to the review of the ENGINEER, but the CONTRACTOR shall be solely responsible for the adequacy of all sheeting, shoring, bracing, cofferdamming, etc.
11. Unless otherwise shown, specified, or ordered, all materials used for temporary construction shall be removed when work is completed. Such removal shall be made in a manner not injurious to the pipelines or structures.
12. All steel sheet piling designed to remain in place shall be new materials. New or used materials may be used for temporary work.

13. Steel sheet piling shall be manufactured from steel conforming to ASTM A328. Steel for soldier piles, wales, and braces shall be manufactured to conform to ASTM A36.

B. Sheeting Left in Place

1. Steel sheet piling shall be left in place or where conditions are such that the removal of sheeting will endanger the work or adjacent pipes or structures or when ordered in writing to be left in place by the ENGINEER. It shall consist of rolled sections of the continuous interlocking type unless otherwise specified. The type and design of the sheeting and bracing shall conform to the above specifications for all steel work for sheeting and bracing.
2. Steel sheet piling to be left in place shall be driven straight to the lines and grades as shown or directed. The piles shall penetrate into firm materials with secure interlocking throughout the entire length of the pile. Damaged piling having faulty alignment shall be pulled and replaced by new piling.
3. The type of guide structure used and method of driving for steel sheet piling to be left in place shall be submitted to the ENGINEER for review. Jetting will not be permitted.
4. The CONTRACTOR shall cut off piling left in place at least 2 feet below road surface or to the grades shown or ordered by the ENGINEER and shall dispose of the cutoffs.
5. Portions of sheeting or soldier piles and breast boards which are in contact with concrete shall be left in place.

C. Removal of Sheeting and Bracing

1. Sheeting and bracing shall be removed from excavation unless otherwise indicated by the ENGINEER. Removal shall be done so as to not cause injury to the work.
 - a. Wood or steel sheeting shall not be removed when adjacent to structures, pavement, pipes, or any other public or private property where removal may cause damage to such property.
 - b. Fill all voids left by removal of sheeting with select fill.
2. Removal of sheet piling shall be done so as not to cause injury to the Work. Removal shall be equal on both sides of excavation to ensure no unequal loads on pipe or structures.

D. Pipeline Alignment in New York State Department of Transportation and Erie County Highway Department Right-Of-Way:

1. The New York State Department Of Transportation and Erie County Highway Department require all trenches or excavations which fall within a 1 on 1 slope as measured from the edge of pavement to be tight-sheeted with pre-driven steel sheet piling prior to excavation.
 - a. The design of the predriven steel sheet piling and bracing system is the responsibility of the CONTRACTOR. The ENGINEER may reject any materials which he regards as unsound.

- b. A copy of all predriven steel sheet piling and bracing system designs shall be submitted to the ENGINEER for his information before installation of same. Each drawing and computation page shall display the seal and signature of a licensed New York State professional engineer. This information must also be submitted to the Agency having jurisdiction for review and must meet with that Agency's approval.
 - c. The CONTRACTOR'S submittal to the ENGINEER shall include written verification from the Agency of jurisdiction that the information being submitted to the ENGINEER has been approved by that Agency.
 - 2. If devices other than pre-driven steel sheet piling are approved by the Agency of jurisdiction in areas designated as requiring temporary sheeting, the CONTRACTOR may (with the ENGINEER'S review) be allowed to use them. However, the costs of furnishing and using these devices will be considered as included in the unit prices bid for the various pipe sections.
- E. In areas where the Drawings call for sheeting to remain in place, alternate sheeting methods will not be allowed. Only pre-driven, steel sheet piling systems designed for the CONTRACTOR by a professional engineer will be allowed in these areas.

3.08 BACKFILL AND COMPACTION

- A. All backfill required for trenches and structures required to provide the finished grades shown and as described herein shall be furnished, placed and compacted in 6 inch lifts by the CONTRACTOR. Unless otherwise specified or required, fill shall be obtained from the excavated materials. All materials used for filling and backfilling shall be soil of acceptable quality, free from boulders, frozen lumps, wood, stumps, sludge, or other organic matter or other deleterious or hazardous materials. Excavated materials meeting these requirements and approved by the ENGINEER may be used as backfill.
- B. Rock and/or earth material may be encountered during the work that is unsuitable for backfilling. When this material is encountered, it shall be disposed of in the specified manner, possibly resulting in a shortage of suitable backfill material. In this event, the CONTRACTOR shall be responsible for furnishing, delivering and installing clean earth or select backfill materials to properly and completely backfill the excavation. Backfill material for these situations may be obtained from other areas of the project where suitable material is available or from offsite locations as approved by the ENGINEER. All backfill material is subject to the ENGINEER'S review and must meet the minimum requirements of the specifications above.
- C. Backfill excavations as promptly as work permits, but not until completion of the following:
 - 1. Inspection by the ENGINEER of all work within the excavation.

2. Inspection, testing approval, and recording of locations of underground utilities, connections, branches, structures and other facilities.
 3. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Cut off temporary sheet piling driven below bottom of structures and remove in a manner to prevent settlement of the structure or utilities, or leave in place if required.
 4. Removal and proper disposal of trash and debris.
- D. Excavation shall be kept dry during backfilling operations. Backfill around piping and structures shall be brought up evenly on all sides.
- E. The minimum density to be obtained during backfilling operations shall be 95 percent and is a percentage of the maximum density obtained in the laboratory as defined in ASTM D698 Method C including Note 2. This percentage is of modified Proctor density. In-place density determinations shall be made using a sand density cone or equivalent method as specified by ASTM D1556. If any bricks, bottles, pieces of metal, debris or other foreign matter larger than $\frac{3}{4}$ -inch size are encountered in the density test hole, a different test location shall be chosen. The ENGINEER will determine the frequency of field testing required to determine the density of the fill and shall direct the number and location of density tests. All equipment necessary to determine fill density, including nuclear density meters, shall be supplied by the CONTRACTOR.
- F. The water content of fill material shall be controlled during placement within the range necessary to obtain the density specified. In general, the moisture content of the fill shall be within 5 percent dry and 2 percent wet of the optimum moisture content for the specified density as determined by laboratory tests. The CONTRACTOR shall perform all necessary work to adjust the water content of the material to within the range necessary to permit the density specified. No fill material shall be placed and no compaction of fill will be permitted when there is any standing water in the trenches or when the fill material or the ground the fill is to be placed on is frozen.
- G. The CONTRACTOR is not allowed to access any part of an existing water supply system (fire hydrants, etc.) as a source of water for any reason during construction activities, including the use of water for backfilling to obtain the proper moisture content.
- H. If the specified densities are not obtained because of the CONTRACTOR'S improper control of placement or compaction procedures, or because of inadequate or improperly functioning equipment, the CONTRACTOR shall perform whatever work is required to provide the specified densities. This work shall include complete removal of unacceptable fill areas, replacement and re-compaction until acceptable fill is provided.

- I. All backfill in pipe trenches shall be placed in horizontal layers not exceeding 6 inches in depth and thoroughly compacted before the next layer is placed.
- J. Where pipe is laid in rock excavation, crushed stone or gravel fill shall be carefully placed and tamped over the rock before the pipe is laid. After laying, pipe, the balance of the backfill shall be placed as described herein above.
- K. Placement:
 - 1. Place pipe bedding, select backfill and/or earth backfill or borrow materials, as specified herein.
 - 2. Trenches under roadways shall be backfilled with select backfill material for the entire length of the open cut crossing plus 5 feet back from the edge of pavement or a distance equal to a 1 on 1 slope to the invert, whichever is greater.
 - 3. Where shoulders are excavated, the trench shall be backfilled with select granular material.
 - 4. The entire trench area under driveways, parking areas, and sidewalks, shall be backfilled with select granular material in accordance with the Contract Drawings and Specifications.
 - 5. Prior to commencing with the backfilling operation, the CONTRACTOR shall submit information to the ENGINEER such as catalog cuts, specification sheets, etc., describing the type of compaction equipment he intends to use.
- L. Pipe Trench Preparation
 - 1. Braced trench width shall be minimized to greatest extent practical but shall conform to the following:
 - a. Trench width shall be sufficient to provide room for installing, jointing and inspecting piping, as shown on Contract Drawings.
 - b. Enlargements at pipe joints may be made if required and specified by the ENGINEER.
 - c. Trench width shall be sufficient for sheeting, bracing, sloping, and dewatering.
 - d. Trench width shall be sufficient to allow thorough compacting of backfill.
 - e. Do not use excavating equipment which requires the trench to be excavated to excessive width.
 - 2. Depth of trench shall be as shown. If required, depths may be revised as specified by the ENGINEER.
- M. The CONTRACTOR shall repair any settlement that occurs at no additional cost to the OWNER.

3.09 GRADING

A. General

W-034A

02351-12

Excavation, Backfill, and Trenching

Rev.10/05

Uniformly grade areas within limits of grading under this Section including adjacent transition areas. Smooth subgrade surface within specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.

- B. Turfed Areas
Finish areas to receive topsoil to within not more than 1 inch above or below the required subgrade elevation.
- C. Walks and Pavements
Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than $\frac{1}{2}$ inch above or below the required subgrade elevation.
- D. Slabs
Grade smooth and even, free of voids, compacted as specified, and to required elevation. Provide final grades within a tolerance of 3 inch when tested with a 10 foot straightedge.
- E. Compaction
After grading, compact subgrade surfaces to the depth and percentage of maximum density required.
- F. All existing drainage swales and ditches, if disturbed, shall immediately, upon completion of pipe installation, be restored to proper lines and grades. CONTRACTOR shall ensure the final drainage facilities are in working condition and acceptable to the agency of jurisdiction.

3.10 PAVEMENT SUBBASE COURSE

- A. General
Place subbase material, in layers of specified thickness, over ground surface to support the pavement base course.
- B. Grade Control
During construction, maintain lines and grades including crown and cross-slope of subbase course.
- C. Shoulders
Place shoulders along edges of subbase course to prevent lateral movement. Construct shoulders of acceptable soil materials as specified, placed in such quantity to compact to thickness of each subbase course layer. Compact and roll at least 12 inch width of shoulder simultaneously with compacting and rolling of each layer of subbase course.
- D. Placing

Place subbase course material on prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting subbase material during placement operations. When a compacted subbase course is shown to be 6 inches thick or less, place material in a single layer. When shown to be more than 6 inches thick, place material in equal layers, except no single layer more than 6 inches or less than 3 inches in thickness when compacted.

3.11 DISPOSAL OF EXCAVATED MATERIALS

- A. Material removed from the excavations which does not conform to the requirements for fill or is in excess of that required for backfill shall be hauled away by the CONTRACTOR and disposed of in compliance with Municipal, County, State, Federal or other applicable regulations at no additional cost to the OWNER.
- B. The CONTRACTOR shall not dispose waste excavated material in any of the following locations:
 - 1. Wetland areas.
 - 2. Flood plains.
 - 3. Any area where excess siltation will damage or pollute receiving water.
 - 4. Disposal of excess materials shall only be allowed at locations approved by NYSDEC Region 9.

3.12 RESTORATION AND CLEAN-UP

- A. Following installation, the CONTRACTOR shall restore all areas to their original condition to the requirements of Section 02900 - Restoration, and to the satisfaction of the ENGINEER.

END OF SECTION

SECTION 02900

RESTORATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Specified
The work specified shall include all labor, material, equipment, services and incidentals necessary to restore surfaces, pavements, sidewalks, driveways, curbs, gutters, lawns, culverts, and other features disturbed, damaged, or destroyed during the performance of the work under or as a result of the operations of the Contract.
- B. Related Work Specified Elsewhere
 - 1. Section 02316 - Select Granular Materials
 - 2. Section 02351 - Excavation, Backfill, and Trenching

1.02 QUALITY ASSURANCE

- A. The quality of materials and the performance of work used in the restoration shall produce a surface or feature equal to the condition of each before the work began.
- B. Reference Standards
 - 1. American Association of Nurserymen (AAN)
 - 2. ASTM D698, Standard Compaction Test
 - 3. ASTM D2487, Classification of Soils for Engineering
 - 4. ASTM D2974, Standard Test Method for Moisture, Ash and Organic Matter of Peat and Other Organic Soils
 - 5. New York State Department of Transportation Standard Specifications, latest revision

1.03 SUBMITTALS

- A. CONTRACTOR shall submit the following submittals:
 - 1. The location of source and data for off-site topsoil.
 - 2. Analysis of the seed.
 - 3. Should a hydroseeder be used, the CONTRACTOR shall submit all data including material and application rates.
 - 4. Mix designs for asphalt.

1.04 SCHEDULE OF RESTORATION

- A. A schedule of restoration operations shall be submitted by the CONTRACTOR for review.
 - 1. After an accepted schedule has been agreed upon it shall be adhered to unless otherwise revised by the ENGINEER.
- B. In general, permanent restoration of traveled surfaces will not be permitted until one month time has elapsed after excavations have been completely backfilled as specified.
- C. The replacement of surfaces at any time, as scheduled or as directed, shall not relieve the CONTRACTOR of responsibility to repair damages by settlement or other failures.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Topsoil shall be unfrozen friable clayey loam free from clay lumps, stones, roots, sticks, stumps, brush, hazardous materials, or foreign objects.
- B. Fertilizer shall be a standard quality commercial carrier of available plant food elements. A complete prepared and packaged material containing a minimum of 10 percent nitrogen, 10 percent phosphoric acid and 10 percent potash.
 - 1. Each bag of fertilizer shall bear the manufacturer's name and guaranteed statement of analysis.
- C. Seed mixtures shall be of commercial stock of the current season's crop and shall be delivered in unopened containers bearing the guaranteed analysis of the mix.
 - 1. All seed shall meet the New York State Department of Transportation 713-04 standard specifications for germination and purity.

D. Seed Mixtures:

<u>Specia</u>	<u>Lawn Areas*</u>	<u>Non-maintained Areas*</u>
Kentucky Bluegrass	50	20
Creeping Red Fescue	30	20
Manhattan or Pennfine Ryegrass	20	60

* % by weight

- E. Mulch shall be stalks of oats, wheat, rye or other acceptable crops which are free from noxious weeds.

2.02 MATERIALS

- A. Paving Materials: The source and gradation of materials shall be acceptable to the ENGINEER. Materials shall conform to the following:
1. Pavement Sub-Base Course Material: The sub-base course materials shall be select backfill material as specified in Section 02316 of the Specifications.
 2. Tack Coat: The tack coat shall be NYSDOT Section 702, Item 702-3401 Asphalt Emulsion (HFMS-2H).
 3. Bituminous Base Course: Base course where required shall be placed in accordance with the NYSDOT Specifications, Section 403 – Hot Mix Asphalt Concrete Pavement. The material shall be NYSDOT, Item 403.12, Type 2, Base Course.
 4. Bituminous Binder Course: Binder course pavement where required shall be placed in accordance with NYSDOT Specifications, Section 403 – Hot Mix Asphalt Concrete Pavement. The binder course pavement material shall be NYSDOT Item No. 403.13, Type 3, Binder Course.
 5. Bituminous Surface Course: The bituminous concrete surface course shall be a hot mix bituminous material consisting of a mixture of mineral aggregate and asphalt cement as approved by ENGINEER. The surface course shall be NYSDOT Item No. 403.19, Type 7F, Top Course.
- B. Concrete Materials: Concrete used for road bases, roads, driveways, sidewalks, curbs, or similar items shall be a 4,000 psi mix.

2.03 MATERIALS TESTING.

- A. All materials must be tested and approved prior to delivery to the site. Samples of materials proposed for use shall be submitted by the CONTRACTOR to the ENGINEER and the testing laboratory. Samples of the materials shall be submitted at least ten days in advance of its anticipated use.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Temporary Pavement
1. Immediately upon completion of backfilling of the trench or excavation, the CONTRACTOR shall place a temporary pavement over all disturbed areas of streets, driveways, sidewalks, and other traveled places where the original surface has been disturbed as a result of his operations.
 2. The temporary pavement shall consist of compacted select backfill surfaced with cold patch to such a depth as required to withstand the traffic to which it will be subjected.
 3. The surface of the temporary pavement shall conform to the slope and grade of the area being restored.

4. For dust prevention, the CONTRACTOR shall treat all surfaces, not covered with cold patch, as frequently as may be required
5. The temporary pavement shall be maintained by the CONTRACTOR in a safe and satisfactory condition until such time as the permanent paving is completed. The CONTRACTOR shall immediately remove and restore all pavement as shall become unsatisfactory.

B. Permanent Pavement Replacement

1. The permanent and final re-paving of all streets, driveways and similar surfaces where pavement has been removed, disturbed, settled or damaged by or as a result of performance of the Contract shall be repaired and replaced by the CONTRACTOR, by a new and similar pavement, consisting of base, binder, and/or top courses each having the same depth as existing pavement or as required by the local community or Highway Permit.
 - a. The top surface shall conform with the grade of existing adjacent pavement and the entire replacement shall meet the current specifications of the local community for the particular types of pavement.
 - b. Where the local community has no specification for the type of pavement, the work shall be done in conformity with the New York State Department of Transportation Standard which conforms the closest to the type of surfacing being replaced, as determined by the ENGINEER and with the following specifications:
 - 1) Unless specified otherwise, replacement of existing roads under the jurisdiction of New York State, Counties or Cities, shall be constructed to the following requirements:
 - a) Pavement subbase as outlined under Section 02316.
 - b) Base Course Pavement – 8 inches minimum compacted thickness or combination of concrete base where encountered.
 - c) Binder Course Pavement – 1-1/2 inches minimum compacted thickness.
 - d) Surface Course Pavement – 1 inch minimum compacted thickness.
 - 2) Unless specified otherwise, replacement of existing roads under the jurisdiction of Towns or Villages shall be constructed to the following requirements:
 - a) Pavement subbase as outlined under Section 02316.
 - b) Binder Course Pavement – 4 inches minimum compacted thickness.
 - c) Surface Course Pavement – 2 inches minimum compacted thickness.
 - c. All required permits for local governing bodies shall be obtained.

- d. Install or reinstall pavement striping in accordance with NYSDOT Standard Specifications.

C. Preparation for Permanent Pavement

1. When scheduled and within the time specified, the temporary pavement shall be removed and base prepared, at the depth required by the local community or Highway Permit, to receive the permanent pavement.
 - a. The base shall be brought to the required grade and cross-section and thoroughly compacted before placing the permanent pavement.
 - b. Any base material which has become unstable for any reason shall be removed and replaced with compacted base materials.
 - c. Cuts which are not straight will require another saw-cutting further from the trench. Additional select backfill and pavement needed for restoration outside the defined pay limits will be installed and paid for by the CONTRACTOR.
2. Prior to placing the permanent pavement, all service boxes, manhole frames and covers and similar structures within the area shall be adjusted to the established grade and cross-section.
3. The edges of existing asphalt pavement shall be cut a minimum of one foot beyond the excavation or disturbed base whichever is greater.
 - a. All cuts shall be parallel or perpendicular to the centerline of the street.
 - b. All cuts will be made in straight continuous lines by saw-cutting or other acceptable technique.
 - c. Additional one-foot saw cut may be required for top course if shown on the drawings or required by permit.
4. Install or reinstall traffic inductance loops in accordance with NYSDOT Standard Specifications by a firm which is qualified by the NYSDOT.

D. Bituminous Tack Coat

1. The tack coat shall be uniformly applied by a pressure distributor to a prepared clean pavement. The tack coat shall be applied as approved by the ENGINEER to offer the least inconvenience to traffic and to permit one-way traffic, where practical, to prevent pickup or tracking of the bituminous material.
2. Tack coat shall not be applied on a wet pavement surface or when the surface temperature is below 45 degrees F. The temperature and areas to be treated shall be approved by the ENGINEER prior to application. The application rate shall be 0.03 to 0.07 gallons per square yard as approved by the ENGINEER.

E. Asphalt Pavement

1. The permanent asphalt pavement replacement for streets, driveways and parking area surfaces shall be replaced with bituminous materials of the same depth and kind as the existing unless otherwise specified.

2. Prior to placing of any bituminous pavement tack coat shall be applied to the edges of the existing pavement and other features.
3. The furnishing, handling and compaction of all bituminous materials shall be in accordance with the New York State Department of Transportation Standards latest edition.

F. Cold Milling

1. Cold milling of existing surfaces shall follow New York State Department of Transportation Standard Specifications, latest edition.
2. Material removed during the milling process will become the property of the CONTRACTOR and shall be disposed of at an acceptable location off-site.
3. CONTRACTOR must maintain drainage into all gutters and catch basins during the milling operation.

G. Concrete Pavement and Pavement Base

1. Concrete pavements and concrete bases for asphalt, brick or other pavement surfaces shall be replaced with Class "B" concrete, air-entrained.
2. Paving slabs or concrete bases shall be constructed to extend one foot beyond each side of the trench and be supported on undisturbed soil. Where such extension of the pavement will leave less than two feet of original pavement slab or base, the repair of the pavement slab or base shall be extended to replace the slab to the original edge of the pavement or base unless otherwise indicated on the Contract Drawings.
3. Where the edge of the pavement slab or concrete base slab falls within the excavation, the excavation shall be backfilled with Select Backfill compacted to 95 percent maximum dry density as determined by ASTM D698 up to the base of the concrete.
4. The new concrete shall be of the same thickness as the slab being replaced and shall contain reinforcement equal to the old pavement.
 - a. New concrete shall be placed and cured in accordance with the applicable provisions of the State Department of Transportation Standards.

H. Stone or Gravel Pavement

1. All pavement and other areas surfaced with stone or gravel shall be replaced with material to match the existing surface unless otherwise specified.
 - a. The depth of the stone or gravel shall be at least equal to the existing or at least 6 inches.
 - b. After compaction, the surface shall conform to the slope and grade of the area being replaced.
 - c. Stone material used shall comply with the New York State Department of Transportation Standard Specifications, latest edition.

I. Driveways

1. Asphalt Driveways
 - a. After the watermain has been installed and the trench properly backfilled, the CONTRACTOR shall cut back the drive one foot each side of the trench. The asphalt shall be cut with carborundum saw or other device to give a uniform and continuous straight edge. Where watermains or service piping are installed under drive aprons the ENGINEER may specify the replacement of the entire apron and the CONTRACTOR shall remove and replace same to its base.
 - b. The cut edge shall be painted with a bituminous seal coat and asphalt shall then be replaced to equal or exceed the existing asphalt in quality and depth.
 - 1) In no case shall the finished thickness of the asphalt driveway be less than four (4) inches, a minimum of three (3) inches of binder and one (1) inch of top to match the existing driveway.
 - 2) Courses shall be laid in one (1) inch lifts and compacted with a minimum two (2) ton roller or other mechanical means specified by the ENGINEER.
 - 3) If the existing drive was in the opinion of the ENGINEER recently sealed, then the CONTRACTOR shall apply one (1) coat of coal tar emulsion sealer over the top lift. In no case shall cold patch be considered pavement, but may be used temporarily as an expedient, the cost of which will be borne by the CONTRACTOR.
2. Concrete Driveways
 - a. The CONTRACTOR shall be responsible for the proper consolidation of the sub-grade before laying the new driveway, and any settlement or failure of the new driveway shall be repaired or replaced by the CONTRACTOR to the satisfaction of the ENGINEER.
 - b. Where drives are encountered, the CONTRACTOR shall cut the concrete each side of the trench limits using a concrete saw at breaks in the drive or at expansion joints at the direction of the ENGINEER. Any concrete broken beyond the cut or break line will be replaced at the CONTRACTOR'S expense.
 - c. The drive shall then be replaced to equal or exceed the existing drive in quality and depth.
 - 1) Reinforcing shall be installed in all replacements, tying it to existing reinforcing where it protrudes from the cut edge. 6 x 6 x 6 welded wire mesh or equal shall be used. The CONTRACTOR shall then install Transit Mix Concrete meeting NYSDOT specifications to the depth of the original base, or a minimum of six (6") inches, whichever is more.
 - 2) The surface shall be finished to match the existing surface. The CONTRACTOR shall properly cure all concrete after

placing and shall protect it from damage from all types of traffic and harm prior to final setting.

J. Concrete Walks, Curbs and Gutter Replacement

1. Concrete walks, curbs and gutters removed or damaged in connection with or as a result of the construction operations shall be replaced with new construction.
 - a. The minimum replacement will be a flag or block of sidewalk and five feet of curb or gutter.
2. Walks shall be constructed of concrete, air-entrained with NYSDOT No.1 stone aggregate on a 4-inch base of compacted gravel or stone.
 - a. The walk shall be not less than 4 inches in thickness or to match the thickness of the replaced walk, shall have construction joints spaced to match the existing walks, and shall have expansion joints spaced not more than 50 feet apart and shall be sloped at right angles to the longitudinal centerline approximately $\frac{1}{8}$ -inch per foot of width.
3. One-half inch expansion joint material shall be placed around all objects within the sidewalk area as well as objects to which the new concrete will abut, such as valve boxes, manhole frames, curbs, buildings and others.
4. Walks shall be hand-floated and broom-finished, edged and grooved at construction joints and at intermediate intervals matching those intervals of the walk being replaced.
 - a. The intermediate grooves shall be scored a minimum of $\frac{1}{4}$ of the depth of the walk.
 - b. The lengths of blocks formed by the grooving tool, and distances between construction and expansion joints shall be uniform throughout the length of the walk in any one location.
5. The minimum length of curb or gutter to be left in place or replaced shall be 5 feet. Where a full section is not being replaced, the existing curb or gutter shall be saw cut to provide a true edge.
 - a. The restored curb or gutter shall be the same shape, thickness and finish as being replaced and shall be built of the same concrete and have construction and expansion joints as stated above for sidewalks.
6. All concrete shall be placed and cured.

K. Lawns and Improved Areas

1. The area to receive topsoil shall be graded to a depth of not less than 4 inches or as specified, below the proposed finished surface. If the depth of existing topsoil prior to construction was greater than 4 inches, topsoil shall be replaced to that depth.
 - a. All debris and inorganic material shall be removed and the surface loosened for a depth of 2 inches prior to the placing of the topsoil.
 - b. The topsoil shall not be placed until the subgrade is in suitable condition and shall be free of excessive moisture and frost.

- c. Topsoil placed in areas of earth excavation will not be placed until suitable earth compaction has been performed.
2. Satisfactory topsoil removed from the excavations shall be placed on the prepared subgrade to the depth required.
 - a. In the event the topsoil removed during excavation is unsatisfactory or inadequate to obtain the required finish grades, the CONTRACTOR shall furnish the required quantity of satisfactory topsoil from specified sources off site.
 - b. All topsoil shall be free from stones, roots, sticks and other foreign substances and shall not be placed in a frozen or muddy condition.
 - c. The finished surface shall conform to the lines and grades of the area before disturbed or as shown on the Contract Drawings. Any irregularities shall be corrected before the placement of fertilizer and seed.
3. The fertilizer shall be applied uniformly at the rate of 20 pounds per 1000 square feet.
 - a. Following the application of the fertilizer and prior to application of the seed, the topsoil shall be scarified to a depth of at least 2 inches with a disc or other suitable method traveling across the slope if possible.
4. When the topsoil surface has been fine graded, the seed mixture shall be uniformly applied upon the prepared surface with a mechanical spreader at a rate of not less than 5 pounds per 1000 square feet.
 - a. The seed shall be raked lightly into the surface and rolled with a light hand lawn roller.
 - b. Seeding and mulching shall not be done during windy weather.
5. The mulch shall be hand or machine spread to form a continuous blanket over the seed bed, approximately 2 inches uniform thickness at loose measurement. Excessive amounts or bunching of mulch will not be permitted.
 - a. Mulch shall be anchored by an acceptable method.
 - b. Unless otherwise specified, mulch shall be left in place and allowed to disintegrate.
 - c. Any anchorage or mulch that has not disintegrated at time of first mowing, shall be removed. Anchors may be removed or driven flush with ground surface.
6. Seeded areas shall be watered as often as required to obtain germination and to obtain and maintain a satisfactory sod growth. Watering shall be in such a manner as to prevent washing out of seed. Any washout or damage which occurs shall be regraded and reseeded until a good sod is established.
7. Hydroseeding may be accepted as an alternative method of applying fertilizer, seed and mulch. The CONTRACTOR must submit all data regarding materials and application rates to the ENGINEER for review.

8. The CONTRACTOR shall maintain the newly seeded areas, including regrading, reseeding, watering and mowing, in good condition, until the development of an established cover.

L. Cultivated Area Replacement

1. Areas of cultivated lands shall be graded to a depth to receive topsoil of not less than the depth of the topsoil before being disturbed. All debris and inorganic material shall be removed prior to placing of the topsoil.
2. After the topsoil has been placed and graded, the entire area disturbed during construction shall be cultivated to a minimum depth of 12 inches with normal farm equipment.
 - a. Any debris or inorganic materials appearing shall be removed.
 - b. The removal of stones shall be governed by the adjacent undisturbed cultivated area.
3. Grass areas shall be re-seeded using a mixture equal to that of the area before being disturbed, unless otherwise specified.

M. Other Types of Restoration

1. Shrubs and landscape items damaged or destroyed as a result of the construction operations shall be replaced in like species and size.
 - a. All planting and care thereof shall meet the standards of the American Association of Nurserymen.
2. Water courses shall be reshaped to the original grade and cross-section and all debris removed. Where required to prevent erosion, the bottom and sides of the water course shall be protected.
3. Culverts destroyed or removed as a result of the construction operations shall be replaced in like size and material and shall be replaced at the original location and grade. When there is minor damage to a culvert and with the consent of the ENGINEER, a repair may be undertaken, if satisfactory results can be obtained.
4. Should brick pavements be encountered in the work, the restoration shall be as set forth in the General Requirements or as directed.
5. Items removed for construction such as mailboxes, signposts, reflector markers, and the like shall be replaced in as good or better condition than existing. Items damaged by the CONTRACTOR shall be replaced at his expense. Privately owned items, such as mailboxes, shall be reinstalled to the satisfaction of the OWNER and ENGINEER.

N. Lawn Maintenance

1. All lawn areas shall be mowed by the CONTRACTOR before the new grass reaches a height of 4 inches.
 - a. Following the establishment of a good stand of grass and the first mowing, the CONTRACTOR'S obligation shall end except for the repair of settlement or damage

2. Any lawn area which does not develop an established cover shall be re-seeded and maintained at the CONTRACTOR'S expense until an established cover is present.

O. Tree Plantings

1. Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required, to minimize possibility of damage to underground utilities. Maintain grade stakes until removal is mutually agreed upon by all parties concerned.
2. Trees replaced by the CONTRACTOR will be a minimum of 6 feet high and 3 inches in trunk diameter. CONTRACTOR must fertilize and water tree appropriately after planting and will guarantee tree for a period of two years. All issues regarding tree planting including type, size, and final location must be approved by the ENGINEER prior to payment.

END OF SECTION

SECTION 05120

STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Structural steel
 - 2. Accessories

1.03 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication of structural-steel components.
 - 1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
 - 2. Include embedment drawings.
 - 3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld.
 - 4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts.
- C. Welding certificates.
- D. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- E. Product Data and Mill Test Reports: Signed by manufacturers certifying that the following products comply with requirements:
 - 1. Structural steel including chemical and physical properties.
 - 2. Bolts, nuts, and washers including mechanical properties and chemical analysis.
 - 3. Direct-tension indicators.
 - 4. Tension-control, high-strength bolt-nut-washer assemblies.
 - 5. Shop primers.
- F. Source quality-control test reports.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE.
- B. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.
 - 1. For non AISC-Certified Plants, comply with independent testing and inspection requirements contained in the "Source Quality Control" Article.
 - a. Fabricator shall be registered with and approved by authorities having jurisdiction.
- C. Professional Engineer Qualifications: A professional engineer who is legally authorized to practice in the jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for projects with structural steel framing that are similar to that indicated for this Project in material, design, and extent.
- D. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel."
 - 1. Present evidence that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.
- E. Comply with applicable provisions of the following specifications and documents:
 - 1. AISC 303.
 - 2. AISC 341 and AISC 341s1.
 - 3. AISC 360.
 - 4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- F. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Sections.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver structural steel to Project site in such quantities and at such times to ensure continuity of installation.
- B. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
 - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
- C. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
 - 1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
 - 2. Clean and relubricate bolts and nuts that become dry or rusty before use.
 - 3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

1.06 COORDINATION

- A. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.01 STRUCTURAL-STEEL MATERIALS

- A. W-Shapes: ASTM A 992
- B. Channels, Angels, M, S-Shapes: ASTM A 36
- C. Plate and Bar: ASTM A 36
- D. Welding Electrodes: Comply with AWS requirements

2.02 BOLTS, CONNECTORS, AND ANCHORS

- A. High-Strength Bolts, Nuts and Washers: ASTM A 325 or ASTM A 490, Type 1, heavy hex steel structural bolts; ASTM A 563 heavy hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers.
 - 1. Direct-Tension Indicators: ASTM F 959, Type 325 or Type 490 compressible-washer type.
- B. Threaded Rods: ASTM A 36
 - 1. Nuts: ASTM A 563 heavy hex carbon steel
 - 2. Washers: ASTM F 436 hardened or ASTM A 36 carbon steel.

2.03 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
 - 1. Camber structural-steel members where indicated.
 - 2. Fabricate beams with rolling camber up.
 - 3. Identify high-strength structural steel according to ASTM A 6 and maintain markings until structural steel has been erected.
 - 4. Mark and match-mark materials for field assembly.
 - 5. Fabricate for a delivery sequence that will expedite erection and minimize field handling of structural steel.
 - 6. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
 - 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.

- C. Bolt Holes: Cut, drill, mechanically thermal cut, or punch standard bolt holes perpendicular to metal surfaces.
- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 1, "Solvent Cleaning" or SSPC-SP 2, "Hand Tool Cleaning."
- F. Holes: Provide holes required for securing other work to structural steel and for passage of other work through steel framing members.
 - 1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
 - 2. Base-Plate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
 - 3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.04 SHOP CONNECTIONS

- A. High-Strength Bolts: Unless otherwise noted on the plans, install snug-tightened, high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.
 - 1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 mill materials.

2.05 SOURCE QUALITY CONTROL

- A. For AISC certified facilities, submit written program for the proposed fabrication quality control. As a minimum, perform at least the following shop tests and inspections and submit test reports. If Fabricator's facility is not AISC certified, Contractor will engage an independent testing and inspecting agency, acceptable to the Owner, to perform shop inspections and tests and to prepare test reports.
 - 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform test and inspection.
 - 2. Testing agency will conduct and interpret tests and state in each report whether test specimens comply with or deviate from requirements.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
- C. Additional testing, at Contractor's expense, will be performed to determine compliance of corrected Work with specified requirements.
- D. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

- E. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1 and the following inspection procedures, at testing agency's option:
 - 1. Liquid Penetrant Inspection: ASTM E 165.
 - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 - 3. Ultrasonic Inspection: ASTM E 164.
 - 4. Radiographic Inspection: ASTM E 94.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.

3.02 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
- B. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
- C. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Level and plumb individual members of structure.
 - 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is complete and in service.
- D. Splice members only where indicated.
- E. Do not use thermal cutting during erection.
- F. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

3.03 FIELD CONNECTIONS

- A. High-Strength Bolts: Unless otherwise noted on the plans, install snug-tightened, high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

3.04 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor will engage qualified testing and inspecting agency to inspect field welds and high-strength bolted connections.
- B. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from requirements.
- C. Correct deficiencies in or remove and replace structural steel what inspections and test reports indicate to not comply with specified requirements.
- D. Additional testing, at Contractors expense, will be preformed to determine compliance of corrected Work with specified requirements.
- E. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A325 or A 490 Bolts."
- F. Welded Connections: Field welds will be visually inspected according to AWS D1.1.
 - 1. In addition to visual inspection, field welds will be tested according to AWS D1.1 and the following inspection procedures, at testing agency's option:
 - a. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted. Test for a minimum of:
 - 1) 20% of all connection fillet welds at random, final pass only.
 - b. Ultrasonic Inspection: ASTM E 164. Test for a minimum of:
 - 1) 100% of all full penetration welds.
- G. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

END OF SECTION

SECTION 05521
PIPE AND TUBE RAILINGS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section Includes:
 - 1. Steel pipe and tube railings.

1.03 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not satisfy structural performance requirements.

1.04 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Railing brackets.
 - 2. Grout, anchoring cement, and paint products.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1.05

1.2 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.

1.06 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

1.08 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.01 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.
- B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.
 - 1. Provide type of bracket with flange tapped for concealed anchorage to threaded hanger bolt and that provides 1-1/2-inch clearance from inside face of handrail to finished wall surface.

2.02 STEEL

- A. Pipe: ASTM A53/A53M, Type F or Type S, Grade A, Standard Weight (Schedule 40), unless another grade and weight are required by structural loads.
 - 1. Provide galvanized finish for exterior installations and where indicated.
- B. Plates, Shapes, and Bars: ASTM A36/A36M.

2.03 FASTENERS

- A. General: Provide zinc-plated fasteners with coating complying with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 12 for exterior use, and Class Fe/Zn 5 where built into exterior walls.
 - 1. Select fasteners for type, grade, and class required.
- B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.

2.04 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Shop Primers: Provide primers that comply with paint specifications.

2.05 FABRICATION

- A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

- B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- D. Form work true to line and level with accurate angles and surfaces.
- E. Fabricate connections that are exposed to weather in a manner that excludes water. Provide weep holes where water may accumulate.
- F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.
- G. Connections: Fabricate railings with welded connections unless otherwise indicated.
- H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
- I. Form Changes in Direction as Follows:
 - 1. By bending.
- J. For changes in direction made by bending, use jigs to produce uniform curvature for each repetitive configuration required.
 - 1. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.
- K. Close exposed ends of railing members with prefabricated end fittings.
- L. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated.

1. Close ends of returns unless clearance between end of rail and wall is 1/4 inch or less.
- M. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.
1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.
- N. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.
- O. For removable railing posts, fabricate slip-fit sockets from **steel** tube or pipe whose ID is sized for a close fit with posts; limit movement of post without lateral load, measured at top, to not more than one-fortieth of post height. Provide socket covers designed and fabricated to resist being dislodged.
- P. Toe Boards: Where indicated, provide toe boards at railings around openings and at edge of open-sided floors and platforms. Fabricate to dimensions and details indicated.

2.06 STEEL FINISHES

- A. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with requirements indicated below:
1. Exterior Railings: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."

- B. Primer Application: Apply shop primer to prepared surfaces of railings unless otherwise indicated. Comply with requirements in coatings specification section.

PART 3 - EXECUTION

3.01 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
 - 1. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 - 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
 - 3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.
- C. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.
- D. Adjust railings before anchoring to ensure matching alignment at abutting joints.
- E. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.02 GUARD RAILING CONNECTIONS

- A. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.
- B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches of post.

3.03 ADJUSTING AND CLEANING

- A. Touchup Priming: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop primer, and prime exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 requirements for touching up shop-primed surfaces.
 - 1. Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.

3.04 PROTECTION

- A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

END OF SECTION

SECTION 05530
METAL GRATINGS

GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Metal bar gratings.
 - 2. Metal frames and supports for gratings.

1.02 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Formed-metal plank gratings.
 - 2. Clips and anchorage devices for gratings.
 - 3. Paint products.
- B. Shop Drawings: Include plans, sections, details, and attachments to other work.

1.03 QUALITY ASSURANCE

- A. Metal Bar Grating Standards: Comply with NAAMM MBG 531, "Metal Bar Grating Manual" and NAAMM MBG 532, "Heavy-Duty Metal Bar Grating Manual."

PRODUCTS

2.01 FERROUS METALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Steel Bars for Bar Gratings: ASTM A 36/A 36M or steel strip, ASTM A 1011/A 1011M or ASTM A 1018/A 1018M.
- C. Wire Rod for Bar Grating Crossbars: ASTM A 510.
- D. Uncoated Steel Sheet: ASTM A 1011/A 1011M, structural steel, Grade 30.
- E. Galvanized-Steel Sheet: ASTM A 653/A 653M, structural quality, Grade 33, with G90 coating.

2.02 FASTENERS

- A. General: Unless otherwise indicated, provide Type 316 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
 - 1. Provide stainless steel fasteners for fastening stainless steel.

2.03 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

2.04 FABRICATION

- A. Cut, drill, and punch material cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- B. Form from materials of size, thickness, and shapes indicated, but not less than that needed to support indicated loads.
- C. Fit exposed connections accurately together to form hairline joints.
- D. Fabricate toeplates for attaching in the field.

2.05 METAL BAR GRATINGS

- A. Welded Steel Grating
 1. Bearing Bar Spacing: As indicated on drawings.
 2. Bearing Bar Depth: As indicated on drawings.
 3. Bearing Bar Thickness: As indicated on drawings.
 4. Crossbar Spacing: 4 inches o.c.
 5. Traffic Surface: serrated.
 6. Steel Finish: Hot-dip galvanized with a coating weight of not less than 1.8 oz./sq. ft. (550 g/sq. m) of coated surface.
- B. Removable Grating Sections: Fabricate with banding bars attached by welding to entire perimeter of each section. Include anchors and fasteners of type indicated or, if not indicated, as recommended by manufacturer for attaching to supports.
- C. Fabricate cutouts in grating sections for penetrations indicated. Arrange cutouts to permit grating removal without disturbing items penetrating gratings.
 1. Edge-band openings in grating that interrupt four or more bearing bars with bars of same size and material as bearing bars.
- D. Do not notch bearing bars at supports to maintain elevation.

2.06 GRATING FRAMES AND SUPPORTS

- A. Frames and Supports for Metal Gratings: Fabricate from metal shapes, plates, and bars of welded construction to sizes, shapes, and profiles indicated and as necessary to receive gratings. Miter and weld connections for perimeter angle frames. Cut, drill, and tap units to receive hardware and similar items.
 - 1. Unless otherwise indicated, fabricate from same basic metal as gratings.
 - 2. Equip units indicated to be cast into concrete or built into masonry with integrally welded anchors. Unless otherwise indicated, space anchors 24 inches o.c. and provide minimum anchor units in the form of steel straps 1-1/4 inches wide by 1/4 inch thick by 8 inches long.
- B. Galvanize steel frames and supports at all locations:

2.07 STEEL FINISHES

- A. Finish gratings, frames, and supports after assembly.
- B. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.

EXECUTION

3.01 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing gratings. Set units accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.
- B. Fit exposed connections accurately together to form hairline joints.
 - 1. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Attach toeplates to gratings by welding at locations indicated.

3.02

4.01 INSTALLING METAL BAR GRATINGS

- A. General: Install gratings to comply with recommendations of referenced metal bar grating standards that apply to grating types and bar sizes indicated, including installation clearances and standard anchoring details.
- B. Attach removable units to supporting members with type and size of clips and fasteners indicated or, if not indicated, as recommended by grating manufacturer for type of installation conditions shown.
- C. Attach non-removable units to supporting members by welding where both materials are same; otherwise, fasten by bolting as indicated above.

3.03 ADJUSTING AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF SECTION

SECTION 07900

JOINT PROTECTION

PART 1 - GENERAL

1.01 DESCRIPTION

Work Specified: The extent of each form and type of joint sealer is indicated on drawings and by provisions of this section. The applications for joint sealers, as work of this section, include the following:

1. Concrete construction joints

1.02 JOB CONDITIONS

- A. Weather Conditions: Do not proceed with installation of liquid sealants under unfavorable weather conditions. Install elastomeric sealants when temperature is in lower third of temperature range recommended by manufacturer for installation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General Sealer Requirements: Provide colors indicated or, if not otherwise indicated, as selected by the Owner or his representative from manufacturer's standard colors. Select materials for compatibility with joint surfaces and other indicated exposures, and except as hardness or grade recommended by manufacturer for each application indicated.

2.02 ELASTOMERIC SEALANTS

- A. One-component Polysulfide Sealant (1PS-S): Polysulfide based, one-part elastomeric sealant, complying with FS TT-S-00230, Class A, Type II (non-sag) unless Type I recommended by manufacturer for application shown.
- B. One-component Polyurethane Sealant (1PU-S): Polyurethane based, one-part elastomeric sealant, complying with FS TT-S-00230, Class A, Type I (self-leveling) unless Type II recommended by manufacturer for application shown. Modified Sealant: Where shown as "modified one-component Polyurethane Sealant (M1PU-S)", provide manufacturer's bituminous-modified compound, recommended for compatibility in application indicated.

2.03 JOINT FILLERS, PAVEMENT TYPES

- A. Self-expanding Cork Joint Filler (SEC-JF): Provide resilient and non-extruding type premolded cork units complying with ASTM D 1752 Type III, FS HH-F-341, Type II, Class C; and AASHTO M 153, Type III.
- B. Bituminous Joint Filler (BTM-JF): Provide resilient and non-extruding type premolded bituminous composition of organic fiber or granulated cork, between two bituminous felt liners, complying with ASTM D 944, or D 1751, AASHTO M 33 or M 213, and (if fiber type) FS HH-F-341, Type III.

2.04 MISCELLANEOUS MATERIALS

- A. Joint Primer/Sealer: Provide type of joint primer/sealer recommended by sealant manufacturer for joint surfaces to be primed or sealed.
- B. Bond Breaker Tape (BB-TP): Polyethylene tape or other plastic tape as recommended by sealant manufacturer to be applied to sealant-contact surfaces where bond to substrate or joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape where applicable.
- C. Sealant Backer Rod (S-BR): Compressible rod stack of polyethylene foam, polyethylene jacketed polyurethane foam, butyl rubber foam, neoprene foam or other flexible, permanent, durable non-absorptive material as recommended by sealant manufacturer for compatibility with sealant.

PART 3 - GENERAL

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Comply with manufacturer's printed instructions except where more stringent requirements are shown or specified, and except where manufacturer's technical representative directs otherwise.

3.02 JOINT PREPARATION

- A. Clean joint surfaces immediately before installation of sealant or caulking compound. Remove dirt, insecure coatings, moisture and other substances which could interfere with bond of sealant or caulking compound. Etch concrete and masonry joint surfaces as recommended by sealant manufacturer. Roughen vitreous and glazed joint surfaces as recommended by sealant manufacturer.
- B. Prime or seal joint surfaces where indicated, and where recommended by sealant manufacturer. Do not allow primer/sealer to spill or migrate onto adjoining surfaces.

3.03 INSTALLATION

- A. Set joint filler units at proper depth or position in joint to coordinate with other work, including installation of bond breakers, backer rods and sealants. Do not leave voids or gaps between ends of joint filler units.
- B. Install sealant backer rod for liquid elastomeric sealants, except where shown to be omitted or recommended to be omitted by sealant manufacturer for application indicated.
- C. Install bond breaker tape where indicated and where required by manufacturer's recommendations to ensure that elastomeric sealants will perform properly.
- D. Employ only proven installation techniques, which will ensure that sealants are deposited in uniform, continuous ribbons without gaps or air pockets, with complete "wetting" of joint bond surfaces equally on opposite sides. Except as otherwise indicated, fill sealant rabbet to a slightly concave surface, slightly below adjoining surfaces. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.
- E. Install sealant to depth as shown or, if not shown, as recommended by sealant manufacturer within the following general limitations, measured at center (thin) section of bead: For sidewalks, pavements and similar joints sealed with elastomeric sealants and subject to traffic and other abrasion and indentation exposures, fill joints to a depth equal to 75% of joint width, but neither more than 5/8" deep nor less than 3/8" deep.
- F. Spillage: Do not allow sealants or compounds to overflow or spill onto adjoining surfaces, or to migrate into voids of exposed finishes. Clean adjoining surfaces by whatever means may be necessary to eliminate evidence of spillage.
- G. Recess exposed edges of exposed joint fillers slightly behind adjoining surfaces, unless otherwise shown, so that compressed units will not protrude from joints.

3.04 CURE AND PROTECTION

- A. Cure sealants and caulking compounds in compliance with manufacturer's instructions and recommendations, to obtain high early bond strength, internal cohesive strength and surface durability. Contractor must be aware of procedures required for cure and protection of joint sealers during construction period, so that they will be without deterioration or damage (other than normal wear and weathering) at time of substantial completion.

END OF SECTION

SECTION 09900

PAINTING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals necessary to clean and recoat the existing water storage tank and all structural supports, repairs, improvements, and modifications as necessary as described in these specifications.
- B. The extent of painting work is specified herein.
- C. The Work includes surface preparation, painting, and finishing of surfaces as described in these specifications and Contract documents.
- D. The term “paint” as used herein means all coating system materials, which includes pre-treatments, primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate or finish coats.
- E. Interior wet surfaces shall be defined herein as all surfaces inside the tank or tank bowl including inlet, outlet, and overflow piping. Interior dry surfaces shall be defined herein as the interior of the pedestal, all structural surfaces inside the column, the underside of the bowl of the tank, the interior (dry portion) of the access tube, the upper platform, condensate ceiling, painter’s manhole platform, ladders, piping and scaffold rings. Exterior surfaces shall be defined herein as the exterior of the bowl and pedestal and/or exterior of the shell and roof.
- F. If the ENGINEER finds that the CONTRACTOR will not meet the completion date as specified, the OWNER may decide to put the tank back into service prior to completion, but not before the completion deadline set forth in the Contract. If the tank is put back into service prior to completion, the CONTRACTOR'S responsibility includes, but is not limited to, the following:
 - 1. All bare metal surfaces must be at least primed, including proper cure, before tank is put into service.
 - 2. Disinfection and testing must be completed before the tank is put into service.
 - 3. Any costs associated with draining and cleaning the tank when work can be resumed.
 - 4. All work necessary to complete the tank according to the recommendations of the paint manufacturer and as satisfactory to the ENGINEER, which may include, but not be necessarily limited to, rework of areas damaged as a result of delay in completion.
 - 5. All costs associated with disinfecting and retesting before the tank is put back

into service the second time, or subsequent times.

- G. The CONTRACTOR shall make necessary arrangements with the ENGINEER for taking the tanks out of service and returning them into service. The ENGINEER shall be given at least two weeks advance notice for taking each tank out of service and returning it into service. The CONTRACTOR will not be allowed to have the tanks out of service outside of the dates indicated in Paragraph 3.02 of the Agreement. Other work not requiring the tank to be empty will be allowed.
- H. The CONTRACTOR shall be prepared to begin work within two (2) days after tank has been drained. If this requirement is not met, the OWNER reserves the right to have the tank refilled and drained at the CONTRACTOR'S expense.
- I. The CONTRACTOR is responsible for initial tank cleaning including removal and proper disposal of any debris, sediment, ice, etc.
- J. Coordination
 - 1. Review installation procedures under other Sections and coordinate the installation of items that must be field painted in this Section.
 - 2. Provide finish coats which are compatible with prime paint used. Furnish information on the characteristics of the finish materials proposed to be used, to ensure that compatible coats are used.
- K. Painting not included - the following categories of Work are not included as part of the field-applied finish Work, or are included in other Sections of these Specifications or in other contracts.
 - 1. Initial surface preparation prior to Shop Priming: Unless otherwise specified, surface preparation for shop priming of structural metal, miscellaneous metal fabrications and other metal items are included under the appropriate Sections of this Specification.
 - 2. Pre-Finished Items: Unless otherwise shown or specified, do not include painting when factory finishing such as baked-on enamel, porcelain, polyvinylfloride or other similar finish is specified for such items. CONTRACTOR shall be required to touch up factory finished items with paint supplied by the item manufacturer. CONTRACTOR shall field paint damaged pre-finished items as directed by the ENGINEER.
 - 3. Finished Metal Surfaces: Metal surfaces of anodized aluminum, stainless steel, chromium plate, and similar finished materials will not require finish painting, unless shown or specified.
- L. Related Work Specified Elsewhere:
 - 1. Section 13200 – Concrete Tank Repair
 - 2. Section 13210 - Steel Storage Tank Repair

1.02 QUALITY ASSURANCE

A. Acceptable Paint Manufacturers

1. Tnemec Company, Inc.
2. Carboline Company
3. Sherwin-Williams Company, Protective & Marine Coatings

B. Reference Standards

1. OSHA 1910.144, Safety Color Code for Marking Physical Hazards.
2. SSPC Volume 2, Systems and Specifications, Surface Preparation Guide and Paint Application Specifications.
3. SSPC, Visual Standards for Abrasive Blast Cleaned Steel (SSPC-VIS1-89) and Visual Standards for Power and Hand Tool Cleaned Steel (SSPC-VIS3-93).
4. D102 AWWA Standard for Painting Steel Water Tanks, latest revision.
5. National Sanitation Foundation List of Approval of Paints, Lining and Coatings for Potable Water Storage Tanks. NSF/ANSI Standard 61, Drinking Water System Components - Health Effects.
6. For any construction/painting after January 1, 2023, National Sanitary Foundation NSF/ANSI 600, Health Effects Evaluation and Criteria for Chemicals in Drinking Water
7. SSPC Paint Application Specification SSPC-PA1, latest revision for “Shop Field and Maintenance Painting”.
8. Recommended Standards for Water Works (Ten State Standards), latest revision, Recommended Color Scheme for Piping.

C. All preparation and coating work shall be carried out to the requirements of the coating manufacturer. The CONTRACTOR shall become familiar with the exact requirements of the manufacturer of the protective coatings before submitting a bid.

D. The CONTRACTOR shall have in its employ for this project an on-site foreman whom shall be experienced in the surface preparation and application of the types of coatings and substrates included in this contract on a minimum of five (5) tanks of similar capacities. On-site foreman must speak English.

E. A representative of the coating manufacturer will be required to visit the site of the work several times during progress of the work. At a minimum, site visits must be made during the blast cleaning, between each coat of paint and prior to filling the tank, which shall include a check for proper cure. To check for proper cure, the coating manufacturer's representative shall do a standard rub test and/or any other tests deemed necessary to check for proper cure, as required and in the presence of the ENGINEER.

- F. Within two (2) days after each site visit, the coating manufacturer's representative shall submit a written report with recommendations to the CONTRACTOR based on observations made, measurements taken, and tests performed during the site visit. A copy of this report shall be sent to the ENGINEER. In the report, the representative of the coating manufacturer shall certify that, based on measurements taken, tests performed and observations made during the site visit, the work is being performed in accordance with the paint manufacturer's recommendations.
- G. All primers, intermediate coatings, and accelerators shall be products of the same manufacturer as the finish coatings. The interior and exterior coatings shall be products of the same manufacturer. It is preferred that the pit filler/seam sealer is also produced by the same manufacturer as the finish coatings. However, if it is necessary to use a pit filler/seam sealer from a different manufacturer, such substitution shall be subject to approval of the ENGINEER. The manufacturer of the finish coatings shall guarantee the pit filler/seam sealer and guarantee the integrity/compatibility of the pit filler/seam sealer with their coatings.

1.03 SUBMITTALS

A. Samples

1. Submit for approval paint samples for ENGINEER's review of color and texture only. Compliance with all other requirements is the exclusive responsibility of the CONTRACTOR. Provide a listing of the material and application for each coat of each finish sample. See also Section 2.05 Colors and Finishes.
2. The color of the finish coat shall be selected by the OWNER from color sample charts provided by the CONTRACTOR. After selection of the color by OWNER, the CONTRACTOR shall provide a minimum of three (3) samples of the color approximation on 2" x 2" sheet metal plates. This shall be done until a final color sample has been selected and approved by the OWNER. Samples shall be painted in accordance with this Section of the Specifications.

B. Shop Drawings

1. Prior to obtaining any products in relationship to this Section, the CONTRACTOR shall submit detailed shop drawings and data for approval.
2. Submit for approval copies of the paint manufacturer's technical information, including paint label analysis and application instructions for each material proposed for use.
3. Submit copies of the paint manufacturer's complete color charts for each coating system.
4. Submit written description and catalog cuts describing each type of proposed abrasive used for blasting operations.
5. Submit written description and catalog cuts describing materials used for weld striping and pit filling.

6. Prior to purchasing the paint and paint materials, the CONTRACTOR shall submit to the ENGINEER certification from the paint manufacturer stating that the quantity of each coating of each paint system to be purchased is sufficient to properly coat all surfaces. Such certification shall be based on the surface areas to be furnished by the CONTRACTOR to the paint manufacturer and the ENGINEER. The CONTRACTOR shall apply each coating at the rate and in the manner specified by the manufacturer except as may be modified herein.
7. Provide certification from paint manufacturer certifying that all coatings will not contain more than 0.009% by weight of lead (or any lead compounds) in the cured coating for each coat applied. Coatings must also meet current regulations for cadmium and chromium.
8. Submit a clean-up procedures plan detailing how paint and abrasive damage to property will be handled, including a process for quick removal of the paint and abrasive materials.
9. The CONTRACTOR shall submit, to the ENGINEER for review, drawings and data detailing, ventilation, storage, removal, transportation, and disposal of non-hazardous and hazardous waste.
10. If utilized, CONTRACTOR shall submit, to the ENGINEER for review, drawings and data detailing a dehumidification system and/or a heating system.

C. Upon request by the ENGINEER, the CONTRACTOR shall provide certified test reports for the proposed paint system. Test reports shall include the following:

1. Interior

a. All Interior Coatings

Supply certified test reports verifying product performance according to the following requirements:

- 1) Abrasion
 - a) Method: ASTM D4060, CS-17 Wheel, 1,000 grams load.
- 2) Adhesion
 - a) Method: ASTM D4541 Elcometer Adhesion.
 - b) Method: ASTM D3359 Tape Test Adhesion, Method B Crosshatch adhesion
- 3) Fresh Water
 - a) Method: Coating system applied to SSPC-SP10 cleaned hot-rolled steel, cured 7 days prior to testing and immersed in aerated tap water at 77°F.
- 4) Salt Spray
 - a) Method: ASTM B117 Applied to SSPC-SP10 cleaned hot-rolled steel.
- 5) Water Vapor Performance
 - a) Method ASTM D1653

b. Approvals

Coating products shall be approved for use in potable water by the National Sanitation Foundation Standard 61, latest revision, shall be

listed on their current list of approved products and all containers labeled with NSF61. Coating products used on and after January 1, 2023 shall also comply with National Sanitation Foundation standard 600.

2. Exterior

a. All Exterior Coatings

Supply certified test reports verifying product performance according to the following requirements:

- 1) Abrasion
 - a) Method: ASTM D4060, CS-17 Wheel, 1,000 grams load.
- 2) Adhesion
 - a) Method: ASTM D4541 Elcometer Adhesion.
 - b) Method: ASTM D3359 Tape Test Adhesion, Method B Crosshatch adhesion
- 3) Exterior Exposure
 - a) Method: Exposed at 45°F facing ocean.
 - b) Location: Atlantic Seacoast - 80 ft. fence.
- 4) Fresh Water (Where Applicable)
 - a) Method: Coating system applied to sandblasted steel panels, cured 7 days at 77°F and immersed in tap water at 77°F.
- 5) Hardness
 - a) Method: ASTM D3363.
- 6) Humidity
 - a) Method: ASTM D2247.
- 7) Salt Spray (Fog)
 - a) Method: ASTM B117.
- 8) Graffiti Resistance
 - a) Method: Federal Test Method TT-C-550C, 4.4.5.2 and 4.4.5.3.
 - b) Soil Medium: Spray Paints - acrylic, alkyd or epoxy-ester, ink pen, crayola, lipstick, markette marker allowed to dry for one (1) week.
 - c) Requirement: Complete and easy removal of listed media using xylene or methyl ethyl ketone (MEK), and no dulling of the surface.

D. Other Submittals

1. If abrasive blast cleaning is used on the tank exterior, the CONTRACTOR shall submit, to the ENGINEER for review, a construction plan, drawings and data detailing coating removal operations, containment, ventilation, storage, removal and transportation of the waste.
2. The CONTRACTOR shall submit to the ENGINEER, immediately upon completion of the job, certification from the manufacturer indicating that the quantity of each coating purchased was sufficient to properly coat all surfaces. Such certification shall make reference to the square footage figures provided to the manufacturer and the ENGINEER by the CONTRACTOR.
3. The CONTRACTOR shall furnish a written guarantee on all work for a two-year

period after final acceptance of all work under the Contract. The guarantee shall provide for the necessary repairs and all related expenses of the OWNER due to faulty materials and workmanship.

4. All manufacturer's guarantees, which extend beyond the CONTRACTOR'S written guarantee, shall be assigned to the OWNER upon the end of the CONTRACTOR'S written guarantee.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label and the following information:

1. Name or title of material.
2. Fed. Spec. number, if applicable.
3. Manufacturer's stock number and date of manufacture.
4. Contents by volume, for major pigment and vehicle constituents.
5. Expiration date of material.
6. Thinning instructions.
7. Mixing instructions.
8. Application instructions.
9. Color name and number.
10. Safety Data Sheet (SDS)

B. All material shall be subject to inspection by the ENGINEER/OWNER on the job.

C. Storage of Materials

1. Coating materials shall be properly stored in tightly sealed and labeled containers to prevent degradation of the product.
2. Store only acceptable project materials on project site.
3. Store in a suitable location approved by the ENGINEER. Keep area clean and accessible.
4. Restrict storage to paint materials and related equipment.
5. Comply with health and fire regulations including the Occupational Safety and Health Act of 1970.
6. All coating material containers shall be properly stored for protection from freezing, moisture, outside adulteration, and vandalism.
7. No coating shall be used which has been damaged during shipping or storage or has an expired shelf or pot life.
8. Storage shall be in accordance with the paint manufacturer's recommendations, including SDS provided for each product.
9. All abrasive materials shall be properly installed on skids or in a covered container. The material shall be covered to protect abrasive from water and weather. Do not allow abrasive to rest directly in contact with ground surfaces.
10. Refer to Section 01660 Storage of Material for additional requirements.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Coatings for interior wet applications must be listed by NSF International as certified for potable water contact in accordance with NSF/ANSI Std. 61. After January 1, 2023, coatings for interior wet applications must be certified for potable water contact in accordance with NSF/ANSI Std. 600. All interior coating products shall be acceptable to the New York State Department of Health. Interior wet applications are defined as all surfaces inside the tank bowl or shell including inlet, outlet, and overflow piping.
- B. All coatings utilized shall be certified "non-lead" (less than 0.009% lead by weight in the dried film) as defined in Part 1303 of the Consumer Product Safety Act. Coatings must also meet current regulations for cadmium and chromium.
- C. Use only thinners recommended by the paint manufacturer, and use only to recommended limits. In no case shall the amount of thinner cause the paint as applied in shop or field to exceed environmental regulatory limits for volatile organic compounds (VOC).
- D. The paint manufacturer's printed instructions regarding recoat intervals and all other aspects and details of handling and applying paint materials shall be strictly adhered to. No succeeding coat shall be applied prior to the minimum recoat time of the preceding coat. If the maximum recoat time is exceeded prior to application of the next coat, the CONTRACTOR shall prepare the surfaces in accordance with the paint manufacturer's recommendations prior to application of the next coat.
- E. Successive coats of paint shall be tinted so as to make each coat distinguishable from each other. Painting shall be continuous and shall be accomplished in an orderly manner so as to facilitate inspection.
- F. All material shall be applied smoothly and evenly, free of runs, sags, "holidays" and variations in sheen and color. Additional coats of paint shall be applied when undercoats, stains or other imperfections show through the final coat.
- G. Each coat of paint shall be dried the equivalent of drying for minimum of 24 hours (unless otherwise noted) at 60 deg F and 50 percent relative humidity, or greater time if so recommended by the paint manufacturer.
- H. The finish coat on the tank interior shall be permitted to cure for the minimum amount of time as recommended by the paint manufacturer for the particular environmental conditions present at time of cure before the tank is filled with water. The tank shall be well ventilated during the extent of the cure period. Longer cure times may be required to ensure that the water in the tank after filling will meet all New York State Health

Department requirements. The CONTRACTOR must provide ventilation and heating, as necessary, at no additional cost to the OWNER.

2.02 SUBSTITUTIONS

- A. No substitutions shall be considered that decrease the film thickness, the number of coats, the surface preparation, or the generic type of coating specified.

2.03 ABRASIVE BLAST MATERIAL

- A. The abrasive shall be a grit size to produce a 1.5 mil to 2.0 mil profile (unless modified by coating manufacturer).
- B. Abrasive shall be free from contaminants such as excessive fine particles, paint, heavy metals, oils, moisture, etc.
- C. The abrasive for the interior and exterior surfaces shall be commercially available, non-metallic, expandable abrasive, or recyclable steel grit.
- D. Steel grit shall meet the requirements of SSPC-AB3, Steel Abrasives. Submit Certification that the steel grit materials have total lead levels less than 600 ppm (<0.06%).

2.04 EPOXY SEAM SEALER AND PIT FILLER

- A. Seam sealer and pit filler shall be a catalyzed epoxy, non-shrinking, trowel grade material and shall be Tnemec Series 215 Surfacing Epoxy, Sherwin Williams Steel-Seam FT910, Carboline Reactamine Series Hand Applied Repair Kit or Cartridge Repair Kit or equal. Material shall be certified by the National Sanitation Foundation in accordance with NSF Standard No. 61 for potable water contact. All containers shall be labeled with NSF61. On and after January 1, 2023, material shall also be certified by the National Sanitation Foundation in accordance with NSF Standard No. 600 for potable water contact.

2.05 COLORS AND FINISHES

- A. Color Pigments, Pure, non-fading, applicable types to suit the substrates and service indicated.
 - 1. Lead based pigments shall not be permitted.
 - 2. Colors of finish coats shall be as Specified in this Section. Colors given in this Specification may be changed by the OWNER prior to the start of the Work. CONTRACTOR shall consult with the ENGINEER to determine if any changes have been made before purchasing paint. Colors will be finalized during the shop drawing review process.
 - 3. The colors of primer, intermediate and finish coats on exterior coating system shall be varied to ensure an even and complete coating coverage. The finish coat

shall be a significantly darker pigment to prevent bleed through of the underlying coats

- B. Surface treatments and finishes shall be per Sections 2.07 through 2.09 below. All substrates shall be painted whether or not indicated on the Contract Drawings, or in Schedules, unless an item is specifically scheduled as not requiring the painting system scheduled below.

2.06 SURFACE PREPARATION

- A. The latest revision of the following surface preparation specifications of the Society for Protective Coatings (SSPC) shall form a part of this Specification:
 - 1. Solvent Cleaning (SSPC-SP1): Removal of all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants by use of solvents cleaning.
 - 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mill scale, loose paint, and other detrimental foreign matter to the degree specified by non-power hand tools.
 - 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mill scale, loose paint, and other detrimental foreign matter to the degree specified by power assisted hand tools.
 - 4. White Metal Blast Cleaning (SSPC-SP5): Blast cleaning to a white metal blast cleaned surface free of all visible oil, grease, dust, dirt, mill scale, rust, coating, oxides, corrosion products, and other foreign matter.
 - 5. Commercial Blast Cleaning (SSPC-SP6): Blast cleaning until stains are limited to no more than 33 percent of each unit area of surface caused by stains of rust, stains of mill scale, or stains of previously applied coating.
 - 6. Brush-Off Blast Cleaning (SSPC-SP7): Blast cleaning to remove oil, grease, dirt, dust, loose mill scale, loose rust, and loose coating to the degree specified.
 - 7. Near White Blast Cleaning (SSPC-SP10): Blast cleaning to nearly white metal cleanliness, until stains are limited to no more than 5 percent of each unit area of surface caused by stains of rust, stains of mill scale, or stains of previously applied coating.
 - 8. Power Tool Cleaning to Bare Metal (SSPC-SP11): Removal of loose rust, loose mill scale, and other detrimental foreign matter to the degree specified by power impact tools to create a surface profile not less than 1 mil.
- B. Perform all preparation and cleaning procedures as Specified herein and in strict accordance with the paint manufacturer's instructions for each particular substrate and atmospheric condition.

2.07 PAINTING SYSTEMS

- A. Tank Painting
 - 1. All surface preparation, materials, application, and workmanship for painting of the tanks shall be in accordance with the American Water Works Association

Standard for Painting Steel Water-Storage Tanks, AWWA D-102, latest edition, and the Society for Protective Coatings SSPC-PA1-82, and the paint manufacturer's recommendation.

2. All deposits of oil or grease shall be solvent cleaned in accordance with SSPC-SP1 prior to blast cleaning or painting.

2.08 INTERIOR COATINGS

A. Interior Wet: Near-White Metal Blasted Surfaces (SSPC-SP10)

Manufacturer	Primer		Stripe	
	Coating Type	Specification	Coating Type	Specification
Tnemec	Aromatic Urethane, Zinc-Rich	94-H2O Hydro-Zinc	Polyamidoamine Epoxy	V140F Pota-Pox Plus
Carboline	No prime coating. Equipment must be used to maintain ambient conditions and hold blast.		Polyurethane hybrid	Reactamine 760
Sherwin Williams	Urethane Zinc-Rich	Corothane 1 Galvapac 1K Zinc Primer	Polyurethane	Poly-Cote 115

Manufacturer	Finish (shell and floor)		Finish (roof and structural steel)	
	Coating Type	Specification	Coating Type	Specification
Tnemec	Modified Polyamine Epoxy	Series FC22 Epoxoline	Polyamidoamine Epoxy	V140F Pota-Pox Plus
Carboline	Polyurethane hybrid	Reactamine 760	Polyurethane hybrid	Reactamine 760
Sherwin Williams	Polyurethane	Poly-Cote 115	Polyurethane	Poly-Cote 115

B. Interior Dry Spot Repair: Power Tool Cleaning to Bare Metal (SSPC-SP11)

Manufacturer	Primer		Intermediate		Finish	
	Coating Type	Specification	Coating Type	Specification	Coating Type	Specification
Tnemec	Polyamido-amine Epoxy	V140F Pota-Pox Plus	Polyamido-amine Epoxy	V140F Pota-Pox Plus	Polyamido-amine Epoxy	V140F Pota-Pox Plus
Carboline	Epoxy Phenalkamine	Carboguard 635 VOC	Epoxy Phenalkamine	Carboguard 635 VOC	Epoxy Phenalkamine	Carboguard 635 VOC
Sherwin Williams	Polyamide Epoxy	Macropoxy 646 PW	Polyamide Epoxy	Macropoxy 646 PW	Polyamide Epoxy	Macropoxy 646 PW

2.09 EXTERIOR TOUCH UP COATINGS

A. Power Tool Cleaning to Bare Metal (SSPC-SP11)

1. Existing polyurethane topcoat

50 degrees F and above						
Manufacturer	Primer		Intermediate		Finish	
	Coating Type	Specification	Coating Type	Specification	Coating Type	Specification
Tnemec	Modified Polyamido-amine Epoxy	Chembuild Series 135	Modified Polyamidoamine Epoxy	Chembuild Series 135	Aliphatic Acrylic Polyurethane	Endura-Shield Series 1095
Carboline	Epoxy Polymeric	Carboguard 635 VOC	Epoxy Polymeric	Carboguard 635 VOC	Aliphatic Acrylic-Polyester Polyurethane	Carbothane 133 LH
Sherwin Williams	Epoxy Mastic	Macropoxy 646 FC	Epoxy Mastic	Macropoxy 646 FC	Aliphatic Acrylic Polyurethane	Acrolon Ultra

Below 50 degrees F to Manufacturer's Minimum Requirement (varies)						
Manufacturer	Primer		Intermediate		Finish	
	Coating Type	Specification	Coating Type	Specification	Coating Type	Specification
Tnemec ¹	Phenalkamide Epoxy Finish	Protuff Series 138	Phenalkamide Epoxy Finish	Protuff Series 138	Aliphatic Acrylic Polyurethane	Endura-Shield Series 1095
Carboline	Epoxy Polymeric	Carboguard 635 VOC	Epoxy Polymeric	Carboguard 635 VOC	Aliphatic Acrylic-Polyester Polyurethane	Carbothane 133 LH
Sherwin Williams	Urethane Zinc-Rich	Corothane 1 Galvapak 1K Zinc Primer	Modified Epoxy Phenalk-amine	Dura-Plate 235	Aliphatic Acrylic Polyurethane	Hi-Solids Polyurethane 250

Note: (1) For application between 35 degrees F and 50 degrees F use manufacturer recommended amount of **44-456 Urethane Accelerator** per gallon in the **Series 1095**.

2. Existing alkyd/oil based system

50 degrees F and above						
Manufacturer	Primer		Intermediate		Finish	
	Coating Type	Specification	Coating Type	Specification	Coating Type	Specification
Tnemec	Mastic Waterborne Acrylic	Series 118 Uni-Bond Mastic	Mastic Waterborne Acrylic	Series 118 Uni-Bond Mastic	Mastic Waterborne Acrylic	Series 1095 Endura- Shield
Carboline	Epoxy Polymeric	Carboguard 635 VOC	Epoxy Polymeric	Carboguard 635 VOC	Aliphatic Acrylic- Polyester Polyurethane	Carbothane 133 LH
Sherwin Williams	Epoxy Mastic	Macropoxy 646 FC	Epoxy Mastic	Macropoxy 646 FC	Aliphatic Acrylic Polyurethane	Acrolon Ultra

Below 50 degrees F to Manufacture's Minimum Requirement (varies)						
Manufacturer	Primer		Intermediate		Finish	
	Coating Type	Specification	Coating Type	Specification	Coating Type	Specification
Tnemec ¹	Mastic Waterborne Acrylic	Series 118 Uni-Bond Mastic	Mastic Waterborne Acrylic	Series 118 Uni-Bond Mastic	Aliphatic Acrylic Polyurethane	Endura-Shield Series 1095
Carboline	Cross-linked Epoxy Polymeric	Carboguard 635 VOC	Cross-linked Epoxy Polymeric	Carboguard 635 VOC	Aliphatic Acrylic- Polyester Polyurethane	Carbothane 133 LH
Sherwin Williams	Epoxy Mastic	Macropoxy 646 FC	Epoxy Mastic	Macropoxy 646 FC	Aliphatic Acrylic Polyurethane	Hi-Solids Polyurethane 250

Note: (1) For application between 35 degrees F and 50 degrees F use manufacturer recommended amount of **44-456 Urethane Accelerator** per gallon in the **Series 1095**.

2.10 EXTERIOR OVERCOATING

A. High Pressure Water Washing (SSPC-SP WJ 1-4/NACE WJ 1-4)

1. Existing Polyurethane Topcoat

50 degrees F and above						
Manufacturer	Primer		Bond Coat		Finish	
	Coating Type	Specification	Coating Type	Specification	Coating Type	Specification
Tnemec	Mastic Waterborne Acrylic	Series 118 Uni-Bond Mastic	Mastic Waterborne Acrylic	Series 118 Uni-Bond Mastic	Mastic Waterborne Acrylic	Series 1095 Endura-Shield
Carboline	Epoxy Polymeric	Carboguard 635 VOC	Proprietary Epoxy Blend	Rustbond PS	Aliphatic Acrylic Polyurethane	Carbothane 133 LH
Sherwin Williams	Epoxy Mastic	Macropoxy 646 FC	Epoxy Mastic	Macropoxy 646 FC	Aliphatic Acrylic Polyurethane	Acrolon Ultra
Below 50 degrees F to Manufacturers recommended low temperature						
Manufacturer	Primer		Bond Coat		Finish	
	Coating Type	Specification	Coating Type	Specification	Coating Type	Specification
Tnemec	Phenalkamide Epoxy Finish	Protuff Series 138	Phenalkamide Epoxy Finish	Protuff Series 138	Mastic Waterborne Acrylic	Series 1095 Endura-Shield
Carboline ⁽¹⁾	Epoxy Polymeric	Carboguard 635 VOC	Proprietary Epoxy Blend	Rustbond PS	Aliphatic Acrylic Polyurethane	Carbothane 133 LH
Sherwin Williams	Epoxy Mastic	Macropoxy 646 FC	Epoxy Mastic	Macropoxy 646 FC	Aliphatic Acrylic Polyurethane	Hi Solids Polyurethane 250

Note: (1) For application between 35 degrees F and 50 degrees F use manufacturer recommended amount of **Additive 8505 Accelerator** per gallon in the **Rustbond PS**.

2.11 EXTERIOR FULL RECOAT COATINGS

A. Commercial Blast Cleaning (SSPC-SP6)

Manufacturer	Primer		Stripe	
	Coating Type	Specification	Coating Type	Specification
Tnemec	Aromatic Urethane, Zinc-Rich	Series 94-H ₂ O Hydro-Zinc	Polyamidoamine Epoxy	V140F Pota-Pox Plus
Carboline	Organic Zinc-Rich Epoxy	Carbozinc 859	Epoxy Phenalkamine	Carboguard 635 VOC
Sherwin Williams	Urethane Zinc-Rich	Corothane 1 GalvPac 1K Zinc Primer	Epoxy Mastic	Macropoxy 646 FC

Manufacturer	Intermediate		Finish	
	Coating Type	Specification	Coating Type	Specification
Tnemec ⁽¹⁾	Polyamidoamine Epoxy	V140F Pota-Pox Plus	Aliphatic Acrylic Polyurethane	1095 Endura-Shield
Carboline	Epoxy Phenalkamine	Carboguard 635 VOC	Aliphatic Acrylic-Polyester Polyurethane	Carbothane 133 LH
Sherwin Williams ⁽²⁾	Epoxy Mastic	Macropoxy 646 FC	Aliphatic Acrylic Polyurethane	Acrolon Ultra

Note: (1) For application between 35 degrees F and 50 degrees F use manufacturer recommended amount of **Tnemec Series 44-710 Urethane Accelerator** per gallon in the **Series 94-H₂O** and **44-456 Urethane Accelerator** per gallon in the **Series 1095**.
 (2) An accelerator is not required for Sherwin Williams Corothane I Galvapac (goes down to 20 degrees F air & surface temperature unaltered; Macropoxy 646 FC can go down to 35 degrees F air & surface temperature unaltered.)

PART 3 - EXECUTION

3.01 INSPECTION

- A. Inspections may include wet and/or dry film thickness gauging, visual surface inspection by the naked eye and/or a suitable magnifying instrument to detect runs, sags, drips, cracks or other defects in the coating system.
- B. Inspections may also include any other examination of the prepared surfaces or coating system, deemed necessary by the ENGINEER, including random destructive film thickness and coating adhesion checks. If such destructive tests are deemed necessary by the ENGINEER, the damaged areas will be repaired by the CONTRACTOR at no expense to the OWNER.
- C. Dry film thickness (DFT) readings, taken by the ENGINEER, of the coating are taken to provide reasonable assurance that the specified minimum DFT has been achieved using a magnetic gauge in accordance with SSPC-PA2 for all coatings applied to ferrous substrates. The NBS standard for DFT will be used to calibrate the magnetic dry film thickness gauge.
 - 1. Number of Measurements:
 - a. Make five (5) separate spot measurements spaced randomly over each 100 square foot (SF) area to be measured.
 - b. Each spot measurement shall consist of an average of three (3) gauge readings next to each other no further than six (6) inches apart.
 - c. For structures not exceeding 300 SF in area, each 100 SF area shall be measured.
 - d. For structures not exceeding 1,000 SF in area, three 100 SF areas shall be randomly selected and measured.
 - e. For structures exceeding 1,000 SF in area, the first 1,000 SF shall be measured as stated in 1.b. above and for each additional 1,000 SF of area or increment thereof, one 100 SF area shall be randomly selected and measured.
 - 2. Specifying thickness: The average of the spot measurements for each 100 SF area must be within the specified minimum and maximum thickness. The single spot measurements are permitted to be no less than 80 % of the specified minimum thickness nor more than 120% of the specified maximum thickness. When a DFT is not covered by this specification, the DFT shall be in accordance with the material manufacturer's published instructions.
- D. The CONTRACTOR shall provide all necessary inspection equipment (at the discretion of the ENGINEER), labor, rigging, lighting and other equipment to facilitate this inspection.
 - 1. Testing equipment to be supplied at a minimum shall be a digital temperature gauge, digital DFT gauge, digital humidity/dewpoint, and a holiday tester. All holiday inspection equipment shall be in good working condition and have documentation from the manufacturer showing calibration within the last years' time.

- E. The ENGINEER and CONTRACTOR shall perform holiday testing of the interior coating in accordance with NACE SP 0188-2006 Section 3. Areas to be tested shall be selected by the ENGINEER at their discretion. The ENGINEER may holiday test 100% of the surface and/or 100% of the weld seams. CONTRACTOR to provide all necessary rigging. Coating systems less than 20 mils in dry film thickness shall be tested using the low voltage (i.e. Wet Sponge) holiday tester, after the coating has cured for at least 5 days at ambient temperatures (70°F). Coating systems greater than 20 mils dry film thickness shall be inspected using a high voltage holiday tester, with an output voltage set at 100 volts per mil of coating thickness (i.e. 30 mils @ 3000 volts) following the manufacturer's recommended curing period. The output voltage for high voltage inspection shall be verified with the coating manufacturer. Locations where holidays are detected shall be marked for repair and retested after repair work has been completed.
- F. As applicable, additional holiday and low film thickness detection can be employed during the interior application/inspection process per SSPC TU-11 Inspection of Fluorescent Coating System. This does not replace traditional holiday detection, it is an applicator aid.
- G. Should the ENGINEER be summoned to inspect a completed phase of construction and find the work incomplete and, therefore, not ready for inspection, the CONTRACTOR shall bear the cost of inspection. It is not the intent to charge the CONTRACTOR for an inspection if discrepancies are found in the completed phase of construction, as long as the discrepancies do not necessitate additional inspection trips.

3.02 JOB CONDITIONS

A. Environmental Requirements

1. Apply paints only when the temperature of surfaces to be painted and the surrounding air temperatures are between 50 deg F and 90 deg F unless otherwise permitted by the paint manufacturer's printed instructions and approved by the ENGINEER per specific Sections in this Specification.
2. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or to damp or wet surfaces. Dew or moisture condensation should be anticipated and painting delayed until it can be determined with certainty that the surface will be dry during the painting operation. The temperature of the surface shall be at least 5 deg F above the dew point temperature. Painting for each day shall be completed in advance of the probable time of day when condensation will occur, in order to permit the required drying time prior to the formation of moisture. CONTRACTOR shall have wet bulb-dry bulb measuring equipment and steel temperature measuring equipment on the job site at all times. Readings shall be recorded at the beginning and end of each painting session and at intervals of two (2) hours or less.

3. Painting may be continued during inclement weather only if the areas and surfaces to be painted are enclosed and heated within the temperature limits specified by the paint manufacturer during application and drying periods.
4. Painting shall be suspended when wind velocities exceed that which will allow for a quality application of exterior coatings and/or where paint could be carried off the site.
5. Ensure that no spent blasting materials, dust, and overspray, or emissions of any kind travel off the site to avoid contamination of the adjacent buildings and areas. The ground under and adjacent to the tank shall be protected from dust, debris, removed materials, blasting materials, etc., by the use of impervious membranes. The CONTRACTOR is responsible for all materials and systems used to contain dust, emissions, debris, removed materials, etc.
6. Adequate illumination and ventilation shall be provided in all areas where painting operations are in progress. Forced air ventilation shall be supplied to the tank interior for a continuous period until at least 48 hours after the final coat has been applied. Ventilation, at a minimum, shall be in accordance with AWWA Specification D102. If Supplemental heating or dehumidification is required to aid in curing of coatings, the CONTRACTOR shall furnish and operate the equipment at their cost and expense as necessary and required to assist in the curing of coatings.
7. In addition to the air monitoring requirements of the NYSDEC, EPA, and OSHA required for the Work under this project, the ENGINEER may determine that additional air monitoring is required to ensure that air quality in other parts of the structure is within acceptable levels. At the ENGINEER's request, the CONTRACTOR shall provide additional air monitoring equipment and services as necessary, and at the CONTRACTOR's expense, to verify acceptable air quality within the tank.
8. When abrasive blast cleaning is used, the CONTRACTOR shall consider all areas subject to any abrasive blast cleaning to be of SSPC Class 2A containment nature, and be subject to all health and safety standards and practices set forth by any and all federal, state, and local agencies, authorities, departments, or governing body involved.
9. Unless otherwise permitted by the ENGINEER, all paint shall be applied by roller, brush, air or airless spray. **Field applied exterior coating shall be applied with brush and roller only for exterior touch up and overcoating. Field applied exterior coating for full Recoat Systems (total removal of existing system and recoat) shall be applied only within an SSPC Class 2A containment.** When spraying is used, all welds, edges, inside corners, and structural members shall be painted first using a brush.

B. Protection

1. In addition to the facilities being furnished and installed under this Contract, the CONTRACTOR is required to adequately protect interior and exterior cell company equipment (cables, antennae, miscellaneous electrical equipment), all adjacent property, including but not limited to structures, lawns, trees and shrubs, parked and passing vehicles, etc. from damage caused by these operations.
2. Cover and protect finished Work and surfaces not being painted concurrently or not to be painted. The CONTRACTOR is liable for any drifting paint.

3.03 SURFACE PREPARATION

A. General

1. Perform preparation and cleaning procedures in compliance with coating manufacturer's instructions for particular substrate conditions and as specified herein.
2. Unless dehumidification is used, primer coat shall be applied the same day as blast cleaning is completed. Any epoxy sealant pit filling and epoxy seam sealing is to be done after the primer coat has been applied. Any areas requiring welding should be protected before the prime coat is applied to prevent the application of prime coat in these areas. A final spot prime coat of welded areas will be required.
3. When applying the prime coat after blast cleaning, at the end of each day (if dehumidification is not used), a 3-inch to 4-inch border of blasted steel shall remain uncoated. When the CONTRACTOR resumes blast cleaning, this border and 1 inch to 3 inches of the previously primed surface shall be reblasted.
4. All dirt and debris is to be removed from base plates and anchor bolts prior to painting to ensure adequate paint adhesion.
5. Schedule cleaning and application so that dust and other contaminants from the cleaning process will not fall on wet, newly coated surfaces. Initial coatings shall be dry, according to manufacturer's recommendations, prior to continuation of surface preparation on adjacent areas. Care shall be taken while blasting to prevent damage to previously primed surfaces.
6. Non-Ferrous Metal Surfaces: Clean non-ferrous and galvanized surfaces in accordance with the special coating system manufacturer's instruction for type of service, metal substrate and application required.
7. Remove hardware, hardware accessories, machined surfaces, plates, lighting fixtures and similar items which are not to be coated, or provide surface-applied protection prior to surface preparation and coating operations. Remove, if necessary, for complete coating of items and adjacent surfaces. Following coating completion in each space or area, reinstall removed items, using workmen skilled in trades involved.
8. Special care should be taken to ensure that safety rails are not damaged.
9. All access to the tank interior will be through existing or proposed manholes only. No temporary openings will be allowed.

B. Blast Cleaning

1. Surface preparation shall be as specified in Section 3.06 Paint Application.
2. Blast Cleaning
 - a. Surfaces shall be prepared by blast cleaning in strict accordance with the latest revision of the Society for Protective Coatings.
 - b. The CONTRACTOR shall perform a test blast of an 8' x 8' section of the surface to be coated, witnessed by the ENGINEER and coating manufacturer to determine the adequacy of the blast cleaning and to determine surface profile for coating application. The CONTRACTOR shall also schedule photos to be taken at the time of test blast.
 - c. Complete removal of all oil, grease, dirt, mill scale, rust, corrosion products, oxides, paint or other foreign matter are required. Evenly dispersed very light shadows, streaks, and discolorations caused by stains of rust, stains of mill scale, and stains of previously applied paint may remain on no more than 5% of each square inch of surface area for SSPC-SP 10 and 33% of each square inch of surface area for SSPC-SP 6.
 - d. Minimum standards will be determined using the SSPC visual standards, SSPC-VISI-89 and SSPC-VISI-93 or the latest edition.
 - e. No blast cleaning shall be allowed when the surface temperature is less than 5 deg F above the dew point, or when relative humidity exceeds 90%. Surface areas exposed to condensation or moisture prior to receiving the primer coat shall be re-blast cleaned.
 - f. All deposits of oil or grease shall be removed by the methods outlined by the latest revision of SSPC-SP 1 Solvent Cleaning prior to blast cleaning.
 - g. Blasting equipment shall be in good operating conditions as required by the manufacturer. Oil and moisture traps shall be used. These shall be frequently cleaned and the cleanliness checked using a blotter test. A clean white blotter is held, no more than 18 inches from the air supply, downstream of the oil and moisture traps. The air supply is directed at the blotter for approximately two (2) minutes. The blotter is then examined visually for signs of oil and moisture. A clean blotter at test completion means a successful passing of the test. Failure to pass the compressed air test will be justification for rejection of abrasive blasting performed that day. The ENGINEER'S discretion will be final in this determination.
 - h. The compressed air used for nozzle blast cleaning shall be free of detrimental amounts of condensed water and oil. Nozzle pressure should not be less than 80 PSI.
 - i. Nozzle Blasting shall use high quality steel grit or other abrasive materials to yield a 2.5-4.0 mil anchor pattern.
 - j. Abrasives used shall not contain materials which leave detrimental residues on the surfaces.

- k. Remove all traces of grit, dust, grease and foreign matter after blast cleaning just prior to application of the prime coat.
 - l. Where intercoat contamination may take place, pressure washing shall be required. No coatings shall be applied over contamination that may affect performance of the system.
 - m. Except for areas to be welded, as outlined in Section 13210, and unless dehumidification is used as outlined in Section 3.03.G, blast-cleaned surfaces shall be primed the same day. Except for areas to be welded, blast-cleaned surfaces shall be primed before conditions create evidence of rusting.
 - n. To prevent contamination of wet paint, blast cleaning shall not be performed where coatings are being applied or where drying of coated surfaces is in progress.
3. Clean-up of spent blast debris
- a. The paint and cleaning debris shall be cleaned up and stored at least daily in covered leak-proof dumpsters, covered leak proof fifty-five (55) gallon drums, or other suitable containers which comply with all federal, state and local regulations. Tank interior wet, interior dry, exterior roof, and remaining exterior blast residue shall be stored separately from each other and containers must be labeled as such.
 - b. Any waste storage containers must be appropriately labeled and secured according to current federal, state and local regulations. Containers shall clearly indicate whether they contain interior or exterior blast residue.
 - c. The paint may contain hazardous levels of lead, chromium or other RCRA metals. All waste material that results from abrasive blasting and paint removal operations shall be cleaned up and collected from the floor, walls and other surfaces by vacuuming. Sweeping, shoveling or other mechanical means to remove the waste materials will not be allowed.
 - d. All waste storage containers must be appropriately labeled and secured according to current federal, state and local regulations. Included as part of the label should be the date the first material was placed in the container.

C. High Pressure Water Washing (Power Wash)

- 1. Where specified, all surfaces shall be cleaned by High Pressure Water Washing following recommended practice in SSPC-SP WJ 1-4/NACE WJ 1-4 with permissible exceptions noted in following.
- 2. For purposes of this specification, High Pressure Water Washing shall employ minimum nozzle pressure of 3,000 PSI and water volume of 4 gpm minimum.
- 3. High Pressure Water Washing shall remove from the surface being cleaned

- all water soluble chemical contamination, chalk, deteriorated and loose chalking paint, poorly adhering paint, loose rust and scale, dust and dirt.
4. Water used must be clean and free of silts or other contaminants that could leave a corrosive deposit on the surface being cleaned.
 5. If, after approval by the ENGINEER, detergents or various other suitable cleaning agents are used to remove oil, grease, chalk or other contamination, any residue from such agents shall be removed from the surface by flushing with clean water before applying any coating.
 6. All surfaces shall be completely dry before applying any coating.
 7. Additional cleaning (hand, power tool or abrasive blasting) may be specified to achieve the required degree of surface cleanliness.
 8. Caution shall be exercised to prevent damage to nonmetallic surfaces. Soft wood, insulation, electrical installations, and instrumentation must be protected.
 9. For the Crestwood Tank, reference Section 13200 Concrete Tank Rehabilitation.

D. Containment

1. The CONTRACTOR shall provide a containment system for exterior blasting and coating operations that is an SSPC Class 2A Containment with:
 - a. Type C1 Rigid OR Type C2 Flexible Support Structure
 - b. Type D1 Fully Sealed Joints
 - c. Type E3 Entryways
 - d. Type F1 Air Supply
 - e. Type H2 Visual Verified negative pressure
 - f. Type J1 Air Filtration
2. As specified in SSPC Guide 6 (Containment). In the event of a conflict between the SSPC containment classification above and the requirements of this specification, the more stringent of the two shall prevail.
3. All containment materials shall be manufactured of a SSPC Guide 6 Type A2 flexible, fire retardant, impervious material similar to Eagle Industries GEOvinyl, or equal. Enclosure material used shall be adequately translucent to allow the CONTRACTOR to work with minimal artificial lighting.
4. Any containment deemed necessary shall be designed not to impose excessive loading on the tank and tank appurtenances. The containment tarps shall be removed or rolled up per manufacturer's recommendations based on maximum design wind speed to preclude damage to the tank shell and appurtenances.
5. The containment enclosure shall use minimal welding to the tank. After blasting and painting, all containment attachments shall be removed, welded areas shall be ground smooth and coatings repaired per manufacturers recommendations. Any damage to the interior coating system shall be repaired.

6. The dust collector shall be sized to produce an average minimum crossdraft air velocity of 100 feet per minute or an average minimum downdraft air velocity of 60 feet per minute inside the containment enclosure, based on theoretical calculations.
7. Any damaged containment material shall be immediately repaired or replaced before work is to continue.
8. It is the responsibility of the CONTRACTOR to ensure that the containment, collection and storage of waste materials is done in strict accordance with all current federal, state and local regulations.
9. Prior to disassembly or moving of the containment enclosure, the inside surfaces of the enclosure, including walls, floors, ceiling, etc. shall be cleaned of dust and other spent materials by vacuuming. The CONTRACTOR shall take all measures necessary to prevent the release of waste material during moving or removal of the containment.
10. No additional compensation for changes in the laws, regulations or the interpretation thereof shall be granted by the OWNER.
11. Upon completion of the work, the job site and all nearby sites impacted by the work activities shall be left clean of all debris, cleaning residue, or any other items resulting from the operations of the CONTRACTOR.
12. Plastic shall be placed under any compressors, paint pumps, mixers, etc. to prevent oils, solvents, organic compounds or other contaminants from leaching into the soil. Any oils, solvents, organic compounds or contaminants spilled on the site during the work shall be immediately removed and cleaned up by the CONTRACTOR.
13. The ground surrounding the tank shall be covered from all debris and other materials generated in the cleaning operations.
14. The CONTRACTOR shall comply with all current federal, state, and local regulations governing ambient air, soil and water quality including, but not limited to, visible emissions and lead emissions. The CONTRACTOR is responsible for all required monitoring at no additional cost to the OWNER

E. Ventilation and Safety Requirements

1. The CONTRACTOR shall maintain adequate and continuous explosion-proof ventilation during all surface preparation and coating operations and during all recoat and curing periods. The ventilation shall meet all current federal, state and local regulations.
2. All equipment used, including ventilation fans, shall be maintained in good working order and shall be explosion-proof and/or non-sparking.
3. The CONTRACTOR shall provide adequate explosion-proof lighting during all surface preparation and coating operations sufficient to clearly illuminate the working area without shadows.
4. All work shall be performed in a safe and orderly manner and shall comply with current OSHA standards including, but not limited to, 29 CFR 1926.62, 1910.134 and 1910.146 and standards as prescribed by the

- New York State Department of Labor and Industry. The CONTRACTOR shall comply with all current regulations governing confined space entry.
5. Compliance with 29 CFR 1926.62 for lead exposure includes, but is not limited to, the following:
 - a. Worker and Supervisor training
 - b. Development of a written compliance program
 - c. Medical surveillance
 - d. Providing decontamination facilities
 6. Compliance with 29 CFR 1910.146 for confined space entry includes, but is not limited to, the following:
 - a. Worker and Supervisor training and certification.
 - b. Development of a written compliance program.
 - c. Emergency response procedures and training for rescue and emergency services.
 7. No additional compensation for changes in the laws, standards, regulations, or the interpretation thereof shall be granted by the OWNER.

F. Testing and Disposal

1. The CONTRACTOR will be responsible for sampling and testing the paint debris and spent abrasive material to determine if it is hazardous. Testing agency must be approved by the ENGINEER and sample taken in the presence of the ENGINEER. Copies of all testing results shall be sent to the ENGINEER prior to removal of any debris from the site. Toxicity Characteristics Leaching Procedures (TCLP) tests will be performed on the appropriate number of samples to make this determination per the testing agency's recommendation.
2. Until the material is tested to determine its hazardous nature, the CONTRACTOR shall be responsible for storing and handling the paint debris and spent abrasive material as though it were hazardous. Special attention shall be given to the time of storage, amount of material stored at any one time, use of proper containers and personnel training. All of the above shall be done in strict accordance with all current federal, state and local regulations. Paint debris shall not be placed on the unprotected ground and shall be shielded adequately to prevent dispersion of the debris by wind or rain water. Any evidence of improper storage shall be cause for immediate shutdown of the project until corrective action is taken.
3. It shall be the responsibility of the CONTRACTOR to arrange for the proper transportation, treatment and disposal of the waste, consistent with the hazardous classification of the waste. Transportation, treatment and disposal shall be done in strict accordance with all current federal, state and local regulations.
4. The CONTRACTOR shall submit to the ENGINEER written confirmation that the proper transportation, treatment and disposal of the waste will be accomplished in accordance with all current federal, state and local requirements. The submittal shall include the names and EPA

- identification numbers of the transporter and disposal facility, if required, and the necessary notifications and certifications on shipments.
5. Signed manifests shall be returned to the ENGINEER to verify that all steps of the handling and disposal process have been completed properly.
 6. The CONTRACTOR is responsible to store waste until disposal. Prior to disposal, all paperwork for disposal and transportation must be completed, reviewed and signed.
 7. Any recycling of spent blast abrasive by the CONTRACTOR must be done on site, within the completion time as specified in the Contract.

G. Dehumidification

1. When specified by the inclusion of a specific bid item, required by the CONTRACTOR'S operation or required by the paint manufacturer application method, a desiccant-based dehumidification system shall be provided such that the air dew point in the tank, near the metal surface, be depressed a minimum of 10 degrees Fahrenheit below the tank surface temperature within 20 minutes.
2. Any heat necessary to meet the dehumidification requirements or to comply with paint manufacturer recommendations for minimum temperatures will be supplied by the CONTRACTOR at no additional cost to the OWNER.
3. The dehumidification system shall achieve a minimum of 2.5 air changes per hour. CONTRACTOR is required to supply adequate ventilation for workers and for paint cure. The dehumidification system should be sized to dehumidify the entire tank at once, without partitions, and should take into account any dust collectors or ventilation equipment which may be used.
4. The dehumidification system shall be operated continuously, 24 hours per day, during interior surface preparation and primer, intermediate and finish coating application.
5. Primer must be applied before any evidence of rusting occurs on the blast-cleaned surface.
6. The following information regarding the dehumidification system should be submitted along with the shop drawings:
 - a. Sizing calculations.
 - b. Detailed site plan showing location and set-up of equipment and orientation of ducting. Dehumidification unit and generator must be located to minimize disturbance to area residents.
7. Certification from the supplier of the dehumidification equipment that the equipment was sized and the system designed to meet the specifications, as set forth in this Contract. At a minimum, the dehumidification system supplier must visit each job site at set-up to ensure that the equipment is set-up and operating as designed. Within two (2) days after each site visit, the equipment supplier shall submit a written report and recommendations to the CONTRACTOR based on observations made and measurements taken during the site visit. A copy of this report must be sent to the ENGINEER. In the report, the equipment supplier must certify that, based on observations made and measurements taken during the site visit, the

- equipment is set-up and operating as designed.
8. The CONTRACTOR must ensure that the compressor(s) used for blasting has sufficient ancillary equipment to prevent moisture from being introduced into the tank interior.
 9. Any permits required for operation of the dehumidification system will be the responsibility of the CONTRACTOR.
 10. The dehumidification unit and the generator used to supply power for the dehumidification unit shall be equipped with noise suppression equipment to reduce noise levels to a maximum of 66 decibels at 35 feet. Insulation blankets may be required.

3.04 PIT FILLING AND SEAM SEALING

- A. Any pit filling or seam sealing is to be done after the primer coat has been applied where directed by the ENGINEER. The seam sealer/pit filler shall be applied in accordance with the manufacturer's recommendations.
- B. The pit filler must be applied at or above the minimum temperature specified by the manufacturer.
- C. The extent of repairs for each plate section shall be identified prior to filling.
- D. Care must be taken to ensure that pits to be filled are filled completely without sagging or runs. Only a smooth finish will be accepted.
- E. Spot fill holes and cracks with a putty knife or pointing trowel. Apply to large surfaces with a trowel and spread uniformly with a medium hardness rubber float or trowel. Follow with a small rubber squeegee to obtain a smooth finish.
- F. On rivetted tanks, all interior seams shall be seam sealed up to high water line.

3.05 MATERIALS PREPARATION

- A. Carefully mix and prepare materials in compliance with manufacturer's directions.
- B. Do not mix coating materials produced by different manufacturers, unless otherwise permitted by manufacturer's instructions.
- C. Maintain containers used in storage, mixing and application of paint in a clean condition, free of foreign materials and residue.
- D. Stir materials before application to produce a mixture of uniform density and as required during application. Do not stir film, which may form on the surfaces, into material. Remove film and, if necessary, strain material before using.

3.06 PAINT APPLICATION

A. General

1. The CONTRACTOR shall apply each coating in accordance with this specification and the coating manufacturer's recommendation. The coating shall be applied at the specified thickness. Deficiencies in film thickness shall be corrected by the application of an additional coat(s). Where thinning is necessary, only the products of the manufacturer furnishing the coating and for the particular purpose, shall be allowed. All thinning shall be done strictly in accordance with the manufacturer's instructions and with prior notification to the ENGINEER. The coatings shall be kept thoroughly mixed during application.
2. For interior coatings, the materials may be applied by brush, roller and conventional or airless spray unless otherwise indicated. Exterior coating is to be applied with brush and roller only unless applied in containment.
3. The CONTRACTOR shall take all necessary precautions to prevent damage to adjoining properties. The CONTRACTOR shall be responsible for any damage caused by the drifting of paint.
4. All coatings shall be applied in strict accordance with the applicable manufacturer's current printed product data sheet(s) and container labels. Coatings shall not be applied above or below the minimum/maximum surface temperatures as stated on the product data sheet(s). Coatings shall not be applied to wet or damp surfaces and shall not be applied in rain, snow, fog or mist or when the relative humidity will exceed 85%. Surface temperature must be at least 5°F. above the dew point and painting shall be delayed until such condition exists. Painting shall be completed well in advance of the probable time of day when condensation will occur and/or the surface temperature is expected to drop below the minimum listed on the applicable product data sheet(s).
5. Prior to placing the tank into service, the interior paint shall be allowed to cure according to the paint manufacturer's recommendations. However, more cure time may be needed depending on atmospheric conditions.
6. Do not apply coatings in dust or smoke laden air.
7. The CONTRACTOR shall take adequate precautions when working in the vicinity of existing above-ground utility wires near tank and, if needed, arrange for the utility company to temporarily relocate them so as not to disrupt normal service and to protect the general public.
8. If necessary, temporary fencing will be required around base of tank to prevent unauthorized people from entering the project site.
9. All coats shall be measured for the specified dry coating thickness at the end of its recommended drying period. Testing of the dry film thickness shall be in accordance with the latest revision of SSPC-PA2, Measurement of Dry Paint Thickness with Magnetic Gages.
10. Finish coats shall be uniform in color and sheen without streaks, laps, runs, sags or missed areas.
11. Care should be taken to ensure that safety rails and other materials not requiring painting are not painted.
12. All edges, corners, crevices, rivets, bolts, welds, pitted surfaces, and sharp edges shall be stripe painted with a brush. Such striping shall extend a

minimum of one inch from any edge. Stripe coatings shall be applied after a full prime coat has been allowed to adequately dry for recoating. The paint for this application shall be per manufacturer's recommendation and thinned to manufacturer's recommendation.

13. The paint application for the interior and exterior shall be by one of the following alternatives, as specified in Section 1.02 Quality Assurance.

B. Alternative 1 – Tnemec Company, Inc.

1. Interior Paint Application For Wet Interior:

- a. Surface Preparation: SSPC-SP10, Near-white Metal Blast Cleaning.
- b. Prime Coat full interior: Series 94-H20 Hydro-Zinc, 2.5 to 3.5 mils DFT
- c. Stripe Coat: Series V140F Pota-Pox Plus, 4.0 to 6.0 mils DFT (48 hours drying time before finish coat). Corroded edges of roof supports must receive three stripe coats.
- d. Intermediate Coating of Pitted Areas on Eden 4 and Cole as directed by the ENGINEER: Series V140F Pota-Pox Plus, 4.0 to 6.0 mils DFT Coating shall be sprayed and backrolled into the pitted surfaces in accordance with the manufacturer's recommendations.
- e. Finish coat (shell and floor): Series FC22 Epoxoline, 25.0 to 30.0 mils DFT
- f. Finish coat (roof, structural steel, rafters): Series V140F Pota-Pox Plus, 4.0 to 6.0 mils DFT
- g. For shell and floor, minimum acceptable DFT to be 30 mils and maximum acceptable DFT thickness shall be 75 mils.
- h. For roof, structural steel, and rafters, minimum acceptable DFT to be 13 mils and maximum acceptable thickness shall be 20 mils.

2. Interior Paint Application For Dry Interior Spot Repair:

- a. Regular Temperature Application
 - 1) Surface Preparation: SSPC-SP11, Power Tool Cleaning to Bare Metal
 - 2) Prime Coat: Series V140F Pota-Pox Plus at 4.0 to 6.0 mils DFT
 - 3) Intermediate Coat: Series V140F Pota-Pox Plus at 4.0 to 6.0 mils DFT
 - 4) Finish Coat: Series V140F Pota-Pox Plus at 4.0 to 6.0 mils DFT
 - 5) Minimum acceptable DFT for total system to be 14.0.

3. Exterior Touch Up Paint Application for existing polyurethane topcoat (Contractor to confirm existing paint system prior to exterior paint order/application). For spot coating, Contractor shall not apply new coating beyond the area feathered and sanded. Do not apply spot coating over unprepared existing coating.

- a. Regular Temperature Application (Greater than 50°F)
 - 1) Surface Preparation: SSPC-SP11, Power Tool Clean to Bare

5. Exterior Overcoat Paint Application
 - a. Regular Temperature Application on existing Polyurethane Topcoat (Greater than 50°F)
 - 1) Surface Preparation: High Pressure Water Washing, SSPC-SP WJ 1-4/NACE WJ 1-4
 - 2) Spot clean areas of rust or loose paint to SSPC-SP3 Power Tool Cleaning or as directed by the ENGINEER.
 - 3) Spot Prime: Series 118 Uni-Bond Mastic at 6.0 to 7.0 mils DFT.
 - 4) Bond Coat: Series 118 Uni-Bond Mastic at 6.0 to 7.0 mils DFT.
 - 5) Finish Coat: Series 1095 Endura-Shield at 2.5 to 3.5 mils DFT.
 - 6) Minimum acceptable DFT for total system to be 8.5 mils DFT. Minimum acceptable DFT for system over base to be 14.5 mils DFT.
 - b. Low Temperature Application on existing Polyurethane Topcoat (Less than 50°F, down to manufacturers recommended minimum temperature)
 - 1) Surface Preparation: High Pressure Water Washing, SSPC-SP WJ 1-4/NACE WJ 1-4
 - 2) Spot clean areas of rust or loose paint to SSPC-SP3 Power Tool Cleaning or as directed by the ENGINEER.
 - 3) Spot Prime: Series Protuff 138 at 6.0 to 7.0 mils DFT.
 - 4) Bond Coat: Series Protuff 138 at 6.0 to 7.0 mils DFT.
 - 5) Finish Coat: Series 1095 Endura-Shield at 2.5 to 3.5 mils DFT. For low temperature under 50°F, use 4 oz. per gallon of Series 44-456 Urethane Accelerator.
 - 6) Minimum acceptable DFT for total system to be 8.5 mils DFT. Minimum acceptable DFT for system over base to be 14.5 mils DFT.
6. Exterior Full Recoat Paint Application
 - a. Regular Temperature Application (Greater than 50°F)
 - 1) Surface Preparation: SSPC-SP6, Commercial Blast Cleaning
 - 2) Prime Coat: Series 94-H2O at 2.5 to 3.5 mils DFT.
 - 3) Stripe Coat: Series V140 Pota-Pox Plus at 3.0 to 4.0 mils DFT.
 - 4) Intermediate Coat: V140 Pota-Pox Plus at 3.0 to 4.0 mils DFT.
 - 5) Finish Coat: Series 1095 Endura-Shield (100 g/litre) at 2.5 to 3.5 mils DFT.
 - 6) Minimum acceptable DFT for total system to be 8.5 mils DFT.

- b. Low Temperature Application (35°F to 50°F)
 - 1) Surface Preparation: SSPC-SP6, Commercial Blast Cleaning
 - 2) Prime Coat: Series 94-H2O at 2.5 to 3.5 mils DFT. Use 4 oz. per gallon of Series 44-710 Urethane Accelerator.
 - 3) Stripe Coat: Series V140F Pota-Pox Plus at 3.0 to 4.0 mils DFT.
 - 4) Intermediate Coat: Series V140F Pota-Pox Plus at 3.0 to 5.0 mils DFT.
 - 5) Finish Coat: Series 1095 Endura-Shield at 3.0 to 4.0 mils DFT. Use 4 oz. per gallon of Series 44-456 Urethane Accelerator.
 - 6) Minimum acceptable DFT for total system to be 8.5 mils DFT.

C. Alternative 2 – Carboline Company, Inc.

- 1. Interior Paint Application For Wet Interior:
 - a. Surface Preparation: SSPC-SP10, Near-white Metal Blast Cleaning.
 - b. Primer: No primer needed- equipment must be used to maintain ambient conditions and hold blast.
 - c. Coating of Pitted Areas for Eden 4 and Cole Road as directed by the ENGINEER: Reactamine 760, by spray WFT as required. (see for maximum total DFT)
 - d. Stripe Coat : Reactamine 760, spray , 6-8 mils WFT (2-5 mins set time before finish coat) Corroded edges of roof supports must receive three stripe coats.
 - e. Finish Coat: Reactamine 760, 25.0 to 30.0 mils DFT
 - f. Minimum acceptable DFT for total system to be 25 mils.
 - g. Maximum acceptable DFT for total system to be 125 mils.
- 2. Interior Paint Application For Dry Interior Spot Repair
 - a. Regular and Low Temperature Application (Greater than 35°F)
 - 1) Surface Preparation: SSPC-SP11, Power Tool Cleaning to Bare Metal
 - 2) Prime Coat Carboguard 635 VOC at 4.0 to 6.0 mils DFT
 - 3) Intermediate Coat: Carboguard 635 VOC at 4.0 to 6.0 mils DFT
 - 4) Finish Coat: Carboguard 635 VOC at 4.0 to 6.0 mils DFT
 - 5) Minimum acceptable DFT for total system to be 15.0 mils on plates and 17.5 on weld seams.
- 3. Exterior Touch Up Paint Application for existing polyurethane topcoat (Contractor to confirm existing paint system prior to exterior paint order/application). For spot coating, Contractor shall not apply new coating beyond the area feathered and sanded. Do not apply spot coating over unprepared existing coating.
 - a. Regular and Low Temperature Application (Greater than 35°F)

- 1) Surface Preparation: SSPC-SP11, Power Tool Clean to Bare Metal where primer has failed. If the primer is intact sand, feather edges, solvent wipe, and apply items 3 and 4 per PDS.
 - 2) Prime Coat: Carboguard 635 VOC at 4.0 to 6.0 mils DFT.
 - 3) Intermediate Coat: Carboguard 635 VOC at 4.0 to 6.0 mils DFT.
 - 4) Finish Coat: Carbothane 133LH at 3.0 to 5.0 mils DFT.
 - 5) Minimum acceptable DFT for total system to be 11.0 mils over bare metal / 7.0 mils over existing coatings.
4. Exterior Touch Up Paint Application for existing alkyd/oil based system (Contractor to confirm existing paint system prior to exterior paint order/application). For spot coating, Contractor shall not apply new coating beyond the area feathered and sanded. Do not apply spot coating over unprepared existing coating.
- a. Regular and Low Temperature Application (Greater than 35°F)
 - 1) Surface Preparation: SSPC-SP11, Power Tool Clean to Bare Metal. Ensure chalking at feathered edges is removed 2.0 to 4.0 inches back on to sound coatings
 - 2) Prime Coat: Carboguard 635 VOC at 4.0 to 6.0 mils DFT.
 - 3) Intermediate Coat: Carboguard 635 VOC at 4.0 to 6.0 mils DFT.
 - 4) Finish Coat: Carbocoat 8215 VOC at 2.0 to 3.0 mils DFT.
 - 5) Minimum acceptable DFT for total system to be 10.0 mils over bare metal / 7.0 mils over existing coatings.
5. Exterior Overcoat Paint Application
- a. Regular and low Temperature Application on existing Polyurethane Topcoat (Greater than 35°F)
 - 1) Surface Preparation: High Pressure Water Washing, SSPC-SP WJ 1-4/NACE WJ 1-4
 - 2) Spot clean areas of rust or loose paint to SSPC-SP3 Power Tool Cleaning or as directed by the ENGINEER.
 - 3) Spot Prime: Carboguard 635 VOC at 4.0 to 6.0 mils DFT.
 - 4) Bond Coat: Rustbond PS at 1 to 2.0 mils DFT. For application between 35°F to 50°F, use the manufacturers recommended amount of Additive 8505 accelerator.
 - 5) Finish Coat: Carbothane 133 LH at 3.0 to 5.0 mils DFT.
 - 6) Minimum acceptable DFT for total system to be 10.0 mils over bare metal.
6. Exterior Full Recoat Paint Application
- a. Regular and Low Temperature Application (Greater than 35°F)
 - 1) Surface Preparation: SSPC-SP6, Commercial Blast Cleaning
 - 2) Prime Coat: Carbozinc 859 Series at 3.0 to 5.0 mils DFT.
 - 3) Stripe Coat: Carboguard 635 VOC at 2.0 to 3.0 mils DFT.
 - 4) Intermediate Coat: Carboguard 635 VOC at 4.0 to 6.0 mils DFT.

- 5) Finish Coat: Carbothane 133 LH at 3.0 to 4.0 mils DFT.
- 6) Minimum acceptable DFT for total system to be 12.0 mils DFT.

D. Alternative 3 – Sherwin-Williams Protective and Marine Coatings

1. Interior Paint Application For Wet Interior
 - a. Surface Preparation: SSPC-SP10, Near-white Metal Blast Cleaning
 - b. Prime Coat: Corothane 1 Galvapak 1K Zinc Primer at 2.0 to 4.0 mils DFT
 - c. Stripe Coat: Polycote 115 at 6.0 to 8.0 mils DFT. Corroded edges of roof supports must receive three stripe coats.
 - d. Intermediate Coating of Pitted Areas of Eden 4 and Cole Road as directed by the ENGINEER: Polycote 115 at 5-10 mils DFT. Coating shall be sprayed and backrolled into the pitted surfaces in accordance with the manufacturer's recommendations.
 - e. Finish Coat: Poly-Cote 115 at 20.0-30.0 mils DFT
 - f. Minimum acceptable DFT for total system to be 28.5 mils.
 - g. Maximum acceptable DFT for total system to be 37.5 mils for wet interior areas only.
2. Interior Paint Application For Dry Interior Spot Repair:
 - a. Regular Temperature Application (Greater than 40°F)
 - 1) Surface Preparation: SSPC-SP11, Power Tool Cleaning to Bare Metal
 - 2) Prime Coat: Macropoxy 646 PW at 4.0 to 6.0 mils DFT
 - 3) Intermediate Coat: Macropoxy 646 PW at 4.0 to 6.0 mils DFT
 - 4) Finish Coat: Macropoxy 646 PW at 4.0 to 6.0 mils DFT
 - 5) Minimum acceptable DFT for total system to be 12.0.
3. Exterior Touch Up Paint Application for existing polyurethane topcoat (Contractor to confirm existing paint system prior to exterior paint order/application). For spot coating, Contractor shall not apply new coating beyond the area feathered and sanded. Do not apply spot coating over unprepared existing coating.
 - a. Regular Temperature Application (Greater than 50°F)
 - 1) Surface Preparation: SSPC-SP11, Power Tool Clean to Bare Metal
 - 2) Prime Coat: Macropoxy 646 FC at 4.0-6.0 mils DFT
 - 3) Intermediate Coat: Macropoxy 646 FC Fast Cure Epoxyat 4.0-6.0 mils DFT
 - 4) Finish Coat: Acrolon Ultra at 3.0-5.0 mils DFT
 - 5) Minimum acceptable DFT for total system to be 11.0 mils over bare metal / 3.0 mils over existing coatings
 - b. Low Temperature Application (20°F to 50°F)
 - 1) Surface Preparation: SSPC-SP11, Power Tool Clean to Bare Metal

- 2) Prime Coat: Corothane I Galvapak Zinc Primer, B65G11, 2.5-4.0 mils DFT
 - 3) Intermediate Coat: Dura-Plate 235 at 4.0-6.0 mils DFT
 - 4) Finish Coat: Hi-Solids Polyurethane 250 at 3.0-5.0 mils DFT
 - 5) Minimum acceptable DFT for total system to be 9.5 mils over bare metal / 2.5 mils over existing coatings
4. Exterior Touch Up Paint Application for existing alkyd/oil based system (Contractor to confirm existing paint system prior to exterior paint order/application). For spot coating, Contractor shall not apply new coating beyond the area feathered and sanded. Do not apply spot coating over unprepared existing coating.
- a. Regular Temperature Application (Greater than 50°F)
 - 1) Surface Preparation: SSPC-SP11, Power Tool Clean to Bare Metal
 - 2) Prime Coat: Macropoxy 646 Fast Cure Epoxy, 4.0-6.0 mils DFT.
 - 3) Intermediate Coat: Macropoxy 646 Fast Cure Epoxy, 2.5-3.0 mils DFT
 - 4) Finish Coat: Acrolon Ultra, 2.5-3.0 mils DFT
 - 5) Minimum acceptable DFT for total system to be 9.0 mils over bare metal / 6.0 mils over existing coatings
 - b. Low Temperature Application (20°F to 50°F)
 - 1) Surface Preparation: SSPC-SP11, Power Tool Clean to Bare Metal
 - 2) Prime Coat: Macropoxy 646 Fast Cure Epoxy, 2.5-4.0 mils DFT
 - 3) Intermediate Coat: Macropoxy 646 Fast Cure Epoxy, 2.5-3.0 mils DFT
 - 4) Finish Coat: Hi-Solids Polyurethane 250, 2.5-3.0 mils DFT
 - 5) Minimum acceptable DFT for total system to be 7.5 mils over bare metal / 6.0 mils over existing coatings
5. Exterior Overcoat Paint Application
- a. Regular Temperature Application on existing Polyurethane Topcoat (Greater than 50°F)
 - 1) Surface Preparation: High Pressure Water Washing, SSPC-SP WJ 1-4/NACE WJ 1-4
 - 2) Spot clean areas of rust or loose paint to SSPC-SP3 Power Tool Cleaning or as directed by the ENGINEER.
 - 3) Spot Prime: Macropoxy 646 FC at 4.0-6.0 mils DFT
 - 4) Bond Coat: Macropoxy 646 FC at 4.0 to 6.0 mils DFT
 - 5) Finish Coat: Acrolon Ultra at 3.0-5.0 mils DFT
 - 6) Minimum acceptable DFT for total system to be 11.0 mils over bare metal / 3.0 mils over existing coatings
6. Exterior Full Recoat Paint Application
- a. Regular and Low Temperature Application (Greater than 40°F)
 - 1) Surface Preparation: SSPC-SP6, Commercial Blast Cleaning

- 2) Prime Coat: Corothane I GalvaPac 1K Zinc Primer at 2.5 to 4.0 mils DFT.
- 3) Stripe Coat: Macropoxy 646 FC at 2.0 to 4.0 mils DFT.
- 4) Intermediate Coat: Macropoxy 646 FC at 4.0 to 6.0 mils DFT.
- 5) Finish Coat: Hi-Solids Polyurethane 250 at 3.0-4.0 mils DFT
- 6) Minimum acceptable DFT for total system to be 11.0 to 17.0 mils DFT

3.07 VOC TESTING AND MONITORING

- A. After the tank has been filled but prior to placing in service, the CONTRACTOR shall arrange for volatile organic compound (VOC) sampling and testing. The cost for such sampling and testing shall be borne by the CONTRACTOR. All analysis shall be conducted by a NYS approved laboratory which is specifically approved for the Work to be performed.
- B. The sampling and testing shall be performed for vinyl chloride and 52 principal organic compounds including drinking water volatile hydrocarbons and drinking water volatile aromatics as per the Environmental Laboratory Approval Program.
- C. Hydrocarbons shall be analyzed by EPA Methods 502.1, 502.2, 524.1, or 524.2 with a detection limit of 0.5 ug/l or less.
- D. Aromatics shall be analyzed by EPA Methods 503.1, 502.2, 524.1, or 524.2 with a detection limit of 0.5 ug/l or less.
- E. The tank shall not be put into service until VOC's are within acceptable limit of the New York State Part 5 MCL level for drinking water.

3.08 DISINFECTION OF INTERIOR WET

- A. Adequate ventilation which will effectively remove solvent vapors shall be provided for proper drying of paint on interior surfaces. Following final coat application, the tank shall not be disinfected or filled until the coating system is fully cured. Refer to applicable product data sheet(s) for dry time/temperature requirements.
- B. The CONTRACTOR shall notify the ENGINEER prior to filling the tank. The Owner will fill all tanks to overflow.
- C. Prior to filling and placing in service, the storage tank interior wet areas, which includes all surfaces inside the tank areas in contact with water and areas above the high water level such as the, tank roof, and inlet, outlet, and overflow piping, shall be disinfected in accordance with AWWA Standard C652 (Method 2 only), or latest revision thereof, and meet N.Y.S. and Erie County Health Department Standards.

After disinfection and filling, the Testing Laboratory shall, in the presence of the ENGINEER, take two bacteriological samples (one immediately after tank is completely filled and a second one after 24 hours) for testing by an approved laboratory in accordance with the latest Health Department requirements. The CONTRACTOR shall submit the reports directly to the OWNER and the ENGINEER. Should acceptable results not occur after these two consecutive tests, the CONTRACTOR shall, at their expense, repeat the disinfection procedure until safe results are obtained.

At the same time as the second bacteriological test, one water sample shall also be analyzed for organic chemicals as specified in Section 3.07 and indicate that all tested organic chemicals are within acceptable limits prior to placing the tank back into service. Test results must be reported in units and significant digits consistent with the New York State Health Department limits.

In addition, one water sample shall also be analyzed for free chlorine residual. The free chlorine residual shall be greater than 0.5 mg/l and be less than 1.5 mg/l prior to placing the tank back into service. All testing is at CONTRACTOR'S expense.

- D. The CONTRACTOR shall notify the OWNER'S representative when disinfection work is to be done so that he may be present to observe the work.
- E. Super chlorinated water shall be discharged in a manner that will not adversely affect flora and fauna, and shall conform to applicable state regulations for waste discharge.
- F. If, for any reason, the tank must be drained to waste and refilled, the cost of water will be paid by the CONTRACTOR. The CONTRACTOR will be responsible for any disposal costs and any required permits for discharge of water that does not meet regulations.
- G. The costs for any additional testing, beyond that specified above, and any other work necessary to bring the tank into compliance with all regulations, are the responsibility of the CONTRACTOR.

3.09 ANNIVERSARY INSPECTION

- A. The CONTRACTOR with the OWNER and/or ENGINEER shall perform coating and tank repair inspections at approximately the first and second year anniversary dates.
- B. CONTRACTOR shall coordinate access to the tank with the OWNER.
- C. Interior inspection shall be conducted with the tank full and in service using a remotely operated vehicle (ROV). The CONTRACTOR is responsible for the cost of the ROV inspection and necessary rigging. The third party ROV company hired by the CONTRACTOR must be approved by the OWNER and/or ENGINEER.

- D. The CONTRACTOR shall provide all necessary inspection equipment (at the discretion of the ENGINEER), labor, rigging, lighting and other equipment to facilitate the inspection.
- E. ROV will be operated in accordance with AWWA C652-11 including proper disinfection.
- F. ROV shall be capable of illuminating and viewing all underwater surfaces as well as the above water shell and roof.
- G. ROV shall provide live video feed to a monitor viewable by the OWNER and/or ENGINEER on site.
- H. ROV operator shall record the inspection and provide the full video on USB memory stick.
- I. If any coating failures and/or defects are found, the CONTRACTOR must propose a repair method, obtain approval for the repair method from the OWNER and/or ENGINEER, and provide a schedule for the approved repair method.
- J. The CONTRACTOR shall make all necessary repairs to the satisfaction of the OWNER and/or ENGINEER.
- K. The CONTRACTOR is responsible for reimbursing the OWNER for all costs associated with making the repairs including, but not limited to, inspection fees.
- L. The CONTRACTOR is also responsible for any testing required to put the tank back into service except for bacteriological tests and chlorine residual tests which will be the responsibility of the OWNER.

3.10 COATING COLOR TABLES

All colors shall be selected by the OWNER during shop drawing review.

END OF SECTION

SECTION 13200

CONCRETE TANK REHABILITATION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Materials, procedures, techniques to be used for the upgrades to the Crestwood Concrete Water Storage Tank.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 1 Specification, and 09900 Painting Sections, apply to this Section.
- B. A project location map can be found in Appendix D.
- C. Details including tank elevations can be found in Appendix E.

1.03 DESCRIPTION

- A. The concrete tank included in this contract were originally constructed by DN Tanks Concrete Tank Services (Formally Natgun Corporation).
- B. Contractor shall furnish all labor, material, equipment and incidentals necessary to rehabilitate the Crestwood Tank as shown and specified herein. All work necessary for the completion of the contract shall be included, whether or not specifically shown or specified.
- C. The Contractor is advised that the tank is an important component of the Owner's water supply system and cannot be removed from service for time outside those listed in Paragraph 3.02 of the Agreement.
- D. The Contractor shall adequately plan and coordinate all aspects of the work to ensure that the work progresses without delay after the tank is drained and the tank is returned to service within the completion date.

1.04 QUALITY ASSURANCE

- A. Reference Standards
 - 1. ACI 301-89, Specification for Structural Concrete for Buildings
 - 2. ACI 30-92, Standard Practice for Curing Concrete.

3. AWWA D110 Standards for Water Tanks
4. ACI 301 Specifications for Structural Concrete
5. ACI 305 Hot Weather Concreting
6. ACI 306 Cold Weather Concreting
7. ACI 309R Guide for Consolidation of Concrete
8. ACI 318 Building Code Requirements for Reinforced Concrete and Commentary
9. ACI 350 Code Requirements for Environmental Engineering Concrete Structures and Commentary
10. ACI 350.3 Seismic Design of Liquid Containing Concrete Structures and Commentary
11. ACI 372R Design and Construction of Circular Wire- and Strand Wrapped Prestressed Concrete Structures
12. ACI 506R Guide to Shotcrete
13. ASTM A185 Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
14. ASTM A416 Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete
15. ASTM A421/A421M Standard Specification for Uncoated Stress-Relieved Steel Wire for Prestressed Concrete
16. ASTM A475 Standard Specification for Zinc-Coated Steel Wire Strand
17. ASTM A615/A615M Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
18. ASTM A706/A706M Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
19. ASTM A821 Standard Specification for Steel Wire, Hard Drawn for Prestressing Concrete Tanks
20. ASTM A1008/A1008M Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable
21. ASTM C31 Standard Practice for Making and Curing Concrete Test Specimens in the Field
22. ASTM C33 Standard Specification for Concrete Aggregates
23. ASTM C39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
24. ASTM C231 Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
25. ASTM C920 Specification for Elastomeric Joint Sealants
26. ASTM D1056 Standard Specification for Flexible Cellular Materials – Sponge or Expanded Rubber
27. ASCE Standard 7 Minimum Design Loads for Buildings and Other Structures
28. AWWA C652 Standard for Disinfection of Water-Storage Facilities

- B. Qualifications and Experience: The contractor shall be a specialty tank contractor experienced in the rehabilitation of AWWA D-110 tanks, at least 10 tanks in the last 10 years of equal size or greater, which have been in successful service for a minimum of five (5) years, and shall have restored at least five (5) tanks with deteriorated shotcrete/concrete walls and/or domes within the last 5 years at least three (3) of which required the re-tensioning of and/or replacement of damaged prestress wire.
- C. Prequalification for concrete tank repair and modifications:
 - 1. All contractors or subcontractors for the concrete tank repairs and modifications are required to be prequalified.
 - 2. DN Tanks, Wakefield, Massachusetts, and Preload Inc., Hauppauge, New York are prequalified as contractors or subcontractors for the concrete tank repairs for this project.
- D. Regulatory Requirements: Comply with environmental regulations.
- E. Pre-Application Meeting:
 - 1. Convene a pre-construction meeting two weeks before the start of the above ground concrete tank rehabilitation.
 - 2. Require attendance of parties directly affecting work of this section, including the contractor, sub-contractor, engineer, applicator, and manufacturer's representative.
 - 3. Review environmental requirements, materials, and protection of adjacent work, surface preparation, application, curing, field quality control, cleaning, and coordination with other work.

1.05 SUBMITTALS

- A. Comply with requirements of Section 01331 Shop Drawing Procedures.
- B. Construction Submittals for Review:
 - 1. Design proportions for all concrete and shotcrete and concrete strengths of trial mixes for all concrete.
 - 2. Admixtures to be used in the concrete and their purpose.
 - 3. All Shop drawings for crack repair, concrete anchoring, conduit installation, and concrete penetrations shall be stamped by Professional ENGINEER, experienced in the design of AWWA D110, Type II or III tanks and registered in the State of New York.
- C. Product Data: Submit manufacturer's product data, including surface preparation, application, and curing.
- D. Current Safety Data Sheets (SDS)
- E. Contractor's Health and Safety Plan

- F. Delegated Design Submittals: Submit the following:
1. Design Data:
 - a. Design computations or complete structural analysis of the repair of the water storage tank, including the design of the dome guardrail system, in accordance with AWWA D110, ACI 350.3, and the Building Code of the State of New York, signed and sealed by a Professional ENGINEER, experienced in the design of AWWA D110, Type II or III tanks and registered in the State of New York.. Professional engineer's seal shall be clearly legible, including state of registration, registration number, and name on seal.
 - b. Certification by professional engineer that professional engineer has followed design criteria stated in the Contract Documents, and that design conforms to all applicable local, state, and federal laws and regulations, and to prevailing standard of practice.

1.06 DELIVERY

- A. Deliver all materials to the job site in unopened, original containers, bearing manufacturer's label. Labels shall include the following information:
 1. Name of manufacturer.
 2. Name of material.
 3. Contents by volume of major pigment and vehicle constituents.
 4. Thinning instructions (If any).
 5. Application instructions, including recommended rate of application.
 6. Color name and number.
- B. Do not deliver material to site more than one month before use.
- C. Deliver paint to the job site in quantities sufficiently large enough so that several different batches of the same color will not be required.

1.07 STORAGE

- A. Store the material in accordance with manufacturer's instruction, including ambient temperature limitations.
- B. Store materials indoor in an area well ventilated and protected from damage.
- C. Do not store material near open flame, sparks, or hot surfaces.
- D. Keep storage areas clean and take all necessary precautions to avoid damage by fire.
- E. Store materials on raised platforms and covered by waterproofing covers.
- F. Keep material containers closed.

- G. Handling: Protect materials during handling and application to prevent damage.

1.08 DISPOSAL OF MATERIALS

- A. Do not use plumbing fixtures or waste pipes for disposal of any waste oil, paint, solvents or any other materials. Dispose of all waste materials off site in a legal manner.

1.09 WARRANTY

- A. Provide a 2-year material and labor warranty. Obtain material warranty from manufacturer. If any materials or workmanship prove to be defective within two (2) years, they shall be replaced or repaired by the CONTRACTOR at the CONTRACTOR's expense

1.10 ANNIVERSARY INSPECTION

- A. Contractor is required to provide an inspection of the tank at the first and second year anniversary dates. See requirements for Anniversary Inspection in specification Section 09900 Painting.

PART 2 - PRODUCTS

2.01 CONCRETE

- A. Concrete shall conform to ACI 301.
- B. Cement shall be Portland cement Type I or Type II.
- C. Admixtures, other than air-entraining, superplasticizers, shrinkage reducing and water reducing admixtures will not be permitted unless approved by the Engineer.
- D. Concrete for tank dome restoration shall have a minimum compressive strength of 4,000 psi at twenty-eight days and a maximum water to cementitious ratio of 0.42. All baffle wall concrete shall be air-entrained.
- E. Proportioning for concrete shall be in accordance with ACI 301.
- F. All concrete shall have a maximum water soluble chloride ion concentration of 0.06% by weight of cementitious material.

2.02 SHOTCRETE AND CONCRETE RESTORATION

- A. Patching material: Euco Repair V100, Tammspatch II and Tamms Structural Mortar by Euclid Chemical Company or other approved equal.

- B. Shotcrete material: Wet or dry mix in accordance with AWWA D110, ACI 301 & 506R or other approved equal.
- C. Anti-corrosion Reinforcing Primer: ECB by Conproco, Dural Prep AC by Tamms, or other approved equal.
- D. Replacement Reinforcement Anchors: ¼ in. x 1 ½ in. stainless steel expansion anchors or stainless steel concrete anchor screws as manufactured by the Powers Fasteners, Brewster, NY 10509, WEJ-IT, Tulsa, OK 74152, Hilti, Tulsa, OK 74121, Tapcon, or other approved equal.

2.03 REINFORCING STEEL

- A. Reinforcing steel shall be new billet steel Grade 60, as shown on the Drawings, meeting the requirements of ASTM A615. Welded wire fabric and weldable reinforcing steel shall conform to ASTM A185 and ASTM A706, respectively.
- B. Reinforcing steel shall be accurately fabricated and shall be free from loose rust, scale, and contaminants, which reduce bond.
- C. Reinforcing steel shall be accurately positioned on supports, spacers, hangers, or other reinforcements and shall be secured in place with wire ties or suitable clips. Rebar chair supports may be either steel with plastic tips, turned up legs or plastic.

2.04 EXTERIOR TANK CLEANING AND ARCHITECTURAL COATING

- A. Exterior Tank Coating
 1. The base coat shall be Tamoseal as manufactured by Euclid Chemical Company or approved equal.
 2. The topcoat shall be Tammscoat as manufactured by Euclid Chemical Company or approved equal.
 3. Color shall be as selected by the Owner.
- B. Polyurethane Joint Sealant
 1. Eucolastic 1NS as manufactured by Euclid Chemical Company, Cleveland, OH or approved equal.

2.05 DOME ACCESS HATCH GASKET

- A. The new roof hatch gasket shall be ¼” thick neoprene rubber

2.06 CLOG-RESISTENT DOME VENT

- A. Remove and replace existing roof vent with a new 24” diameter roof vent (minimum).

- B. The new roof vent shall have the capacity to pass air at a rate equal to or greater than the maximum flow rate of water entering or leaving the tank. This flow is as follows for each tank and represents a catastrophic failure with the tank in draining mode.
 - 1. Crestwood – 1500 cubic feet per minute
- C. The total static pressure drop should not exceed 0.1 inches of water column under catastrophic failure condition.
- D. The maximum air velocity through the vent's neck should not exceed 700 ft/min under normal operating conditions as listed below:
 - 1. Crestwood – 300 cubic feet per minute
- E. The vent shall be designed and constructed with a pressure-vacuum-screened vent or a separate pressure-vacuum relief mechanism shall be provided.
- F. Vent shall be designed as specified in the latest revision of AWWA D100.
- G. Vent assemblies shall be installed plumb.
- H. Vent(s) shall be installed on a flanged neck plate that projects a minimum of 4" above the tank roof and is installed plumb. Neck plate shall be A36 steel with a minimum thickness of 1/4" and a minimum inside diameter of 24". Vent assembly shall bolt to this neck plate so it can be removed for ventilation during painting operations.
- I. Refer to details in Appendix E for typical vent that establishes level of quality.
- J. Contractor shall provide shop drawings of vent assembly, neck plate, proposed installation details, and proposed locations prior to fabrication. Shop drawings and calculations showing that vent(s) can pass the specified amount of air, in accordance with the latest revision of AWWA D100 and the above performance criteria (whichever is more stringent), must be stamped by a professional engineer licensed to practice in New York State. Contractor shall verify all dimensions in the field prior to preparing shop drawings.

2.07 PIPE EPOXY COATING

- A. Interior Pipe Coating
 - 1. Use prime, intermediate and finish coatings as specified in the applicable parts of Section 09900 Painting.
 - 2. Color shall be as selected by the Owner.

2.08 MECHANICAL MIXING SYSTEM PENETRATIONS AND CONDUIT

- A. Dome Penetration Sleeves
 - 1. Pipe: 304 stainless steel Sch. 40 pipe
 - 2. Hardware: 304 stainless steel
- B. Electrical Conduit – Reference Division 26

2.09 ALUMINUM HANDRAILS

- A. Delegated Design Submittals. Submit the following:
1. Design Data
 - a. Design computations or complete structural analysis of handrail and railing systems, signed and sealed by professional engineer. Professional engineer's seal shall be clearly legible, including state of registration, registration number, and name on seal.
 - b. Certification by professional engineer that professional engineer has performed design of aluminum handrail and railing systems in accordance with performance and design criteria stated in the Contract Documents, and that design conforms to all applicable local, state, and federal Laws and Regulations, and to prevailing standards of practice.
 - c. Handrail shall comply with all applicable OSHA standards.
- B. System Performance:
1. System Description: Aluminum handrail and railing system shall consist of equally spaced horizontal rails with totally concealed mechanical fasteners, internally threaded tubular rivets and components fastened to posts spaced no more than 5.0 feet on centers and system of handrails supported from adjacent construction by mounting brackets spaced at no more than 5.0 feet on centers.
 - a. Design Criteria and Performance Criteria:
 1. Design, fabricate, and install aluminum handrail and railing systems to withstand the most critical effects resulting from the following loads (loads listed below do not act concurrently):
 - a) Uniform Load: 50 pounds per foot, applied at top in any direction.
 - b) Concentrated Load: 200 pounds single load, applied at any point along the top in any direction.
 - c) Components: Intermediate rails (all rails except the handrail), balusters, and panel fillers, if any, shall withstand horizontally-applied normal load of 50 pounds on an area equal to one square foot, including openings and space between rails. Reactions due to this loading are not required to be superimposed to loading specified for main supporting members of handrails and railings.
 - d) Conform to requirements of AA Aluminum Design Manual for determining allowable stresses and safety factors for aluminum structural components.
 - e) Limit deflection in each single span of railing and handrail to 1.5-inch maximum, and to 1.4-inch maximum on railing posts. Applied loads shall not produce permanent deflection in the completed Work when loads are removed.

- b. Thermal Control: Provide adequate expansion within fabricated systems that allows for thermal expansion and contraction caused by material temperature change of 140 degrees F to -20 degrees F without warp or bow of system components. Distance between expansion joints shall be based on providing 1/4-inch wide joint at 70 degrees F, which accommodates movement of 150 percent of calculated amount of movement for specified temperature range.
- c. Where handrail and railing systems cross expansion joints in the building or structure, provide expansion joints in handrail and railings systems.
- d. For posts located at or near end of runs as shown, uniformly space intermediate posts as required to conform to loading and deflection criteria specified, at intervals no greater than maximum post spacing specified. Where posts are shown for handrails along both sides of walkways and other similar locations, locate posts opposite each other; do not stagger post locations.

C. Materials

- 1. Aluminum Forgings: ASTM B247.
- 2. Extruded or Drawn Aluminum Pipe and Tube:
 - a. ASTM B429 or ASTM B241/B241M, Alloy 6063-T5, 6063-T52, or 6063-T832 as required by loadings, deflections, and post spacing specified.
 - b. Provide Schedule 40 pipe, minimum, unless conditions of detail and fabrication require extra-heavy pipe to comply with Specifications. Rails and posts shall have minimum outside diameter of 1.90 inches.
 - c. Reinforcing Bars: Urethane foam-filled, Schedule 80, 23 inches long 6061-T6 aluminum reinforcing bars or tubes with outside diameter same as inside diameter of post.
 - d. Anchors and Fastenings:
 - 1) For anchors and fasteners, use Type 316 stainless steel; minimum 0.5-inch diameter.
 - 2) Provide minimum of four bolt fasteners per post where surface-mounted posts are shown. Components shall be in accordance with manufacturer's recommendations and as approved or accepted (as applicable) by Engineer on submittals.
 - 3) Anchors: As per tank manufacturer.
- 3. Castings:
 - a. Provide high-strength aluminum alloy brackets, flanges, and fittings suitable for anodizing as specified.
 - b. Aluminum alloy sand castings: ASTM B26/B26M.
 - a. Connector Sleeves: Schedule 40, 5.0-inch long by 1.610-inch diameter.

- b. Sockets: Provide six-inch deep by 2.5-inch outside diameter aluminum sockets with 3.5-inch wide socket cover on bottom of each socket and on top and bottom of removable post sockets.
 - c. Custom Cover Flanges: 1/4-inch high by 4.0-inch diameter, aluminum.
 - d. Non-shrink Grout: as per tank manufacturer.
4. Toeboards:
- a. Provide extruded Alloy 6063-T5 or T52 aluminum alloy toeboards, unless railing is mounted on curbs or other construction of sufficient height and type to conform to OSHA 1910.23. Bars or plates are not acceptable.
 - b. Unless otherwise specified, toeboards shall conform to requirements of OSHA 1910.23, Section (e).
 - a. System Components and Miscellaneous Accessories: Provide complete selection of manufacturer's standard and custom aluminum handrail and railing systems components and miscellaneous accessories required. Show type and location of all such items on Shop Drawings and other submittals as applicable.
- D. Fabrication:
- 1. General: Unless otherwise shown or specified, provide typical non-welded construction details and fabrication techniques recommended in NAAMM/AMP Pipe Railing Manual and NAAMM/AMP AMP 501.
 - 2. Fabricate handrail and railing systems true to line and level, with accurate angles surfaces and straight edges. Fabricate corners without using fittings. Provide bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing the Work. Form elbow bends and wall returns to uniform radius, free from buckles and twists, with smooth finished surfaces, or use prefabricated bends. Provide not less than four-inch outside radius.
 - 3. Remove burrs from exposed edges.
 - 4. Close aluminum pipe ends by using prefabricated fittings.
 - 5. Weep Holes:
 - a. Fabricate joints that will be exposed to weather to exclude water.
 - b. Provide 15/64-inch diameter weep holes at lowest possible point on each post in handrail and railing systems.
 - c. Provide pressure relief holes at closed ends of handrail and railing systems.
- E. Toeboards:
- 1. Provide manufacturer's standard toeboard, which accommodates movement caused by thermal change specified without warping or bowing toeboards.
 - 2. Provide manufacturer's standard toeboard, which accommodates storage for removable socket covers.
 - 3. Coordinate and cope toeboard as required to accommodate cover flanges at posts.

4. Toeboards shall follow curvature of railing. Where railing is shown to have curved contours at corners, or other locations, toeboard shall likewise be curved to follow line of railing system.
- F. Reinforcing Bars:
1. Provide reinforcing bar friction-fitted at each post in railing system. Extend reinforcing bars of tubes six inches into cast-in-place sleeves or other types of supporting brackets.
- G. Mechanically Fitted Component Pipe Handrail and Railing System:
1. Use non-welded pipe handrail and railing system with posts, top and intermediate rail(s), and flush joints.
 2. Provide top and one intermediate horizontal rail, equally spaced.
 3. Use Type 304/305 stainless steel blind rivets and Type 304/305 stainless steel self-tapping screws in assembling components of the Work.

2.10 SELF-CLOSING LADDER SAFETY GATE

- A. Self Closing – stainless steel torsion spring, tested to 1,000,000 cycles without spring failure or hinge degradation.
- B. Adjustable – gate width shall be adjustable in 2” increments, mount mechanism shall be universal and be able to attached to guardrail system with included hardware and without modifications.
- C. Corrosion Resistant – Two part powder coat finish, zinc rich primer with UV resistant polyester top coat. Shall perform extremely well in all environments for corrosion and chemical resistance and exceed corrosion resistance of hot-dipped galvanized gate.
- D. OSHA Compliant – must meet the guardrail opening protection requirements of OSHA 1910 Subpart D and ANSI A1264.1-2017.
- E. Manufacturer: Provide Grainger Cotterman Adjustable Safety Swing Gate or approved equal

2.11 SHELL MANHOLES

- A. Manhole gasket shall be a flat 1/8” red rubber gasket to 60 durometer.
- B. Shell manhole nuts and bolts shall be new galvanized steel.
- C. CONTRACTOR to field verify all sizes, dimensions and quantity.

2.12 OVERFLOW DISCHARGE PIPE

- A. Modifications shall be made to the overflow discharge pipe as shown on the plans in Appendix E.

1. Overflow shall have a minimum of 12" clearance between the ground and the lowest point of discharge
- B. Pipe Fittings
1. Use ANSI/AWWA C110 Ductile Iron Flanged Fitting.
 2. Provide one Star ® Pipe Products 90 Flanged Bend or approved equal.
- C. Check Valve
1. Provide one Tideflex Series TF-1 elastomeric check valve or approved equal.
- D. CONTRACTOR to field verify all sizes and dimensions.

PART 3 - EXECUTION

3.01 GENERAL

- A. Contractor is responsible for the collection, removal, and disposal of wash water and sediment, resulting from all tank rehabilitation procedures, in accordance with local, state, and federal regulations.

3.02 SHOTCRETE AND CONCRETE RESTORATION

- A. Removal of Unsound Shotcrete / Concrete
1. Sound the exterior of the tank wall and/or roof to determine the condition of the shotcrete covercoat.
 2. Remove loose and unsound shotcrete / concrete with appropriate chipping hammer to sound shotcrete with a minimum depth of 3/8 in. over the complete repair area, except do not cut any sound (substantially uncorroded) mesh reinforcing.
 3. Hollow or drummy shotcrete shall be inspected and remain if found to be not deteriorated or cracked.
- B. Surface Preparation
1. Clean the surface by removing any dust, unsound or contaminated material, laitance, and corrosion deposits. Clean loose corrosion deposits from exposed reinforcing. Where chipping is not required to remove unsound material, roughen the surface and remove any laitance by light scrubbing. High-pressure wash with clean water, at a minimum pressure of 3,500 psi, prior to priming exposed reinforcing and substrate.
- C. Prime exposed existing reinforcing steel by applying one full coat of approved priming material. Allow to dry before applying patching. If any doubt exists about

having achieved an unbroken coating, a second application shall be made and, again, allowed to dry before applying patching.

- D. Prime substrate after it is saturated surface dry (i.e.: thoroughly soaked with clean water and any excess water removed) with a slurry of the repair mortar in accordance with the manufacturer's directions. Using a stiff mason's brush, the slurry shall be scrubbed into the substrate where access is not impeded by new wire mesh reinforcing. The repair mortar shall be installed as soon as the slurry becomes tacky and before it dries.
- E. Mix patching mortar in strict accordance with manufacturer's directions. Use only material from original bags and containers.
- F. Application of patching mortar.
 - 1. Exposed steel reinforcing bars and welded wire fabric shall be firmly secured to avoid movement during the application process, as this will affect mortar compaction, build and bond.
 - 2. Apply the patching mortar to the prepared substrate by gloved hand or trowel. First, work a thin layer of the mortar into the slurry and then build the mortar onto this layer. Thoroughly compact the mortar onto the primed substrate and around the exposed reinforcement.
 - 3. Apply the patching mortar in strict accordance with the manufacturer's directions.
 - 4. If sagging occurs during applications, the patching mortar shall be completely removed and reapplied at a reduced thickness onto the correctly re-primed substrate.
- G. Finish the patching mortar by striking off with a straight edge and closing with a steel float. Finish of the shotcrete surface shall be a nozzle or gun finish. The completed surface shall not be overworked.
- H. Low temperature conditions: In cold weather, normal precautions for winter when working with cementitious materials shall be adopted. The material shall not be applied when the substrate and/or air temperature is 45°F (7°C) and falling. At 45°F (7°C) static temperature or at 45°F (7°C) and rising, the application may proceed. Do not apply if the temperature is expected to fall below 45°F (7°C) within 24 hours of application. Comply with manufacturer's directions for cold weather applications.
- I. High temperature conditions at ambient temperatures about 80°F (26°C), the materials shall be stored in the shade. Comply with manufacturer's directions for hot weather applications.
- J. Water cure finished surfaces of patches using fine mist spray or wet burlap against surface for a minimum of seven (7) days after initial set of patch material.

- K. Cure finished surfaces of interior patches by method acceptable to owner.
- L. Store all materials in cool, dry conditions in the original unopened bags or cans, and in strict accordance with manufacturer's directions. Do not use materials that have been stored for periods longer than the manufacturer's recommended shelf life.

3.03 EXTERIOR TANK CLEANING AND ARCHITECTURAL COATING

- A. High Pressure Water Washing & Surface Preparation
 1. High-pressure wash exterior surfaces of dome, dome ring, and tank wall to remove all foreign matter, efflorescence, dust, dirt, laitance or other surface contaminants. Minimum water pressure shall be 3,000 psi and the maximum water pressure shall be 5,000 psi.
 2. After completion of the high pressure washing, low-pressure wash exterior surface as required with a 5% chlorine solution and thoroughly rinse with clean water to kill any algae, fungus or other surface contaminants.
 3. Restore exterior wall surface, as required, with high strength patching material to provide a sound surface for the application of the exterior tank coating.
 4. Detail and fill any dome shrinkage cracks less than 1/16" with Tammscoat manufactured by Euclid Chemical by working the material into the crack with a brush.
 5. Detail any dome shrinkage cracks great than 1/16" with Eucolastic 1NS manufactured by Euclid with conventional caulking equipment and striking the material flush with the surrounding surface. Crack detailing products can be applied over the existing coating
- B. ALTERNATE: Mixing and Application of Exterior Tank Coating
 1. Mix and apply the coating in strict accordance with the manufacturer's directions.
 2. Do not apply coating when the temperature is below 45°F, or when the temperature is expected to fall below 45°F within 24 hours after completing application.

3.04 DOME ACCESS HATCH GASKET

- A. Remove and dispose of the existing dome hatch gasket.
- B. Furnish and install a new neoprene gasket to the dome hatch cover to completely seal the cover to the frame.

3.05 DOME VENT

- A. Remove and dispose of existing dome vent.
- B. Retrofit the existing concrete curb as required to accept new dome vent.
- C. Fasten the vent with new stainless steel anchors.
- D. Seal the new vent to the concrete curb with a new gasket and caulking.

- E. To prevent damage to the exterior coatings, the CONTRACTOR shall complete all work required to install the roof vent prior to painting the exterior in the vicinity of the roof vent.

3.06 PIPE EPOXY COATING

- A. Refer to 09900 Painting.

3.07 SELF-CLOSING GATE FOR LADDER

- A. Install self-closing gate on guardrail openings at platforms as shown on detail in Appendix E.

3.08 MECHANICAL MIXING SYSTEM PENETRATIONS AND CONDUIT

- A. Submersible Electric Mixer
 1. Remove the existing electrical cord and chlorine injection line from the dome vent.
 2. Install two new 1" dia. stainless steel pipe penetrations through the existing hatch curb.
 3. Secure the mixer power cord and retrieval chain to the interior of the concrete hatch curb and route power cord and chlorine injection line through the new 1" penetrations as shown on approved shop drawings.
 4. Install weather tight junction box on the tank roof for electrical connection to the tank mixer.
 5. Install one weather tight rigid metal (EMT) conduit from the electrical junction box to finished grade for the power cord and one from the hatch curb penetration to finished grade for the chlorine injection line.
 6. Secure the conduit to the tank wall as shown on approved shop drawings with stainless steel hardware. **Conduit must be installed in a manner as to not damage the tank prestressing wire.**

3.09 OVERFLOW DISCHARGE PIPE

- A. Furnish and install modifications for existing overflow pipe and new check valve in accordance with the details shown in Appendix E.
- B. Touch up paint the modified overflow discharge pipes with prime, intermediate and finish coats as specified in the applicable parts of Section 09900 Painting.
- C. Color shall match the color of the existing pipe coating.

3.10 CHLORINATION AND DISINFECTION

- A. Refer to 09900 Painting.

END OF SECTION

SECTION 13210

STEEL STORAGE TANK REPAIR

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Materials, procedures, techniques to be used for the rehabilitation of the Rice Hill and Wohlhueter Steel Water Storage Tanks.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, and Division 1 Specification, and 09900 Painting Sections, apply to this Section.
- B. A project location map can be found in Appendix D.
- C. Details including tank elevations can be found in Appendix E.

1.03 DESCRIPTION

- A. The Contractor shall furnish all labor, materials and equipment necessary to clean and recoat the existing water storage tanks and all structural supports as described in these specifications, including appurtenant equipment replacement, structural modifications, site work, repairs and minor maintenance. All work necessary for the completion of the contract shall be included, whether or not specifically shown or specified.
- B. The Contractor is advised that the tanks are an important component of the Owner's water supply system and cannot be removed from service for times outside those listed in Paragraph 3.02 of the Agreement.
- C. The Contractor shall adequately plan and coordinate all aspects of the work to ensure that the work progresses without delay after the tank is drained and the tank is returned to service within the completion date.

1.04 QUALITY ASSURANCE

- D. Reference Standards
 - 1. AWWA, D100 and C652, latest revisions.
 - 2. The Society for Protective Coatings (SSPC).

3. National Sanitation Foundation (NSF) Standard No. 61, latest revision.
 4. American Welding Society (AWS) D5.2, latest revision.
 5. American National Standards Institute (ANSI).
 6. National Association of Corrosion Engineers (NACE).
 7. American Society of Testing and Materials (ASTM).
 8. API 653 Tank Inspection, Repair, Alteration, and Reconstruction.
- E. Steel tank inspection, repair, alteration and reconstruction shall be performed per API Standard 653.
- F. All Nondestructive Evaluation (NDE) performed by the Contractor or others must be witnessed by the on-site construction observer and/or Engineer.

1.05 SUBMITTALS

G. Shop Drawings

1. Prior to obtaining any products in relationship to this Section, the Contractor shall submit detailed shop drawings and data for review.

H. Other Submittals

1. The Contractor shall furnish a written guarantee on all work for a two-year period after final acceptance of all work under the Contract. The guarantee shall provide for the necessary repairs and all related expenses of the Owner due to faulty materials and workmanship.
2. All manufacturers' guarantees, which extend beyond the Contractor's written guarantee, shall be assigned to the Owner upon the end of the Contractor's written guarantee.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

I. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label and the following information:

1. Name or title of material.
2. Fed. Spec. number, if applicable.
3. Manufacturer's stock number and date of manufacturer.
4. Contents by volume, for major pigment and vehicle constituents.
5. Expiration date of material.
6. Thinning instructions.
7. Mixing instructions.
8. Application instructions.
9. Color name and number.

J. All material shall be subject to inspection by the Engineer/Owner on the job.

PART 2 - PRODUCTS

2.01 JOINT SEALANT

- A. Joint sealant material shall be Sonolastic NP1 as manufactured by Sonneborn-Rexnord, Sikaflex-1a as manufactured by Sika Corporation, or Dynatrol 1 as manufactured by Pecora Corporation, or approved equal.

2.02 FOUNDATION GROUT

- A. Grout material shall be a non-shrink cementitious grout such as Five Star Grout as manufactured by Five Star Products, Inc., or SikaGrout 212 as manufactured by Sika Corporation, or approved equal.
- B. Sealant for skip welded interior roof seams and roof supports shall be Sikaflex-1a as manufactured by Sika Corporation. Must be NSF-61 approved for potable water.

2.03 VALVE VAULT

- A. New ladder shall be OSHA approved wall mount ladder with galvanized steel ladder safety post with dismount section per Ladder Safety Systems specifications below.
- B. Concrete sealer shall be L&M Construction Chemicals, Inc. Hydropel WB or approved equal.
- C. Coating for piping, nuts, bolts, and appurtenances shall be 2 coats of Chembuild Series 135 or approved equal when surface temperature is 50°F or above. Coating shall be one coat of Series 1 Omnithane with 44-710 Urethane Accelerator and 2 coats of Series N69F Hi-Build Epoxoline II or approved equals when surface temperature is below 50°F to a minimum of 35°F.
- D. Concrete repair grout shall be Waterplug® by BASF The Chemical Company or approved equal.
- E. Insulation shall be Armaflex insulation or an approved equivalent.

2.04 SHELL MANHOLE

- A. The manhole gasket shall be a flat 1/8" red rubber gasket to 60 durometer.
- B. Shell Manhole nuts and bolts shall be galvanized steel.

2.05 OVERFLOW DISCHARGE PIPE

- A. Modifications shall be made to the overflow discharge pipes as shown on the plans in Appendix E.
 - 2.05.1.1 Overflow shall have a minimum of 12” clearance between the ground and lowest point of discharge.
- B. Check valve shall be a Tideflex Series TF-1 or TF-2 elastomeric check valve (selected series per detail in Appendix E) or approved equal.
- C. CONTRACTOR to field verify all sizes and dimensions.

2.06 VANDAL DETERRENT

- A. Furnish and install a lockable Ladder Gate® Climb Preventive Shield or approved equal on the tank exterior ladder to control unauthorized access. Ladder Gate® is manufactured by: R B Industries, P.O. Box 4734, Greensboro, North Carolina 27404, Phone (336) 852-6276, FAX (336) 855-5452, or approved equal.
- B. Addition to vandal deterrent shall be installed as shown on the plan provided in Appendix E.

2.07 LADDER SAFETY SYSTEM

- A. A ladder safety system shall meet OSHA standards and shall be manufactured by Sala (a 3M Company) or Miller (a Honeywell Company). System shall include two (2) cable grab devices to be provided to the owner for each facility.
 - 1. Exterior and Roof Ladders - Stainless Steel System
 - a) Sala Lad-Saf for Fixed Ladder (Bolt-On) – Stainless Steel
 - b) Miller Vi-Go Ladder Climbing Safety System with Automatic Pass-Through – Stainless Steel

2.08 SELF-CLOSING GATE FOR LADDER

- A. Self Closing – stainless steel torsion spring, tested to 1,000,000 cycles without spring failure or hinge degradation.
- B. Adjustable – gate width shall be adjustable in 2” increments, mount mechanism shall be universal and be able to attached to guardrail system with included hardware and without modifications.
- C. Corrosion Resistant – Two part powder coat finish, zinc rich primer with UV resistant polyester top coat. Shall perform extremely well in all environments for corrosion and chemical resistance and exceed corrosion resistance of hot-dipped galvanized gate.
- D. OSHA Compliant – must meet the guardrail opening protection requirements of OSHA 1910 Subpart D and ANSI A1264.1-2017.
- E. Manufacturer: Provide Grainger Cotterman Adjustable Safety Swing Gate or approved equal

2.09 ROOF SAFETY GUARDRAIL

- A. See specification section 05521 Pipe and Tube Railings and details in the Appendix.

2.10 ROOF VENT(S)

- A. When specified and the existing vent opening is equal to or less than 24", provide a new 24" diameter roof vent.
- B. If a single 24" diameter vent cannot be provided that meets these specifications, then multiple vents or a larger vent may be required. A single vent smaller than 24" diameter will not be allowed. Vents must be installed as close to the center of the tank as possible, but must not interfere with existing roof support structure.
- C. The new roof vent(s) shall have the capacity to pass air at a rate equal to or greater than the maximum flow rate of water entering or leaving the tank. This flow is as follows for each tank and represent a catastrophic failure with the tank in draining mode.
 - 1. Rice Hill – 600 cubic feet per minute
- D. The total static pressure drop should not exceed 0.1 inches of water column under catastrophic failure condition.
- E. The maximum air velocity through the vent's neck should not exceed 700 ft/min under normal operating conditions as listed below:
 - 1. Rice Hill – 200 cubic feet per minute
- F. The vent(s) shall be designed and constructed with a pressure-vacuum-screened vent or a separate pressure-vacuum relief mechanism shall be provided.
- G. Vent(s) shall be designed as specified in the latest revision of AWWA D100.
- H. Vent assemblies shall be installed plumb.
- I. Vent(s) shall be installed on a flanged neck plate that projects a minimum of 4" above the tank roof and is installed plumb. Neck plate shall be A36 steel with a minimum thickness of 1/4" and a minimum inside diameter of 24". Vent assembly shall bolt to this neck plate so it can be removed for ventilation during painting operations.
- J. Refer to details in Appendix E for typical vent that establishes level of quality.
- K. Contractor shall provide shop drawings of vent assembly, neck plate, proposed

installation details, and proposed locations prior to fabrication. Shop drawings and calculations showing that vent(s) can pass the specified amount of air, in accordance with the latest revision of AWWA D100 and the above performance criteria (whichever is more stringent), must be stamped by a professional engineer licensed to practice in New York State. Contractor shall verify all dimensions in the field prior to preparing shop drawings.

2.11 STRUCTURAL STEEL MATERIALS

- A. See specification section 05120 Structural Steel Framing.

PART 3 - EXECUTION

3.01 FOUNDATION GROUT

- A. All loose and broken grout at the tank foundation shall be removed and reinstalled with non-shrink cementitious grout. Remove existing joint sealant or grout and prepare the surface in accordance with the manufacturer's recommendation. After grout has fully cured, the entire perimeter joint between base plate and foundation shall be sealed with an elastomeric joint sealant. Joint width shall be a minimum of 1/2".
- B. If the area between the base plate and foundation is less than 1/2" in width, this area shall be sealed with an elastomeric joint sealant only.
- C. All material shall be stored and applied as per respective manufacturers' instructions.

3.02 VALVE VAULT WORK

- A. Clean piping, nuts, bolts and appurtenances to SSPC-SP2 specifications (hand tool cleaning) and paint with coating as specified in Part 2 of this specification, color to match existing paint on exposed piping.
- B. Rehabilitate existing ladder by removing existing mounting points and grinding surface to a smooth finish. Install new mounting points by welding, if surface is steel, or by drill and epoxy dowels if surface is concrete. Install existing ladder to meet dimensions and OSHA requirements.
- C. Replace existing duplex receptacles with GFCI receptacle(s) according to applicable building and electrical codes.

3.03 SHELL MANHOLE

- A. If contractor requires an additional access point into tank, Owner will allow a third

manhole to be installed at the tanks, however it will be at the Contractor's expense. No additional payment will be made for the installation of a third shell manhole. Manhole shall be 24-inch diameter, outside opening hinged manhole, with reinforcing plate, and gasket. The manhole shall be located in the bottom shell ring at approximately the same height as the existing manholes. Location shall be coordinated with the Owner.

- B. Manhole shall be installed and tested according to the manufacturer's recommendations and according to the latest revision of AWWA D100.
- C. Welding inspection shall be done in accordance with AWWA Standard D100. Testing shall be done by a qualified testing organization, which shall be approved by the Engineer prior to the start of manhole installation. Certified copies of the test results shall be furnished to the Engineer.
- D. The cost of weld inspection testing by an approved testing organization shall be included in the lump sum price bid for this item.
- E. All defective welds shall be repaired, retested, and re-inspected at the Contractor's expense in accordance with AWWA D100 until final compliance can be demonstrated.
- F. Commercial blast clean exterior of new shell manhole according to SSPC-SP6. Existing paint around the new shell manholes shall be protected during blast cleaning to prevent damage. The edges around the blast cleaned areas shall be feathered and solvent cleaned to ensure that all loose paint has been removed. All surfaces to be painted must be clean and dry.
- G. Prime, intermediate, and finish coats shall be applied as specified in the applicable parts of Section 09900.
- H. Color shall match the color of the existing exterior coating.

3.04 OVERFLOW DISCHARGE PIPE

- A. Furnish and install modifications for existing overflow pipe and new check valve in accordance with the details shown in Appendix E.
- B. To prevent damage to the interior coatings the contractor shall complete all welding required to modify the overflow discharge pipes prior to painting the tanks interior and exterior in the vicinity of the overflow pipes.
- C. Touch-up power tool cleaning to bare metal on overflow discharge pipes according to SSPC-SP11. All surfaces to be painted must be clean and dry.
- D. Touch-up paint the modified overflow discharge pipes with prime, intermediate and

finish coats as specified in the applicable parts of Section 09900.

- E. Color shall match the color of the existing pipe coating.

3.05 SAFETY CAGE AND VANDAL DETERRENT

- A. If specified in this contract, remove existing safety cage and vandal deterrent on ladder by cutting and grinding to a smooth surface. Dispose of material removed.
- B. To prevent damage to the interior coatings, the contractor shall complete all cutting, grinding and welding required to remove safety cage prior to painting the interior and exterior in the vicinity of the ladder.
- C. Touch-up power tool cleaning to bare metal the ladder and tank according to SSPC-SP11. All surfaces to be painted must be clean and dry.
- D. Touch-up paint the ladder and tank wall with prime, intermediate and finish coats as specified in the applicable parts of Section 09900.
- E. Color shall match the color of existing exterior coating.
- F. Furnish and install a new vandal deterrent and ancillary components to vandal deterrent on the exterior ladder in accordance with the details shown in Appendix E.

3.06 LADDER SAFETY SYSTEM

- A. When specified, a ladder safety system shall be provided and installed to meet OSHA standards. The system shall provide positive fall protection and shall be fully installed and ready for use. The ladder safety system shall be manufactured by Sala or Miller.
- B. Ladder safety system shall be installed according to the manufacturer's recommendations.
- C. The safety climb system and safety cable shall not be painted. If they are installed prior to painting the interior and exterior surfaces, they shall be protected from the application of paint.
- D. If the ladder safety system is installed after the interior and exterior surfaces have been painted, any damage to the paint or structure caused during the installation of the safety system shall be repaired by the Contractor at no additional cost to the Owner.
- E. Purchase and provide the owner with two (2) pass-through cable sleeves compatible with the selected ladder safety system manufacturer.

3.07 LADDERS

- A. To prevent damage to the interior coatings, the Contractor shall complete all cutting, grinding and welding required to install the ladders prior to painting the interior and exterior in the vicinity of the ladder.
- B. Clean the new ladder according to SSPC-SP11 specifications (power tool cleaning to bare metal). All surfaces to be painted must be clean and dry.
- C. Paint the new ladder assembly with prime, intermediate and finish coats as specified in the applicable parts of Section 09900.
- D. Color shall match the color of the existing exterior coating.

3.08 SELF-CLOSING GATE FOR LADDER

- A. Install self-closing gate on guardrail openings at platforms as shown on detail in Appendix E.

3.09 STRUCTURAL STEEL MEMBER REPAIRS

- A. Remove and replace structural elements as shown on the details in Appendix E.

3.10 ROOF SAFETY GUARDRAIL

- A. Furnish and install a new safety railing along the perimeter of roof to either side of existing ladder in accordance with the detail shown in Appendix E.
- B. Clean the new safety railing and platform assembly and any damaged areas according to SSPC-SP11 specifications (power tool cleaning to bare metal) or SSPC - SP6 (Commercial Blast). All surfaces to be painted must be clean and dry.
- C. Paint the new safety railings and any damaged areas with prime, intermediate, and finish coats as specified in the applicable parts of Section 09900.
- D. To prevent damage to the interior and exterior coatings, the contractor shall complete all welding required to install the roof safety railings prior to painting the interior or exterior in the vicinity of the railings.
- E. Touch-up power tool cleaning to bare metal on exterior of tank in the vicinity of the railings as needed according to SSPC-SP11. All surfaces to be painted must be clean and dry.
- F. Prime, intermediate, and finish coats shall be applied as specified in the applicable parts of Section 09900.
- G. Color shall match the color of the existing coating.

3.11 ROOF VENT(S)

- A. Furnish and install a new pressure-vacuum roof vent(s). Remove and dispose of existing roof vent.
- B. To prevent damage to the interior coatings, the contractor shall complete all welding required to install the roof vent(s) prior to painting the interior and exterior in the vicinity of the roof vent(s).
- C. Touch-up power tool cleaning to bare metal exterior of tank in the vicinity of the roof vent(s) as needed according to SSPC-SP11. All surfaces to be painted must be clean and dry.

3.12 CONDUIT AND/OR ANTENNA

- A. Relocate existing conduit and antenna away from ladder side rail. Location of conduit and antenna shall not interfere with climber's use of ladder.
- B. Disconnect and remove existing wiring and raceway to mixing system. Provide new conduit and wiring from existing panelboard to mixer. Route conduit underground (30 inches below grade), where possible to the base of the tank. Provide and install expansion coupling when exiting the ground. Utilize the conduit support tabs to fasten the conduit up the tank wall to the mixer. Refer to detail drawing DET-17 for additional information.

3.13 SHELL AND FLOOR PLATE REPAIR

- A. Cover plate repair or lap-welded patch plates on the interior surface; furnish and install $\frac{1}{4}$ " min. cover plates over the severely corroded/pitted interior tank shell plates, the location of which shall be reviewed and accepted by the Engineer prior to repair.
 - 1. Shell repair plates shall be installed on the interior of the tank.
 - 2. Lapped patch shell repairs shall not be used on any shell course thickness (original construction) that exceeds $\frac{1}{2}$ ".
 - 3. The maximum vertical and horizontal dimension of the repair plate are 48" and 72", respectively. The minimum repair plate dimension is 4". The repair plate shall be pre-formed to the shell radius.
 - 4. Repair material shall comply with the requirements of the current applicable standards of construction and shall be grade A36.
 - 5. The shape of the repair plate may be circular, oblong, square or rectangular.
 - 6. The repair plate may cross any butt-welded vertical or horizontal shell seams that have been ground flush, but must overlap a minimum of 6" beyond the shell seam. The weld spacing requirements of Figure 17 in Appendix E shall be used as a basis for locating repair plates relative to butt-welded, fillet-welded, and riveted seams and other repair plates.

7. The welding shall be continuous on the outer perimeter of the repair plate and the inner perimeter (if present) of the hole in the shell plate.
 8. The repair plate thickness shall be determined by the Engineer.
 9. The repair plate and patched area shall be coated with a primer in accordance with Specification 09900 for the location and application. Excess paint, necessary for proper welding, shall be removed.
- B. Butt weld repair; repair defective welds, the locations of which shall be reviewed and accepted by the Engineer prior to welding.
1. Existing welded joints that have experienced significant loss of metal due to corrosion shall be repaired by welding.
 2. Joints that need repair shall be prepared by gouging and/or grinding and the resulting cavity properly prepared for welding.
 3. To reduce the potential for distortion of an existing tank due to welding, fit-up, heat input and welding sequence must be considered.
 4. Pre-approved weld procedures for existing welds are as follows;
 - i. Horizontal joint: single bevel butt joint complete penetration, B-U4b
 - ii. Vertical joint: single 'v' butt joint complete penetration, B-U2
- C. Cut-out and patch; cut out and weld new 4" min. x 4" min. lap welded patch plates on the shell of the tank; the location shall be reviewed and accepted by the Engineer prior to patching. Patch areas shall be for pits greater than 50% of the plate thickness in depth with less than 1/4" of plate thickness remaining and cannot be adequately filled with weld material.
1. Guidelines and requirements of the lap welded patch plates described above will apply.
 2. Cut out square or rectangular area a minimum of 1" larger than corrosion on all sides.
 3. The welding shall be continuous on the outer perimeter of the repair plate and the inner perimeter of the hole in the shell plate. The minimum hole diameter is 2in. Shell openings due to plate removal shall have a minimum corner radius of 2in.
 4. The repair plate thickness shall be determined by the Engineer. The welds of the repair plate shall be full fillet welds. The minimum repair plate dimension shall be 4in. with a minimum overlap of 1in. and a maximum overlap of 8 times the shell thickness (8*t).
- D. Repairs damaging the exterior coating, by welding or other methods, shall be cleaned to SSPC-SP11 Power Tool Cleaning to Bare Metal. Spot cleaned areas shall be restored in accordance with Specification 09900.
1. Damaged paint due to welding activities shall have the surface cleaned a minimum of 6" from the centerline of the weld.

3.14 WELDING

A. General

1. Welders shall be certified in conformance with ASME Section IX. The Contractor shall submit current copies of the welders certificates.
2. The Contractor shall weld pits, seams or rivets where directed by the Engineer. It is intended to weld all pits greater than 50% of the plate thickness in depth after blast cleaning. Welders shall adjust weld procedures as required, depending on thicknesses of the remaining shell plate to eliminate burn through. Provide backer material as required. Assume minimum steel thickness of 1/8".
3. No welding shall be allowed over coated steel. All areas that require welding are to be abrasive blast cleaned before any welding is started. After blasting, areas to be welded and 6" beyond these areas, on all sides, shall be protected from application of paint while surrounding areas are primed.
4. The extent of repairs for each plate section shall be identified prior to actual welding.
5. The Contractor shall repair and/or recoat areas on the exterior of the tank which are damaged by welding on the interior. Paint to be used on the exterior for repair must be approved by the Engineer prior to application.
6. Full penetration butt welds in the tank shell shall be inspected by radiographic testing and any welds on the tank bottom plates shall be air pressure or vacuum tested as specified in the latest revision of AWWA D100. All testing of weld repair areas shall be performed by the Engineer.
7. All welding identified in the documents are for fully completed welds and unit price shall be consider a final completed weld; contractors means of completing the weld may vary, including number of passes needed, equipment type, material type.
8. The Contractor is responsible to ensure that no rivets will be loosened on a riveted tank due to the welding.

B. Remaining Material Thickness after Blasting Greater than or Equal to 1/4"

1. When remaining material thickness after blasting in area to be welded is greater than or equal to 1/4" or less if it can be successfully filled with weld material and welding as approved by the ENGINEER, fill pit or seam with weld material by a certified welder.
2. Grind weld flush with surrounding area.
3. Spot prime welded area and 8" beyond welded area on all sides. Spot prime coat should overlap previously primed areas by 2".

C. Remaining Material Thickness after Blasting Less than 1/4" on Shell Plates or Roof Plates

1. When remaining material thickness after blasting in area to be welded is less than 1/4" and cannot be adequately filled with weld material, install cover plat as specified above or cut out square or rectangular area a minimum of 1" larger than corrosion on all sides, with corners rounded to a minimum radius of 1".

2. Patch with similar steel of equivalent plate thickness with a full penetration butt weld by a certified welder according to the latest revision of AWWA D100, Section 8.
3. Grind weld flush with surrounding area.
4. Welds shall be inspected by radiographic testing in accordance with the latest revision of AWWA D100 for 100% of all full penetration welds. All testing of weld repair areas shall be performed by the Engineer.
5. Spot prime welded area and 8" beyond welded area on all sides. Spot prime coat should overlap previously primed areas by 2".
6. The patch of new steel shall be coated on the exterior of the tank in accordance with Section 09900 and as approved by the Engineer.

D. Remaining Material Thickness after Blasting Less than 1/4" on Floor Plates.

1. When remaining material thickness of a floor plate, after blasting, in an area to be welded is less than 1/4" and cannot be adequately filled with weld material, the area of floor plate shall be patched as specified in the detail drawing in Appendix E or as specified elsewhere in this section and approved by the ENGINEER.

E. Repair of Defective Welds.

1. Defective welds shall be removed by the method specified in the latest revision of AWS D5.2.
2. Removal of defective welds is required only to the extent necessary to remove the defects present.
3. Defective full penetration butt welds between shell plates, riser plates, floor plates and roof plates, shall be replaced by a full penetration butt weld by a certified welder in accordance with the latest revision of AWWA D100, Section 8.
4. Grind welds flush with surrounding area.
5. Welds shall be inspected by radiographic testing in accordance with the latest revision of AWWA D100 for 100% of all full penetration welds. All testing of weld repair areas shall be performed by the Engineer.
6. Defective fillet welds between the bottom edge of the lowest course shell plates and the bottom plates, between roof plates and between floor plates shall be replaced by continuous fillet welds. Fillet weld sizes and material specifications shall be in accordance with the latest revision of AWWA D100, Section 8.
7. Spot prime welded area and 8" beyond welded area on all sides. Spot prime coat shall overlap previously primed areas by 2".
8. The new weld seams shall be coated on the exterior of the tank in accordance with Section 09900 and as approved by the Engineer.

END OF SECTION

SECTION 26052

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Hangers and supports for electrical equipment and systems.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. RMC: Rigid metal conduit.

1.4 PERFORMANCE REQUIREMENTS

- A. Design supports for multiple raceways capable of supporting combined weight of supported systems and its contents.

1.5 SUBMITTALS

- A. Product Data: For the following:
 - 1. Steel slotted support systems.
 - 2. Nonmetallic slotted support systems.
- B. Welding certificates.

1.6 QUALITY ASSURANCE

- A. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Comply with MFMA-4, factory-fabricated components for field assembly.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Allied Tube & Conduit.
 - b. Cooper B-Line, Inc.; a division of Cooper Industries.
 - c. ERICO International Corporation.
 - d. Thomas & Betts Corporation.
 - e. Unistrut; Tyco International, Ltd.
 2. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
- B. Raceway and Cable Supports: As described in NECA 1 and NECA 101.
- C. Conduit and Cable Support Devices: Steel and malleable-iron hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M, steel plates, shapes, and bars; black and galvanized.
- E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
1. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 2. Mechanical-Expansion Anchors: Insert-wedge-type, stainless steel, for use in hardened portland cement concrete with tension, shear, and pullout capacities appropriate for supported loads and building materials in which used.
 3. Concrete Inserts: Steel or malleable-iron, slotted support system units similar to MSS Type 18; complying with MFMA-4 or MSS SP-58.
 4. Clamps for Attachment to Steel Structural Elements: MSS SP-58, type suitable for attached structural element.

5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
6. Toggle Bolts: All-steel springhead type.
7. Hanger Rods: Threaded steel.

2.2 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

- A. Description: Welded or bolted, structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with NECA 1 and NECA 101 for application of hangers and supports for electrical equipment and systems except if requirements in this Section are stricter.
- B. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMT and RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- C. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 1. Secure raceways and cables to these supports with single-bolt conduit clamps.
- D. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this Article.

- B. Raceway Support Methods: In addition to methods described in NECA 1, EMT, IMC, and RMC may be supported by openings through structure members, as permitted in NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).

Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To New Concrete: Bolt to concrete inserts.
 2. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 3. To Existing Concrete: Expansion anchor fasteners.
 4. Instead of expansion anchors, powder-actuated driven threaded studs provided with lock washers and nuts may be used in existing standard-weight concrete 4 inches (100 mm) thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches (100 mm) thick.
 5. To Light Steel: Sheet metal screws.
 6. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that meet seismic-restraint strength and anchorage requirements.
- D. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- B. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 PAINTING

- A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - 1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils (0.05 mm).
- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION

SECTION 26053

RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

A. Section Includes:

1. Metal conduits, tubing, and fittings.
2. Nonmetal conduits, tubing, and fittings.
3. Metal wireways and auxiliary gutters.
4. Nonmetal wireways and auxiliary gutters.
5. Surface raceways.
6. Boxes, enclosures, and cabinets.
7. Handholes and boxes for exterior underground cabling.

B. Related Requirements:

1. Section 26054 "Underground Ducts and Raceways for Electrical Systems" for exterior ductbanks, manholes, and underground utility construction.

1.03 DEFINITIONS

- A. GRC: Galvanized rigid steel conduit.
- B. IMC: Intermediate metal conduit.
- C. RNC: Rigid non-metallic conduit
- D. RMC: Rigid metal conduit
- E. EMT: Electrical metallic tubing
- F. MC: Metal Clad Cable
- G. LFMC: Liquid-Tight flexible metal conduit
- H. LFNC: Liquid-Tight flexible non-metal conduit

1.04 ACTION SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.

PART 2 - PRODUCTS

2.01 METAL CONDUITS, TUBING, AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Alflex Inc.
 - 2. Allied Tube & Conduit; a Tyco International Ltd. Co.
 - 3. O-Z Gedney; a unit of General Signal.
 - 4. Wheatland Tube Company.
- B. 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.
- C. GRC: Comply with ANSI C80.1 and UL 6.

- D. IMC: Comply with ANSI C80.6 and UL 1242.
- E. EMT: Comply with ANSI C80.3 and UL 797.
- 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: die cast.
 - 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.
- I. Joint Compound for IMC or GRC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.02 NONMETALLIC CONDUITS, TUBING, AND FITTINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. AFC Cable Systems
 - 2. Arnco
 - 3. CANTEX
 - 4. RACO
 - 5. Alflex Inc.
 - 6. Allied Tube & Conduit; a Tyco International Ltd. Co.
 - 7. O-Z Gedney; a unit of General Signal.
 - 8. Wheatland Tube Company

- B. Listing and Labeling: Nonmetallic 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.
- C. ENT: Comply with NEMA TC 13 and UL 1653.
- D. RNC: Type EPC-80-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.
- E. LFNC: Comply with UL 1660.
- F. Rigid HDPE: Comply with UL 651A.
- G. Continuous HDPE: Comply with UL 651B.
- H. Coilable HDPE: Preassembled with conductors or cables, and complying with ASTM D 3485.
- I. RTRC: Comply with UL 1684A and NEMA TC 14.
- J. Fittings for ENT and RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.
- K. Fittings for LFNC: Comply with UL 514B.
- L. Solvents and Adhesives: As recommended by conduit manufacturer.

2.03 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Erickson Electrical Equipment Company.
 - 2. Hoffman.
 - 3. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
 - 4. O-Z/Gedney; a unit of General Signal.
 - 5. RACO; a Hubbell Company.
 - 6. Robroy Industries, Inc.; Enclosure Division.
 - 7. Spring City Electrical Manufacturing Company.
 - 8. Thomas & Betts Corporation
- B. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 3R unless otherwise indicated, and sized according to NFPA 70.
 - 1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

- C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- D. Wireway Covers: Screw-cover type unless otherwise indicated.
- E. Finish: Manufacturer's standard enamel finish.

2.04 BOXES, ENCLOSURES, AND CABINETS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Erickson Electrical Equipment Company.
 - 2. Hoffman.
 - 3. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
 - 4. O-Z/Gedney; a unit of General Signal.
 - 5. RACO; a Hubbell Company.
 - 6. Robroy Industries, Inc.; Enclosure Division.
 - 7. Spring City Electrical Manufacturing Company.
 - 8. Thomas & Betts Corporation
- B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.
- C. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- D. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy or aluminum, Type FD, with gasketed cover.
- E. Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.
- F. Metal Floor Boxes:
 - 1. Material: Cast metal or sheet metal.
 - 2. Type: Fully adjustable.
 - 3. Shape: Rectangular or otherwise indicated.
 - 4. Listing and Labeling: Metal floor boxes shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

- G. Luminaire Outlet Boxes: Nonadjustable, designed for attachment of luminaire weighing 50 lb. Outlet boxes designed for attachment of luminaires weighing more than 50 lb shall be listed and marked for the maximum allowable weight.
- H. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- I. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, galvanized, cast iron with gasketed cover.
- J. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- K. Device Box Dimensions: 4 inches square by 2-1/8 inches deep.
- L. Gangable boxes are prohibited.
- M. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 3R with continuous-hinge cover with flush latch unless otherwise indicated.
 - 1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
 - 2. Nonmetallic Enclosures: Fiberglass.
 - 3. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.
- N. Cabinets:
 - 1. NEMA 250, Type 1 or Type 3R galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 - 2. Hinged door in front cover with flush latch and concealed hinge.
 - 3. Key latch to match panelboards.
 - 4. Metal barriers to separate wiring of different systems and voltage.
 - 5. Accessory feet where required for freestanding equipment.
 - 6. Nonmetallic cabinets shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.05 HANDHOLES AND BOXES FOR EXTERIOR UNDERGROUND WIRING

- A. General Requirements for Handholes and Boxes:
 - 1. Boxes and handholes for use in underground systems shall be designed and identified as defined in NFPA 70, for intended location and application.
 - 2. Boxes installed in wet areas shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Armorcast Products Company
 2. OldErickson Electrical Equipment Company.
 3. Hoffman.
 4. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
 5. O-Z/Gedney; a unit of General Signal.
 6. RACO; a Hubbell Company.
 7. Robroy Industries, Inc.; Enclosure Division.
 8. Spring City Electrical Manufacturing Company.
 9. Thomas & Betts Corporation
- C. Polymer-Concrete Handholes and Boxes with Polymer-Concrete Cover: Molded of sand and aggregate, bound together with polymer resin, and reinforced with steel, fiberglass, or a combination of the two.
1. Standard: Comply with SCTE 77.
 2. Configuration: Designed for flush burial with open bottom unless otherwise indicated.
 3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure and handhole location.
 4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 5. Cover Legend: Molded lettering, "ELECTRIC" or "COMMUNICATIONS".
 6. Conduit Entrance Provisions: Conduit-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
 7. Handholes 24 Inches Wide by 24 Inches Long and Larger: Have inserts for cable racks and pulling-in irons installed before concrete is poured.

2.06 SOURCE QUALITY CONTROL FOR UNDERGROUND ENCLOSURES

- A. Handhole and Pull-Box Prototype Test: Test prototypes of handholes and boxes for compliance with SCTE 77. Strength tests shall be for specified tier ratings of products supplied.

1. Tests of materials shall be performed by an independent testing agency.
2. Strength tests of complete boxes and covers shall be by either an independent testing agency or manufacturer. A qualified registered professional engineer shall certify tests by manufacturer.
3. Testing machine pressure gages shall have current calibration certification complying with ISO 9000 and ISO 10012 and traceable to NIST standards.

PART 3 - EXECUTION

3.01 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed Conduit: GRC.
2. Concealed Conduit, Aboveground: GRC.
3. Underground Conduit: RNC, Type EPC-40-PVC or Type EPC-80-PVC, concrete encased.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.

B. Indoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed, Not Subject to Physical Damage: EMT.
2. Exposed, Not Subject to Severe Physical Damage: EMT.
3. Exposed and Subject to Severe Physical Damage: GRC. Raceway locations include the following:
 - a. Loading dock.
 - b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
 - c. Mechanical rooms up to 8ft above finished floor. Use of EMT above the 8ft is permitted
 - d. Vehicle Maintenance and supporting areas up to 8ft above finished floor. Use of EMT above the 8ft is permitted.
4. Concealed in Ceilings and Interior Walls and Partitions: MC cable

5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
 6. Damp or Wet Locations: GRC.
 7. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in institutional and commercial kitchens and damp or wet locations.
- C. Minimum Raceway Size: 3/4-inch trade size.
- D. Raceway Fittings: Compatible with raceways and suitable for use and location.
1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
 2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
 3. EMT: Use setscrew or compression, cast-metal fittings. Comply with NEMA FB 2.10.
 4. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- E. Install nonferrous conduit or tubing for circuits operating above 60 Hz. Where aluminum raceways are installed for such circuits and pass through concrete, install in nonmetallic sleeve.
- F. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.
- G. Install surface raceways only where indicated on Drawings.
- H. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

3.02 INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- E. Arrange stub-ups so curved portions of bends are not visible above finished slab.

- F. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches of changes in direction.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.
- H. Support conduit within 12 inches of enclosures to which attached.
- I. Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure raceways to reinforcement at maximum 10-foot intervals.
 - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - 3. Arrange raceways to keep a minimum of 3 inch of concrete cover in all directions.
 - 4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.
 - 5. Change from RNC to RMC before rising above floor.
- J. Stub-ups to Above Recessed Ceilings:
 - 1. Use EMT, IMC, or RMC for raceways.
 - 2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.
- K. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- L. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.
- M. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
- N. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch trade size and insulated throat metal bushings on 1-1/2-inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
- O. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.
- P. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.
- Q. Cut conduit perpendicular to the length. For conduits 2-inch trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.

- R. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- S. Surface Raceways:
 - 1. Install surface raceway with a minimum 2-inch radius control at bend points.
 - 2. Secure surface raceway with screws or other anchor-type devices at intervals not exceeding 48 inches and with no less than two supports per straight raceway section. Support surface raceway according to manufacturer's written instructions. Tape and glue are not acceptable support methods.
- T. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings according to NFPA 70.
- U. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:
 - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2. Where an underground service raceway enters a building or structure.
 - 3. Where otherwise required by NFPA 70.
- V. Comply with manufacturer's written instructions for solvent welding RNC and fittings.

W. Expansion-Joint Fittings:

1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F and that has straight-run length that exceeds 25 feet. Install in each run of aboveground RMC and EMT conduit that is located where environmental temperature change may exceed 100 deg F and that has straight-run length that exceeds 100 feet.
2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:
 - a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.
 - b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
 - c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F temperature change.
3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F of temperature change for metal conduits.
4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.

X. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 72 inches of flexible conduit for recessed and semirecessed luminaires, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

1. Use LFMC in damp or wet locations subject to severe physical damage.
2. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage.

- Y. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- Z. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box.
- AA. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- BB. Locate boxes so that cover or plate will not span different building finishes.
- CC. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- DD. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.
- EE. Set metal floor boxes level and flush with finished floor surface.
- FF. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.

3.03 INSTALLATION OF UNDERGROUND CONDUIT

- A. Direct-Buried Conduit:
 - 1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Section 312000 "Earth Moving Site Work" for pipe less than 6 inches in nominal diameter.
 - 2. Install backfill as specified in Section 312000 "Earth Moving Site Work."
 - 3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Section 312000 "Earth Moving Site Work."
 - 4. Install manufactured duct elbows for stub-ups at poles and equipment and at building entrances through floor unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
 - 5. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.

- a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete for a minimum of 12 inches on each side of the coupling.
 - b. For stub-ups at equipment mounted on outdoor concrete bases and where conduits penetrate building foundations, extend steel conduit horizontally a minimum of 60 inches from edge of foundation or equipment base. Install insulated grounding bushings on terminations at equipment.
6. Underground Warning Tape: Comply with requirements in Section 260553 "Identification for Electrical Systems."

3.04 INSTALLATION OF UNDERGROUND HANDHOLES AND BOXES

- A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting conduits to minimize bends and deflections required for proper entrances.
- B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch sieve to No. 4 sieve and compacted to same density as adjacent undisturbed earth.
- C. Elevation: In paved areas, set so cover surface will be flush with finished grade. Set covers of other enclosures 1 inch above finished grade.
- D. Install handholes with bottom below frost line, below grade.
- E. Install removable hardware, including pulling eyes, cable stanchions, cable arms, and insulators, as required for installation and support of cables and conductors and as indicated. Select arm lengths to be long enough to provide spare space for future cables but short enough to preserve adequate working clearances in enclosure.
- F. Field-cut openings for conduits according to enclosure manufacturer's written instructions. Cut wall of enclosure with a tool designed for material to be cut. Size holes for terminating fittings to be used, and seal around penetrations after fittings are installed.

3.05 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies.

3.06 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION

SECTION 26054

UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 SUMMARY

- A. Section Includes:
 - 1. Direct-buried conduit, ducts, and duct accessories.
 - 2. Concrete-encased conduit, ducts, and duct accessories.
 - 3. Handholes and boxes.

1.03 DEFINITIONS

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

1.04 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include duct-bank materials, including separators and miscellaneous components.
 - 2. Include ducts and conduits and their accessories, including elbows, end bells, bends, fittings, and solvent cement.
 - 3. Include accessories for manholes, handholes, pull boxes.
 - 4. Include warning tape.
- B. Shop Drawings:
 - 1. Factory-Fabricated Handholes and Boxes Other Than Precast Concrete:
 - a. Include dimensioned plans, sections, and elevations, and fabrication and installation details.
 - b. Include duct entry provisions, including locations and duct sizes.

- c. Include cover design.
- d. Include grounding details.
- e. Include dimensioned locations of cable rack inserts, and pulling-in and lifting irons.

1.05 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For concrete and steel used in precast concrete manholes and pullboxes as required by ASTM C 858.
- B. Source quality-control reports.
- C. Field quality-control reports.

1.06 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

PART 2 - PRODUCTS

2.01 GENERAL REQUIREMENTS FOR DUCTS AND RACEWAYS

- A. Comply with ANSI C2.

2.02 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.

2.03 NONMETALLIC DUCTS AND DUCT ACCESSORIES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. ARNCO Corp.
 - 2. Beck Manufacturing.
 - 3. Cantex, Inc.
 - 4. CertainTeed Corporation.
- B. Duct Accessories:
 - 1. Duct Separators: Factory-fabricated rigid PVC interlocking spacers, sized for type and size of ducts with which used, and selected to provide minimum duct spacing indicated while supporting ducts during concreting or backfilling.

2. Warning Tape: Underground-line warning tape specified in Section 260553 "Identification for Electrical Systems."

2.04 PRECAST CONCRETE HANDHOLES AND BOXES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Christy Concrete Products.
 2. Elmhurst-Chicago Stone Co.
 3. Oldcastle Precast Group.
 4. Rinker Group, Ltd.
- B. Comply with ASTM C 858 for design and manufacturing processes.
- C. Description: Factory-fabricated, reinforced-concrete, monolithically poured walls and bottom unless open-bottom enclosures are indicated. Frame and cover shall form top of enclosure and shall have load rating consistent with that of handhole or box.
 1. Handholes as required runs shown on the plans.

2.05 HANDHOLES AND BOXES OTHER THAN PRECAST CONCRETE

- A. General Requirements for Handholes and Boxes: Comply with SCTE 77. Comply with tier requirements in "Underground Enclosure Application" Article.
 1. Color Green.
 2. Configuration: Units shall be designed for flush burial and have closed bottom unless otherwise indicated.
 3. Cover: Weatherproof, secured by tamper-resistant locking devices and having structural load rating consistent with enclosure.
 4. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
 5. Cover Legend: Molded lettering, as indicated for each service.
 6. Direct-Buried Wiring Entrance Provisions: Knockouts equipped with insulated bushings or end-bell fittings, selected to suit box material, sized for wiring indicated, and arranged for secure, fixed installation in enclosure wall.
 7. Duct Entrance Provisions: Duct-terminating fittings shall mate with entering ducts for secure, fixed installation in enclosure wall.
- B. Polymer Concrete Handholes and Boxes with Polymer Concrete Cover: Molded of sand and aggregate, bound together with a polymer resin, and reinforced with steel or fiberglass or a combination of the two.
 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Armorcast Products Company.
 - b. Carson Industries LLC.

- c. NewBasis.
 - d. Quazite: Hubbell Power System, Inc.

- C. Fiberglass Handholes and Boxes with Polymer Concrete Frame and Cover: Sheet-molded, fiberglass-reinforced, polyester resin enclosure joined to polymer concrete top ring or frame.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Armorcast Products Company.
 - b. Carson Industries LLC.
 - c. Christy Concrete Products.
 - d. Quazite: Hubbell Power System, Inc.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Coordinate layout and installation of ducts, manholes, handholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field. Notify Architect if there is a conflict between areas of excavation and existing structures or archaeological sites to remain.

- B. Coordinate elevations of ducts and duct-bank entrances into manholes, handholes, and boxes with final locations and profiles of ducts and duct banks, as determined by coordination with other utilities, underground obstructions, and surface features. Revise locations and elevations as required to suit field conditions and to ensure that duct runs drain to manholes and handholes, and as approved by Architect.

3.02 UNDERGROUND DUCT APPLICATION

- A. Ducts for Electrical Feeders 600 V and Less: RNC, NEMA Type EPC-40, in concrete-encased duct bank unless otherwise indicated.

3.03 DUCT INSTALLATION

- A. Install ducts according to NEMA TCB 2.

- B. Slope: Pitch ducts a minimum slope of 1:300 down toward manholes and handholes and away from buildings and equipment. Slope ducts from a high point in runs between two manholes, to drain in both directions.

- C. Curves and Bends: Use 5-degree angle couplings for small changes in direction. Use manufactured long sweep bends with a minimum radius of 48 inches (1200 mm) unless otherwise indicated.

- D. Joints: Use solvent-cemented joints in ducts and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent ducts do not lie in same plane.
- E. Building Wall Penetrations: Make a transition from underground duct to rigid steel conduit at least 10 feet (3 m) outside the building wall, without reducing duct line slope away from the building, and without forming a trap in the line. Use fittings manufactured for duct-to-conduit transition. Sealing: Provide temporary closure at terminations of ducts that have cables pulled. Seal spare ducts at terminations. Use sealing compound and plugs to withstand at least 15-psig (1.03-MPa) hydrostatic pressure.
- F. Direct-Buried Duct Banks:
 - 1. Excavate trench bottom to provide firm and uniform support for duct bank. Comply with requirements in Section 312000 "Earth Moving Sitework" for preparation of trench bottoms for pipes less than 6 inches (150 mm) in nominal diameter.
 - 2. Support ducts on duct separators coordinated with duct size, duct spacing, and outdoor temperature.
 - 3. Space separators close enough to prevent sagging and deforming of ducts, with not less than four spacers per 20 feet (6 m) of duct. Secure separators to earth and to ducts to prevent displacement during backfill and yet permit linear duct movement due to expansion and contraction as temperature changes. Stagger spacers approximately 6 inches (150 mm) between tiers.
 - 4. Depth: Install top of duct bank at least 36 inches (900 mm) below finished grade unless otherwise indicated.
 - 5. Set elevation of bottom of duct bank below frost line.
 - 6. Install ducts with a minimum of 3 inches (75 mm) between ducts for like services and 6 inches (150 mm) between power and signal ducts.
 - 7. Elbows: Install manufactured duct elbows for stub-ups at poles and equipment, at building entrances through floor, and at changes of direction in duct run unless otherwise indicated. Encase elbows for stub-up ducts throughout length of elbow.
 - 8. Install manufactured rigid steel conduit elbows for stub-ups at poles and equipment, at building entrances through floor, and at changes of direction in duct run.
- G. Warning Tape: Bury warning tape approximately 12 inches (300 mm) above all concrete-encased ducts and duct banks. Align tape parallel to and within 3 inches (75 mm) of centerline of duct bank. Provide an additional warning tape for each 12-inch (300-mm) increment of duct-bank width over a nominal 18 inches (450 mm). Space additional tapes 12 inches (300 mm) apart, horizontally.

3.04 INSTALLATION OF HANDHOLES AND BOXES OTHER THAN PRECAST CONCRETE

- A. Install handholes and boxes level and plumb and with orientation and depth coordinated with connecting ducts, to minimize bends and deflections required for proper entrances. Use box extension if required to match depths of ducts, and seal joint between box and extension as recommended by manufacturer.
- B. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1/2-inch (12.5-mm) sieve to No. 4 (4.75-mm) sieve and compacted to same density as adjacent undisturbed earth.

3.05 GROUNDING

- A. Ground underground ducts and utility structures according to Section 260526 "Grounding and Bonding for Electrical Systems."

3.06 FIELD QUALITY CONTROL

- A. Perform the following tests and inspections and prepare test reports:
 - 1. Demonstrate capability and compliance with requirements on completion of installation of underground ducts and utility structures.
- B. Correct deficiencies and retest as specified above to demonstrate compliance.

3.07 CLEANING

- A. Pull leather-washer-type duct cleaner, with graduated washer sizes, through full length of ducts. Follow with rubber duct swab for final cleaning and to assist in spreading lubricant throughout ducts.
- B. Clean internal surfaces of manholes, including sump. Remove foreign material.

END OF SECTION

SECTION 26272

WIRING DEVICES

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Examine all other Sections of the Specifications for requirements that affect work under this Section whether or not such work is specifically mentioned in this Section.
- C. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure the steady progress of all work under the Contract.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Receptacles, receptacles with integral GFCI, and associated device plates.
 - 2. Snap switches
 - 3. Weatherproof covers.
 - 4. Occupancy sensors.
 - 5. Wall-box dimmers.

1.03 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. GFCI: Ground-fault circuit interrupter.

1.04 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing label warnings and instruction manuals that include labeling conditions.

1.05 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of wiring device and associated wall plate through one source from a single manufacturer. Insofar as they are available, obtain all wiring devices and associated wall plates from a single manufacturer and one source.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 - 1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
 - 2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
 - 3. Leviton Mfg. Company Inc. (Leviton).
 - 4. Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).

2.02 STRAIGHT BLADE RECEPTACLES

- A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498. Ground strap is to be brass.
 - 1. Products: Subject to compliance with requirements, provide one of the following:

- a. Cooper; 5351 (single), 5352 (duplex).
 - b. Hubbell; HBL5351 (single), CR5352 (duplex).
 - c. Leviton; 5891 (single), 5352 (duplex).
 - d. Pass & Seymour; 5381 (single), 5352 (duplex).
- B. Hospital Grade Receptacles, 125V 20A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498. Ground strap is to be brass.
- 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Cooper; 8300 series (duplex).
 - b. Equal Hubbell, Leviton or Pass & Seymour.
 - c. Provide unique markings.
 - 2. Provide these receptacles in the following areas:
 - a. Patient (six areas – verify) consultation areas.
 - b. Medication preparation areas.
 - c. Medication dispensing areas.
 - d. Nurse’s stations.

2.03 GFCI RECEPTACLES

- A. General Description: Straight blade, feed-through type. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped. Must have the capability to self test every two minutes.
- B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:
- 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Cooper; GF20.
 - b. Pass & Seymour; 2084.
 - c. Hubbell; GFR5352ST

2. Hospital grade where required in areas identified above in 2.2,B,2

2.04 SNAP SWITCHES

A. Comply with NEMA WD 1 and UL 20.

B. Switches, 120/277 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Cooper; 2221 (single pole), 2222 (two pole), 2223 (three way), 2224 (four way).
 - b. Hubbell; CS1221 (single pole), CS1222 (two pole), CS1223 (three way), CS1224 (four way).
 - c. Leviton; 1221-2 (single pole), 1222-2 (two pole), 1223-2 (three way), 1224-2 (four way).
 - d. Pass & Seymour; 20AC1 (single pole), 20AC2 (two pole), 20AC3 (three way), 20AC4 (four way).

2.05 OCCUPANCY/VACANCY SENSORS

A. Wall Switch Sensor Light Switch, Dual Technology :

1. Description: Switchbox-mounted, combination lighting-control sensor and conventional switch lighting-control unit using dual (ultrasonic and passive infrared) technology.
2. Standards: Comply with UL 20.
3. Rated 960 W at 120 V ac for tungsten lighting, 10 A at 120 V ac or 10 A at 277 V ac for fluorescent or LED lighting, and 1/4 hp at 120 V ac.
4. Adjustable time delay of five, 10, 15, 20 minutes.
5. Able to be locked to Automatic and Manual-On mode.
6. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc (21.5 to 2152 lux).
7. Connections: Provisions for connection to BAS.
8. Connections: RJ-45 communications outlet.

9. Connections: Integral wireless networking.

B. Ceiling Sensor Light Switch, Dual Technology :

1. Description: Box or recessed-mounted, lighting-control sensor using dual (ultrasonic and passive infrared) technology.
2. Standards: Comply with UL 20.
3. Rated 960 W at 120 V ac for tungsten lighting, 10 A at 120 V ac or 10 A at 277 V ac for fluorescent or LED lighting, and 1/4 hp at 120 V ac.
4. Adjustable time delay of five, 10, 15, 20 minutes.
5. Able to be locked to Automatic and Manual-On mode.
6. Automatic Light-Level Sensor: Adjustable from 2 to 200 fc (21.5 to 2152 lux).
7. Connections: Provisions for connection to BAS.
8. Connections: RJ-45 communications outlet.
9. Connections: Integral wireless networking.

C. LED Lamp Dimmer Switches: Modular; compatible with LED lamps; trim potentiometer to adjust low-end dimming; capable of consistent dimming with low end not greater than 20 percent of full brightness.

2.06 WALL PLATES

A. Single and combination types to match corresponding wiring devices.

1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: Smooth, high-impact thermoplastic 0.035-inch- (1-mm-) thick.
3. Material for Unfinished Spaces: Stainless steel smooth finish type 302.
4. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labeled for use in "wet locations."

B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant, die-cast aluminum with lockable cover.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.
- B. Coordination with Other Trades:
 - 1. Take steps to insure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
 - 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 - 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
 - 4. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:
 - 1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
 - 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
 - 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
- D. Device Installation:
 - 1. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
 - 2. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
 - 3. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
 - 4. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.
 - 5. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
 - 6. Tighten unused terminal screws on the device.
- E. Receptacle Orientation:
 - 1. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the left.

- F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

END OF SECTION

APPENDIX A

WOMEN AND MINORITY BUSINESS ENTERPRISE POLICY

ERIE COUNTY WATER AUTHORITY

APPENDIX A

WOMEN AND MINORITY BUSINESS ENTERPRISE POLICY

ERIE COUNTY WATER AUTHORITY

It is the policy of the Authority to foster and encourage minority business enterprise participation in the construction contracts of the Authority. Through the setting of Minority Business Enterprise goals and careful monitoring of CONTRACTOR compliance, the Authority will ensure the fullest possible participation in construction activities by qualified minority and women-owned firms.

Some of the federal and state laws that provide the basis for Equal Employment Opportunity and Affirmative Action are:

1. Title VII, Civil Rights Act of 1964 (as amended by the Equal employment Opportunity Act of 1972): Prohibits employment discrimination because of race, color, sex, religion or national origin.
2. Executive Order 11246 (as amended by the Executive Order 11375): Requires Affirmative Action by all Federal CONTRACTORS and subcontractors and requires that all firms with Contracts over \$50,000.00 and 50 or more employees develop and implement written programs.
3. Equal Act of 1963: Requires employers to provide equal pay for men and women performing similar work.
4. New York State Human Rights Law: Prohibits discrimination based on race, color, sex, age, creed, disability, national origin and marital status in employment matters.
5. Flynn Act: Guarantees disabled citizens protection against discrimination in housing, employment, public accommodations, training programs and non-sectarian education due to mental, physical or medical disability.
6. Title VI, Civil Rights Act of 1964: Prohibits discrimination based on race, color or national origin in all programs which receive Federal aid.
7. Title IX, Education Amendments Act of 1972: Prohibits sex discrimination against students of any educational institution receiving Federal financial aid.

A. MINORITY BUSINESS UTILIZATION COMMITMENT

The Erie County Water Authority has established the following business utilization rules which requires all prime CONTRACTORS awarded construction contracts let by the Erie County Water Authority to exemplify Affirmative Action to sub-contract to minority business enterprise (MBE). For the purpose of these regulations, the term "Minority Business Enterprise" refers to a business at least fifty-one percent (51%) of which is owned and controlled by minority group members. Minority group members are citizens of the United States who are Women, Blacks, Hispanics and Native Americans. MBE's must demonstrate current certification of a government agency.

The Authority has determined that a goal of ten percent (10%) of the total contract value represents a fair share of minority business utilization on each construction contract awarded.

Recipients of Authority construction Contracts must utilize minority-owned business sources for supplies, services and professional services, allowing these sources the maximum feasible opportunity to compete for Contracts, Subcontracts and third-tier Contracts to be performed, All prime CONTRACTORS awarded Authority Contracts estimated to exceed \$100,000.00 must take positive steps to “afford fair opportunities to MBE’s”. Positive steps shall include, but not be limited to, (a) utilizing a source list of bona fide minority business enterprises, (b) solicitations of bids from MBE’s particularly of those located in Erie County, (c) giving minority firms sufficient time to submit proposals in response to solicitations and (d) maintaining records showing minority business enterprises and specific efforts to identify and award Contracts to these Companies.

Each CONTRACTOR bidding on an Erie County Water Authority contract is to contact MBE’s and solicit bids for various aspects of each project. The CONTRACTOR is to supply the Authority with information regarding contracts for services and products with minority business enterprises and the dollar amount of each contract on the Minority Business Utilization Report.

The Successful Bidder shall submit to the Authority the Minority Business Enterprise Utilization Report - Part A within one week of the bid opening. Part A includes a list of MBE’s from whom the CONTRACTOR has solicited bids, or with whom the CONTRACTOR has signed a binding contractual agreement. The Authority will not consider a CONTRACTOR’s bid where the CONTRACTOR fails to submit this report or where an examination of the report evidences failure by the CONTRACTOR to comply with the affirmative action requirements of the Contract.

In the event of a joint venture participating in this MBE Program, the Joint Venture Disclosure Affidavit must be submitted with Part A by all parties involved. Only to the extent that a minority business enterprise contributes to and is paid for its participation in a joint venture will that dollar be credited towards the 10% goal of minority participation in the Erie Country Water Authority MBE Program.

MBE’s must be approved by the Erie County Water Authority before their participation may be credited toward the 10% goal. Where the proposed MBE is not approved by the Authority, an Authority MBE/Disclosure Affidavit must be filed with the Contract Compliance office. Forms and lists of certified MBE’s can be obtained by calling Lavonya Lester, Director of Equal Employment Opportunity (ECWA) at (716) 685-8223.

A Minority Business Enterprise Utilization Waiver Request may be completed and submitted with the Minority Business Enterprise Utilization Report - Part A to the Authority within one week of the bid opening. Waivers shall be granted only where the availability of MBE’s in the market area of the project is less than the 10% goal.

Sufficient information must be provided on the Minority Business Enterprise Utilization Waiver Request to ascertain whether a waiver should be approved, conditionally approved or rejected by advice of the Equal Opportunity Office.

A waiver approval limits the CONTRACTOR’s obligation to solicit MBE’s for this particular project. It does not relieve the CONTRACTOR of MBE utilization for any other Erie County Water Authority project on which he submits a bid.

Conditional approval of the waiver request makes it necessary for the CONTRACTOR to continue soliciting MBE’s for contracting purposes, after he has been declared the low bidder.

A MBE Utilization Waiver Request will be rejected if the CONTRACTOR:

1. fails to provide information on the Minority Business Enterprise Utilization Report with his bid.
2. provides fraudulent information of the MBE reports.
3. fails to make an honest good faith effort to recruit and contract with MBE's or
4. takes any other action which is contrary to the spirit and intent of the law.

THE INFORMATION PROVIDED ON THE MBE WAIVER REQUEST AND THE MBE UTILIZATION REPORT WILL BE CONSIDERED CONCURRENTLY TO DETERMINE IF A WAIVER SHOULD BE APPROVED, CONDITIONALLY APPROVED OR REJECTED.

The low bidder shall submit to the Authority, within one week of the bid opening, a schedule for minority business enterprise participation, with whom the CONTRACTOR intends to Subcontract, specifying the agreed price to be paid for such work, and identifying in detail the Contract item(s) or parts to be performed by each minority business enterprise. A letter of intent to enter into a Subcontract or purchase agreement, signed by the minority business, contingent upon the contract award, indicating the agreed upon price and scope of work, shall be provided, signed by both the CONTRACTOR and the minority business enterprise. The prime CONTRACTOR shall not substitute or delete the listed minority business enterprise without the written consent of the Erie County Water Authority.

In the event that the MBE goal for the contract is not met, the CONTRACTOR shall provide sufficient documentation to establish that every positive effort was made to identify, solicit and negotiate with MBE's in pursuit of the goal. Such documentation includes, but is not limited to, advertisement in minority-focused media, written contract with minority businesses indicating sufficient bidder's price along with evidence showing the work to be performed is the same, and not a reduced portion thereof.

The CONTRACTOR shall provide to the Erie County Water Authority copies of all subcontracts and/or purchase agreements with minority business enterprises within one week of the bid opening. A notice to proceed with construction shall not be issued until acceptable documentation is received.

When the project is thirty (30%) percent complete, the CONTRACTOR shall submit to the Authority the Minority Business Enterprise Utilization Report - Part B. Part B lists the MBE's on the project, the dollar amounts paid to that date and the estimated amount remaining to be spent.

The Minority Business Enterprise Utilization Report - Part C certifies the actual dollar amount expended to MBE's. Part C must be completed by the prime CONTRACTOR and submitted at the seventy-five (75%) percent payment level.

The Minority Business Enterprise Utilization Report - Part D certifies the total dollar amount expended to MBE's. Part D is to be submitted with the request for final payment.

In the event a CONTRACTOR fails to comply with these provisions the Authority may:

1. Summon the CONTRACTOR to a hearing
2. Withhold progress payments in part or in full
3. Cancel the contract.
4. Bar award of future Contracts until the CONTRACTOR can demonstrate that he will comply.

It is hereby the Erie County Water Authority's commitment to assure that on all contracts awarded, prime CONTRACTORS expend a fair share of the contract with bona fide minority businesses in accordance with the goals set forth by the Authority. Failure to comply with these provisions shall disqualify the bidder and shall constitute a breach of contract subject to all remedies available to the Authority.

The Prime CONTRACTOR and all minority Subcontractors are bound by all requirements as put forth in the Erie County Water Authority standard General Conditions and all modifications thereto contained in these Contract Specifications.

Listing of **AFFIRMATIVE ACTION FORMS ATTACHED:**

<u>NAME OF FORM</u>	<u>PAGE NUMBER(S)</u>
Minority Business Utilization Report- Part A	6 & 7
Waiver Request	8
Erie County Water Authority Minority Business Enterprise Joint Venture Disclosure Affidavit	9
Erie County Water Authority Minority Business Enterprise Utilization Report - Part B	10 & 11
Minority Business Enterprise Utilization Report - Part C	12
Minority Business Enterprise Utilization Report - Part D	13

**ERIE COUNTY WATER AUTHORITY
MINORITY BUSINESS ENTERPRISE
UTILIZATION REPORT - PART A**

This information must be submitted by the successful bidder within one week of bid opening.

COMPANY _____

AUTHORIZED REPRESENTATIVE _____

ADDRESS _____

TELEPHONE NUMBER _____

PROJECT NAME _____

PROJECT NUMBER _____

I. List actions taken to identify, solicit, and contact Minority Business Enterprises (MBE) to bid on subcontracts on this project.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

II. List all bona fide Minority Business Enterprise, subcontractors, professional personnel, solicited, contracted, or presently negotiating a contract in accordance with the minority business utilization goal set forth by the Erie County Water Authority. (Attach additional sheets if necessary.)

MINORITY OWNED FIRM	SUPPLY/ SERVICE	AMOUNT OF PROPOSAL	PRIOR CERTIFICATION	CONTRACT EXECUTED	REASON NOT AWARDED
NAME: _____ ADDRESS: _____ TELE NO. _____ IRS NO. _____				YES _____ NO _____	
NAME: _____ ADDRESS: _____ TELE NO. _____ IRS NO. _____				YES _____ NO _____	
NAME: _____ ADDRESS: _____ TELE NO. _____ IRS NO. _____				YES _____ NO _____	
NAME: _____ ADDRESS: _____ TELE NO. _____ IRS NO. _____				YES _____ NO _____	

PART A CONTINUED

III. Assistance offered by CONTRACTOR to MBE's as to bonding, union requirements, obtaining work capital etc...

- 1. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____

IV. Total Dollar Amount to be subcontracted to Minority Business Enterprise(s): \$ _____

V. Total Amount of Bid: \$ _____

VI. MBE Percent (%) of project bid: _____

VII. **YOU MUST ATTACH COPIES OF RELEVANT CORRESPONDENCE AND DOCUMENTS INCLUDING RETURN RECEIPTS.**

DATE

SIGNATURE OF AUTHORIZED REPRESENTATIVE

Note: Within one week of the bid opening, this original form, together with a letter of intent to enter into a subcontract or purchase agreement, contingent upon the contract award, indicating the agreed upon price and scope of work, signed by both the CONTRACTOR and the Minority Business Enterprise, must be submitted to:

Lavonya Lester, Director of Equal Employment Opportunity (ECWA)
Erie County Water Authority
3030 Union Road
Cheektowaga, New York 14227

**ERIE COUNTY WATER AUTHORITY
MINORITY BUSINESS ENTERPRISE
JOINT VENTURE DISCLOSURE AFFIDAVIT**

To Be Submitted With Part A
Where Applicable

Joint Ventures: _____
Name: _____
Address: _____
Principal Office: _____
Office Phone: _____
Home Phone: _____

Percent of minority ownership in terms of profit and loss sharings:

Capital contributions by each joint venture and accounting therefore:

Equipment and supply contributions by each joint venturer and accounting therefore:

Any ownership options for ownership or loans between the joint venturers - identify terms thereof:

How and by whom the on-site work will be supervised and administered:

I, _____, as
representative of _____ Company,
do hereby swear or affirm that I am authorized to act on its behalf and that in this capacity and to
the best of my knowledge and belief, the information provided herewith relevant to the joint
venture of _____
is accurate, complete and current, and fairly represents the joint venture; further, that I have
personally reviewed the material and assured myself of its accuracy. It is recognized and
acknowledged that the statements herein are being given under oath and any material
misrepresentation will be grounds for terminating any contract which may be awarded in reliance
hereon.

SIGNATURE

**ERIE COUNTY WATER AUTHORITY
MINORITY BUSINESS ENTERPRISE UTILIZATION REPORT - PART B**

CONTRACTOR _____ CONTRACT NAME _____

- I. List all bona fide minority business enterprises, Subcontractors, suppliers, professional personnel, or joint venture firms, with whom you have entered into a binding agreement in accordance with the Minority Business Utilization Goal set forth by the Erie County Water Authority. Include minority trucking firms that will be utilized and included and estimated dollar amount. This information must be submitted to the Erie County Water Authority when the project is 30% complete.

(USE REVERSE SIDE IF MORE SPACE IS NEEDED) MINORITY OWNED FIRMS	TYPE OF WORK	DATE CONTRACT EXECUTED	TOTAL EXPENDED TO DATE	AMOUNT REMAINING
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				

*Erie County Water Authority reserves the right to require documentation including, but not limited to, canceled checks to verify these amounts:

- II. Total Dollar Amount to be Subcontracted to minority Business Enterprise(s):
\$ _____
- III. Total dollar amount expended to date: \$ _____
- IV. Total amount of bid: \$ _____
- V. MBE Percent (%) of project bid: \$ _____

I, _____ as an official representative of _____, do hereby certify that the information listed above is correct and complete.

NAME

TITLE

DATE

PART B CONTINUED

(USE REVERSE SIDE IF MORE SPACE IS NEEDED) MINORITY OWNED FIRMS	TYPE OF WORK	DATE CONTRACT EXECUTED	TOTAL EXPENDED TO DATE	AMOUNT REMAINING
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				
NAME: _____ ADDRESS: _____ _____ IRS #: _____				

**MINORITY BUSINESS ENTERPRISE UTILIZATION REPORT - PART C
CERTIFICATION OF EXPENDITURES TO MBE's**

(To be completed by the prime CONTRACTOR and
submitted at the 75% payment level)

CONTRACTOR _____

CONTRACT: _____

MBE	PART B CONTRACT AMOUNT OF ESTIMATE	TOTAL EXPENDED TO DATE	ESTIMATED AMOUNT REMAINING

* Erie County Water Authority reserves the right to require documentation including, but not limited to, canceled checks to verify these amounts.

I, _____
_____ as an official representative of _____,

do hereby certify that the information listed above is correct and complete.

NAME

TITLE

DATE

MINORITY BUSINESS ENTERPRISE UTILIZATION REPORT - PART D

FINAL CERTIFICATION OF EXPENDITURES TO MBE's

(to be completed by the prime CONTRACTOR and submitted with the request for final payment)

CONTRACTOR: _____

CONTRACT: _____

MBE	TOTAL AMOUNT EXPENDED

TOTAL OF ALL MBE
SUB-CONTRACTS \$ _____

AMOUNT OF
CONTRACT _____

FINAL MBE
PERCENTAGE _____

I, _____, as an official
representative of _____,
do hereby certify that the information listed above is correct and complete.

NAME

TITLE

DATE

ACCOUNTABILITY

The CONTRACTOR shall be fully accountable for its performance under this contract and agrees to answer under oath all questions relevant to the performance thereof and to any transaction, act, or omission had, done or omitted in connection therewith if called before the Erie County Water Authority, any Judicial, County or State Officer or agency empowered to investigate the Contract or its performance.

APPENDIX

B

INSURANCE REQUIREMENTS

ERIE COUNTY WATER AUTHORITY

APPENDIX B-1

INSURANCE REQUIREMENTS FOR CONTRACTING SERVICES

STORAGE TANK REFURBISHING

ECWA Project No. 202100193

Insurance specs:

The following minimum insurance requirements shall apply to vendors providing services to the Erie County Water Authority (the Authority). If a service or project, in the opinion of the Authority, represents an unusual or exceptional risk, the Authority may establish additional insurance requirements for that service or project. All insurance required herein shall be obtained at the sole cost and expense of the contractor, including deductibles and self-insured retentions, and shall be in full force and effect on the contract commencement date and for the lifetime use of vendors "Product" and/or applicable statute of limitation. These requirements include but are not limited to the minimum insurance requirements.

Insurance Requirements:

- a. Workers Compensation:
 - Part 1: Workers Compensation: Statutory
 - Part 2: Employers Liability: \$1,000,000.
 - Note: If New York State domiciled employees are used, coverage to be New York Statutory for both Parts 1 and 2

- b. New York Disability Benefits Liability: Statutory coverage if New York State domiciled employees are used.

- c. Commercial General Liability:
 - \$2,000,000. General Aggregate
 - \$2,000,000. Products/Completed Operations Aggregate
 - \$1,000,000. Each Occurrence
 - \$1,000,000. Personal Injury/Advertising Liability
 - Per Project/Job Aggregate Limit Required
 - Erie County Water Authority, Town of Boston and Town of Orchard Park to be scheduled as an Additional Insured for both on-going and completed operations (attach Additional Insured endorsement to Certificate of Insurance)
 - Insurance to be primary and non-contributory

- d. Automobile Liability:
 - \$1,000,000. Each Accident
 - Erie County Water Authority, Town of Boston and Town of Orchard Park to be scheduled as an Additional Insured.

- e. Umbrella Liability:
 - \$5,000,000. Each Occurrence
 - \$5,000,000. Aggregate
 - Per Project/Job Aggregate Limit Required
 - Erie County Water Authority, Town of Boston and Town of Orchard Park to be scheduled as an Additional Insured

- f. Pollution Liability :
 - \$5,000,000. Per Claim
 - \$5,000,000. Aggregate
 - Erie County Water Authority, Town of Boston and Town of Orchard Park

- g. All-Risk Installation Floater: Builder's risk completed value form based on the total value of the project, providing coverage for work performed, equipment, supplies and materials at the project location, as well as any off-site storage location.

Certificates of Insurance to be provided to the Authority prior to start of work as follows:

ACORD 25 including copy of Additional Insured Endorsement

Note: If coverage provided for NYS domiciled employees require Forms C 105.2 and DB 120.1 for Workers Compensation and NYS DBL.

Certificates of Insurance, on forms approved by the New York State Department of Insurance, must be submitted to the Authority prior to the award of contract. Renewals of Certificates of Insurance, on forms approved by the New York State Department of Insurance, must be received by the Authority 30 days prior to the expiration of the insurance policy period.

Certificates of Insurance and renewals, on forms approved by the New York State Department of Insurance, must be submitted to the Authority prior to the award of contract. Each insurance carrier issuing a Certificate of Insurance shall be rated by A. M. Best no lower than "A-" with a Financial Strength Code (FSC) of at least VII. The professional service provider shall name the Authority, its officers, agents and employees as additional insured on a Primary and Non-Contributory Basis, including a Waiver of Subrogation endorsement (form CG 20 26 11 85 or equivalent), on all applicable liability policies. Any liability coverage on a "claims made" basis should be designated as such on the Certificate of Insurance. Such insurance shall continue through the term of this Agreement and vendor shall purchase at his sole expense either 1) an Extended Reporting Endorsement (also, known as Tail Coverage); or 2) Prior Acts Coverage from new insurer with a retroactive date back to the date of, or prior to, the inception of this Agreement; or 3) demonstrate through Certificates of Insurance that vendor has Maintained continuous coverage with the same or original insurer. Coverage provided under items; 1), 2), or 3) will continue as long as the law allows.

To avoid confusion with similar insurance company names and to properly identify the insurance company, please make sure that the insurer's National Association of Insurance Commissioners (N.A.I.C.) identifying number or A. M. Best identifying number appears on the Certificate of

Insurance. Also, at the top of the Certificate of Insurance, please list the project number.

Acceptance of a Certificate of Insurance and/or approval by the Authority shall not be construed to relieve the outside vendor of any obligations, responsibilities or liabilities.

Certificates of Insurance should be e-mailed to mmusarra@ecwa.org or mailed to Ms. Molly Jo Musarra, Claim Representative/Risk Manager Erie County Water Authority, 295 Main Street – Room 350, Buffalo, New York 14203-2494, or If you have any questions you can contact Ms. Musarra by e-mail or phone (716) 849-8465.

APPENDIX B-2

[THIS FORM IS INTENDED TO BE USED AS AN EXHIBIT OR ADDENDUM TO ANY SUBCONTRACT—IT SHOULD NOT BE USED BY ITSELF AS A SOLE CONTRACT DOCUMENT]

ADDENDUM AGREEMENT

This Addendum to the Agreement (“Addendum Agreement”) between [**Insert name of Upstream Contractor or Upstream Subcontractor**] (hereinafter referenced as “Contractor”) and [**Insert name of Downstream Subcontractor**] (hereinafter referenced as “Subcontractor”) is being entered into by the parties for any and all work done for, with, or on behalf of **the Erie County Water Authority** (hereinafter the “Authority”) under the Primary Contract No. _____, Project No. _____ [**Insert Project Description**] with [**Insert name of Contractor**], a copy of which may be obtained from [**Insert name and contract information of the entity**].

In accordance with the terms and conditions of the Primary Contract No. _____ entered into with the Erie County Water Authority, an **ACORD25-Certificate of Liability Insurance** and **ACORD 855 NY-NY Construction Certificate of Liability Addendum** shall be provided evidencing the following insurance is currently maintained and in force with an insurance carrier approved to do business in the State of New York and maintaining an A.M. Best Rating of A- or better showing the Authority as Certificate Holder and additional insured. You should share these requirements with your current insurance agent, broker or insurance company.

Insurance Requirements

Prior to the commencement of any work designated in any contract or agreement to which this Addendum Agreement is attached, and until at least the final completion and acceptance of the work under the contract or agreement to which this Addendum Agreement is attached, the Subcontractor, at its sole expense, shall maintain the following minimum insurance on its own behalf, and furnish to the Authority certificates of insurance evidencing same and reflecting the effective date of such coverage as listed below. In no event shall the failure to provide this proof, prior to the commencement of the work, be deemed a waiver by the Authority of the Subcontractor’s obligation to maintain the insurance set forth herein. The insurance required shall not be canceled, not renewed or materially changed after the issuance of the certificate of insurance required by this Addendum Agreement.

A. Worker’s Compensation, Occupational Disease & Employer’s Liability Insurance:

Worker’s Compensation, Occupational Disease & Employer’s Liability Insurance in accordance with the applicable laws and statutes to cover any injuries or illness to employees and any other person eligible for compensation, and the liability of the employer thereof to any person or organization, as follows:

Worker’s Compensation & Occupational Disease: Statutory

Employer’s Liability: \$1,000,000 bodily injury by accident or disease, except for work

work/employers subject to the New York Worker's Compensation Law, in which this insurance shall be unlimited.

All such coverage shall: not contain any exclusion for injuries to sole proprietors, partners, members of limited liability companies or executive officers of any corporate entity; and provide for a "Waiver of Subrogation" endorsement in favor of the Owner/Contractor.

Any Contractor/Subcontractor with a principal place of business located outside of the State of New York must include New York under Part 3A of the policy.

B. Commercial General Liability:

Commercial general liability insurance as provided under the ISO Commercial General Liability Coverage Form, CG 00 01, or its equivalent, for claims of Bodily Injury, Property Damage and Personal and Advertising Injury, with limits of not less than:

Per Occurrence and Personal & Advertising Injury-	\$1,000,000
.00 General Aggregate & Products/Completed Operations Aggregate-	\$2,000,000
.00 Fire Damage Legal Liability/Damage to Rented Property-	\$100,000.0
0 Medical Payment (per-person)	\$5,000.00

The coverage must include the following:

1. Liability assumed by the insured in an "insured contract" as that term is defined in the ISO Commercial General Liability Coverage Form, CG 00 01.
2. Products/Completed Operations liability for a period of three years after acceptance of the work.
3. A per project aggregate of \$ 2,000,000.00.
4. A "Waiver of Subrogation" Endorsement in favor of the Owner/Contractor.
5. Exterior Insulation Finish System ("EFIS") coverage must be specifically included or provided separately where the Contractor/Subcontractor work under this Agreement or in any contract or agreement to which this Addendum is attached in any way involves EFIS.
6. The coverage shall not include any provision, definition, exclusion or endorsement which in any way would serve to eliminate the insurance to any insured or additional insured for liability for bodily injury or property damage arising from work performed in New York State, for claims made under the New York Labor

Law or for claims made by employees, subcontractors and employees of subcontractors hired to perform work by any insured or additional insured pursuant to work that is subject to this Addendum Agreement or in any contract or agreement to which this Addendum Agreement is attached.

7. The insurance is to be provided through insurers licensed and admitted to do business in the State of New York, with an A. M. Best financial rating of A- or better, or otherwise specifically approved by the Owner.

The Authority, the Town of Boston, their officers, directors, partners, representatives, agents and employees must be named as Additional Insureds on a primary and non-contributory basis on both the ongoing and completed operations coverage required herein utilizing the ISO endorsements: CG 2010 04 13 or CG 2038 04 13 (or their equivalent) for ongoing operations; and CG 2037 04 13 (or its equivalent) for completed operations. The Additional Insured coverage shall contain no special limitation or limitation on the scope of the protection afforded to the Additional Insureds.

C. Commercial Automobile Liability Insurance:

Commercial Automobile Liability insurance covering the ownership, maintenance and use of all Owned, Non-Owned and Hired Vehicles by the Subcontractor with combined Bodily Injury and Property Damage limits including pollution transit coverage of \$1,000,000.00 per accident. The Authority, the Town of Boston, their officers, directors, partners, representatives, agents and employees must be named as Additional Insureds on a primary and non-contributory basis. A “Waiver of Subrogation” in favor of the Authority must be included.

D. Commercial Umbrella/Excess Liability Insurance:

Commercial Umbrella/Excess Liability Insurance with limits of \$5,000,000.00 per occurrence and a \$5,000,000.00 aggregate. The Authority, the Town of Boston, their officers, directors, partners, representatives, agents and employees must be named as Additional Insureds on a primary and non-contributory basis. A “Waiver of Subrogation” in favor of the Authority must be included.

E. Pollution Liability:

Where the Subcontractor is performing work that is subject to this Addendum Agreement or to any contract or agreement to which this Addendum Agreement is attached, that involves abatement or remediation of hazardous substances or any manner of environmental work, pollution liability coverage applicable to the type of work/operations being performed in the amount of \$5,000,000.00 per occurrence and \$5,000,000.00 aggregate limit. The Authority, the Town of Boston, their officers, directors, partners, representatives, agents and employees must be named as Additional Insureds on a primary and non-contributory basis. A “Waiver of Subrogation” in favor of the Authority must be included.

F. Builder's Risk/Installation Floater:

“All Risk” Property Insurance coverage afforded by a Builder’s Risk/Installation Floater or its equivalent insuring all materials, equipment and supplies provided by the Subcontractor and intended to become a permanent part of the construction, whether stored on the premises, away from the project site and/or while in transit, in an amount equal to the replacement cost of such materials, equipment and supplies. A “Waiver of Subrogation” in favor of the Authority must be included.

G. Owned and/or Rented Tools or Equipment:

Property insurance covering all owned, rented, leased and/or borrowed tools or equipment of the Subcontractor or used by the Subcontractor in connection with the work that is subject to this Agreement or to any contract or agreement to which this Addendum is attached, in an amount equal to the replacement cost of such tools or equipment. A “Waiver of Subrogation” in favor of the Authority must be included.

JOB-SITE SAFETY:

The Authority makes no representation with respect to the physical conditions or safety of the Project Site. The Subcontractor shall, at its own expense, protect from injury its employees engaged in the performance of the Work. The prevention of accidents to all workers engaged in the Subcontractor’s work and others affected by the Subcontractor’s work is the responsibility of the Subcontractor. Subcontractor shall comply with all applicable federal, state, labor and local laws, regulations and codes concerning safety.

For purposes of this Addendum Agreement, “Project Site” means the entire construction site or the various separately identifiable part of the site described in any contract or agreement to which the Addendum Agreement is attached, and as described in the Primary Contract with the Authority.

WORKERS COMP IMMUNITY WAIVER:

In any and all claims against the Authority by any employee of the Subcontractor, anyone directly or indirectly employed by the Subcontractor (including any of the Subcontractor’s subcontractors) or anyone for whose acts the Subcontractor may be liable, the indemnification obligation shall not be limited by any limitation on the amount or type of damages, compensation or benefits payable by or for the Subcontractor under workers’ compensation acts, disability benefit acts or other employee benefit acts.

HOLD HARMLESS / INDEMNIFICATION:

To the fullest extent permitted by law, Subcontractor shall defend, indemnify and hold harmless the Authority and its heirs, executors, administrators, successors, assigns, affiliates, employees and agents (hereinafter referenced as “Owner Indemnitees”) from and against any and all

actions, claims, liabilities, damages, losses and expenses, including but not limited to bodily injury, death and property damage, and reasonable attorney's fees and costs (including those incurred in the defense of any such underlying claim, as well as those incurred in the enforcement of this Addendum Agreement and/or in the prosecution of any claim for indemnification by Authority) arising out of or resulting from, or alleged to arise out of or result from, the Subcontractor's work (including the work by any of the Subcontractor's subcontractors), except to the extent caused by the negligence or willful misconduct of any Owner Indemnitees.

MISCELLANEOUS:

If any term or provision of this Addendum Agreement conflicts with or is otherwise inconsistent with any term or provision in the Primary Contract or any prior written agreement entered between the parties, the terms and provisions contained herein shall govern and control. This Addendum Agreement shall be binding upon and inure to the benefit of the parties hereto and their successors and permitted assigns. This Addendum Agreement, its terms and any claims arising therefrom, shall be interpreted and construed in accordance with the laws of the State of New York.

This Addendum Agreement may be executed via facsimile or email in any number of counterparts, all of which taken together shall constitute one and the same agreement. No waiver by a party of any breach by the other party of any of the provisions of this Agreement shall be deemed a waiver of any preceding or succeeding breach of the same or any other provisions hereof. No such waiver shall be effective unless in writing and then only to the extent expressly set forth in writing.

No modification or amendment of this Addendum Agreement shall be effective unless in writing and signed by both parties and approved in writing by the Authority. If any term or provision of this Addendum Agreement shall to any extent be invalid or unenforceable, the remainder of this Addendum Agreement shall not be affected thereby, and each provision of this Addendum Agreement shall be valid and enforceable to the fullest extent permitted by law.

**[Insert name of Upstream Contractor
or Upstream Subcontractor]**

**[Insert name of Downstream
Subcontractor]**

[Insert Name of Representative]

[Insert Name by Representative]

(Print name and title)

(Print name and title)

Date:

Date:

APPENDIX

C

PREVAILING WAGE RATE SCHEDULE



Kathy Hochul, Governor

Roberta Reardon, Commissioner

Erie County Water Authority
Robin Prytula, Project Admin
375 Essjay Road
Suite 200
Willaimsville NY 14221

Schedule Year 2021 through 2022
Date Requested 12/21/2021
PRC# 2021012965

Location Various
Project ID# 239843
Project Type Water upgrades

PREVAILING WAGE SCHEDULE FOR ARTICLE 8 PUBLIC WORK PROJECT

Attached is the current schedule(s) of the prevailing wage rates and prevailing hourly supplements for the project referenced above. A unique Prevailing Wage Case Number (PRC#) has been assigned to the schedule(s) for your project.

The schedule is effective from July 2021 through June 2022. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission; a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion [online](#).

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

There are very few exceptions to this rule. Complete information regarding these exceptions is available on the ["Request for a dispensation to work overtime" form \(PW30\)](#) and ["4 Day / 10 Hour Work Schedule" form \(PW 30.1\)](#).

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12240; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.ny.gov.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.ny.gov.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website www.labor.ny.gov.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. As per Article 6 of the Labor law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid

or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment. Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed \$100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds \$25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "Public Work Project" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers' compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12240 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of \$50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

Every employer subject to the New York State Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers notices furnished by the State Division of Human Rights.

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

Every employer providing worker's compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers' Compensation Board in a conspicuous place on the jobsite.

Unemployment Insurance

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the New York State Department of Labor.



Kathy Hochul, Governor

Roberta Reardon, Commissioner

Erie County Water Authority
Robin Prytula, Project Admin
375 Essjay Road
Suite 200
Willaimsville NY 14221

Schedule Year 2021 through 2022
Date Requested 12/21/2021
PRC# 2021012965

Location Various
Project ID# 239843
Project Type Water upgrades

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information

All information must be supplied

Federal Employer Identification Number: _____		
Name: _____		
Address: _____ _____		
City: _____	State: _____	Zip: _____
Amount of Contract: \$ _____	Contract Type:	
Approximate Starting Date: ____/____/____	<input type="checkbox"/> (01) General Construction	
Approximate Completion Date: ____/____/____	<input type="checkbox"/> (02) Heating/Ventilation	
	<input type="checkbox"/> (03) Electrical	
	<input type="checkbox"/> (04) Plumbing	
	<input type="checkbox"/> (05) Other : _____	

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

Social Security Numbers on Certified Payrolls:

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concern regarding inclusion of this information on payrolls if another identifier will suffice.

For these reasons, the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to \$1,500 for a first offense and up to \$5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, www.labor.ny.gov. <https://labor.ny.gov/formsdocs/ui/1A999.pdf>

If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.ny.gov .

Worker Notification: (Labor Law §220, paragraph a of subdivision 3-a)

Effective June 23, 2020

This provision is an addition to the existing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage and supplement rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her job classification. The required notification will be provided with each wage schedule, may be downloaded from our website www.labor.ny.gov or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. *In the event the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(12.20)

**To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

Chapter 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

**To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12240

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

Required Notice under Article 25-B of the Labor Law

**Attention All Employees, Contractors and Subcontractors:
You are Covered by the Construction Industry Fair Play Act**

The law says that you are an employee unless:

- You are free from direction and control in performing your job, **and**
- You perform work that is not part of the usual work done by the business that hired you, **and**
- You have an independently established business.

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

It is against the law for an employer to misclassify employees as independent contractors or pay employees off the books.

Employee Rights: If you are an employee, you are entitled to state and federal worker protections. These include:

- Unemployment Insurance benefits, if you are unemployed through no fault of your own, able to work, and otherwise qualified,
- Workers' compensation benefits for on-the-job injuries,
- Payment for wages earned, minimum wage, and overtime (under certain conditions),
- Prevailing wages on public work projects,
- The provisions of the National Labor Relations Act, and
- A safe work environment.

It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor, **you must pay all taxes and Unemployment Insurance contributions required by New York State and Federal Law.**

Penalties for paying workers off the books or improperly treating employees as independent contractors:

- **Civil Penalty** First offense: Up to \$2,500 per employee
 Subsequent offense(s): Up to \$5,000 per employee
- **Criminal Penalty** First offense: Misdemeanor - up to 30 days in jail, up to a \$25,000 fine and debarment from performing public work for up to one year.
 Subsequent offense(s): Misdemeanor - up to 60 days in jail or up to a \$50,000 fine and debarment from performing public work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at (866) 435-1499 or send an email to dol.misclassified@labor.ny.gov. All complaints of fraud and violations are taken seriously. You can remain anonymous.

Employer Name:

IA 999 (09/16)

Attention Employees

THIS IS A: PUBLIC WORK PROJECT

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Chapter 629 of the Labor Laws of 2007:

These wages are set by law and must be posted at the work site. They can also be found at:
www.labor.ny.gov

If you feel that you have not received proper wages or benefits, please call our nearest office.*

Albany	(518) 457-2744	Patchogue	(631) 687-4882
Binghamton	(607) 721-8005	Rochester	(585) 258-4505
Buffalo	(716) 847-7159	Syracuse	(315) 428-4056
Garden City	(516) 228-3915	Utica	(315) 793-2314
New York City	(212) 932-2419	White Plains	(914) 997-9507
Newburgh	(845) 568-5156		

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is \$250,000.00 or more the contract must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training "prior to the performing any work on the project."

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.*)
- Training roster, attendance record or other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-457-5589.

WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is \$3 million in Bronx, Kings, New York, Queens and, Richmond counties; \$1.5 million in Nassau, Suffolk and Westchester counties; and \$500,000 in all other counties.

For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or the use of a Project Labor Agreement (PLA), and must be open to public inspection.

Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

The Commissioner of Labor shall have the power to enforce separate specification requirements on projects, and may issue stop-bid orders against public owners for non-compliance.

Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

Contractors must pay subcontractors within a 7 days period.

(07.19)

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.

Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.

Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.

Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

Payrolls and Payroll Records

Contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records.

Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury.

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. However, the specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.ny.gov) for current wage rate information.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2
Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
Bureau of Public Work
State Office Campus, Bldg. 12
Albany, NY 12240

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-932-2419	212-775-3579
Bureau of Public Work - Patchogue	631-687-4882	631-687-4902
Bureau of Public Work - Rochester	585-258-4505	585-258-4708
Bureau of Public Work - Syracuse	315-428-4056	315-428-4671
Bureau of Public Work - Utica	315-793-2314	315-793-2514
Bureau of Public Work - White Plains	914-997-9507	914-997-9523
Bureau of Public Work - Central Office	518-457-5589	518-485-1870

Erie County General Construction

Boilermaker **12/01/2021**

JOB DESCRIPTION Boilermaker

DISTRICT 12

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Chemung, Erie, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Schuyler, Steuben, Wayne, Wyoming, Yates

WAGES

Per hours: 07/01/2021

Boilermaker \$ 35.10

The wage rate will be 90% of the above for Maintenance work on boilers less than 100,000 pph.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour: \$ 31.04*

*NOTE: \$29.85 of this amount is for every Hour "Paid"

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

1st Term at 12 Months
Terms 3-8 at 6 Months

Per Hour:

1st 65% 3rd 70% 4th 75% 5th 80% 6th 85% 7th 90% 8th 95%

Supplemental Benefits per hour:

All Terms \$ 31.04**

**NOTE: \$29.85 of this amount is for every Hour "Paid"

12-7

Carpenter - Building **12/01/2021**

JOB DESCRIPTION Carpenter - Building

DISTRICT 12

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: Townships of Persia and Perrysburg

WAGES

Per hour: 07/01/2021

Building:

Carpenter \$ 33.05
FloorLayer 33.05
Certified Welder 34.05
Hazardous Waste Worker 34.55
Diver-Dry Day 34.05
Diver Tender 34.05
Diver-Wet Day*** 61.25

Hazardous Waste Worker: Hazardous sites requiring personal protective equipment.

*** Diver rate applies to all hours worked on the day of dive.

Depth pay for divers:	0' to 80'	no additional fee
	81' to 100'	additional \$0.50 per foot
	101' to 150'	additional \$0.75 per foot
	151' and deeper	additional \$1.25 per foot
Penetration pay:	0' to 50'	no additional fee
	51' to 100'	additional \$0.75 per foot
	101' and deeper	additional \$1.00 per foot

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule' as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour worked:

Carpenter(s)	\$ 28.73
Diver(s)	28.73

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's base wage:

Floorlayer Apprentices:

1st	2nd	3rd	4th
55%	60%	70%	80%

Carpenter Apprentices:

1st	2nd	3rd	4th	5th
55%	60%	65%	70%	80%

Supplemental Benefits per hour worked:

1st	2nd	3rd	4th	5th
\$12.40	\$12.40	\$15.05	\$15.05	\$15.05

12-276B-Cat

Carpenter - Building / Heavy&Highway

12/01/2021

JOB DESCRIPTION Carpenter - Building / Heavy&Highway

DISTRICT 2

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Orange: The area lying on Northern side of Orange County demarcated by a line drawn from the Bear Mountain Bridge continuing west to the Bear Mountain Circle, continue North on 9W to the town of Cornwall where County Road 107 (also known as Quaker Rd) crosses under 9W, then east on County Road 107 to Route 32, then north on Route 32 to Orrs Mills Rd, then west on Orrs Mills Rd to Route 94, continue west and south on Route 94 to the Town of Chester, to the intersection of Kings Highway, continue south on Kings Highway to Bellvale Rd, west on Bellvale Rd to Bellvale Lakes Rd, then south on Bellvale Lakes Rd to Kain Rd, southeast on Kain Rd to Route 17A, then north and southeast along Route 17A to Route 210, then follow Route 210 to NJ Border.

WAGES

Wages per hour: 07/01/2021

Carpenter - ONLY for Artificial Turf/Synthetic Sport Surface	\$ 32.08
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Note - Does not include the operation of equipment. Please see Operating Engineers rates.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 24.20

OVERTIME PAY

See (B, E, Q, X) on OVERTIME PAGE

HOLIDAY

Paid: See (5) on HOLIDAY PAGE

Overtime: See (5, 6, 16) on HOLIDAY PAGE

Notes:

When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. When a holiday falls upon a Sunday, it shall be observed on the following Monday.

An employee taking an unexcused day off the regularly scheduled day before or after a paid Holiday shall not receive Holiday pay.

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
55%	60%	70%	80%

Supplemental Benefits per hour:

1st year term	\$ 12.15
2nd year term	12.15
3rd year term	14.80
4th year term	14.80

2-42AtSS

Carpenter - Heavy&Highway

12/01/2021

JOB DESCRIPTION Carpenter - Heavy&Highway

DISTRICT 12

ENTIRE COUNTIES

Erie

WAGES

Per hour: 07/01/2021

Carpenter	\$ 36.39
Certified Welder	37.89
Diver-Dry Day	37.39
Diver-Wet Day**	61.39
Diver Tender	37.39
Hazardous Material Worker	38.39
Piledriver	36.39
Effluent & Slurry Diver-Dry Day	56.08
Effluent & Slurry Diver-Wet Day	92.08

Hazardous Waste Worker: Hazardous sites requiring personal protective equipment.

** Diver rate applies to all hours worked on the day of dive.

Depth pay for divers:	0' to 50'	no additional fee
	51'to 100'	additional \$0.50 per foot
	101' to 150'	additional \$0.75 per foot
	151' to 200'	additional \$1.25 per foot
Penetration pay:	0' to 50'	no additional fee
	51' to 100'	additional \$0.75 per foot
	101' to deeper	additional \$1.00 per foot

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour worked:

Carpenter(s)	\$ 29.89
Diver(s)	29.89

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (2, 17) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

Carpenter Apprentice:

1st	2nd	3rd	4th	5th
55%	60%	65%	70%	80%

Pile Driver Apprentice(1300hour terms at percentage of Pile Driver Rate)

1st	2nd	3rd	4th
55%	60%	70%	80%

Supplemental benefits per hour worked:

1st	2nd	3rd	4th	5th
\$12.15	\$12.15	\$14.80	\$14.80	\$14.80

12-276HH-Erie

Electrician

12/01/2021

JOB DESCRIPTION Electrician

DISTRICT 3

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: Only the Townships of Ashford, East Otto, Ellicottville, Farmersville, Freedom, Franklinville, Lyndon, Machias, Mansfield, New Albion, Otto, Perrysburg, Persia and Yorkshire.
 Genesee: Only the Townships of Alabama, Alexander, Darien, Oakfield, Pembroke and that portion of the Towns of Batavia and Elba that are west of Little Tonawanda Creek; Tonawanda Creek; the City limits of Batavia (in effect prior to Feb. 1, 1970) and State Highway 98 north of the City of Batavia, then north on Highway 98 to the Orleans County line.
 Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle, Java, Orangeville, Sheldon and Wethersfield.

WAGES

Per hour:	07/01/2021	05/30/2022
		Additional
Electrician*	\$ 37.49	\$ 2.00

* Includes teledata work

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

17.3% for work from 4:30PM - 1:00AM

31.4% for work from 12:30AM - 9:00AM

Additional \$0.50/hr in shafts over 25 ft. deep and in underground tunnels over 75 ft. long.

Additional \$0.75/hr for work on toothpicks, structural steel, temporary platforms, swinging scaffolds, boatswain chairs, smoke stacks or water towers 30 ft above the floor or for work on rolling scaffolds and ladders over 50 ft.

Additional \$1.50/hr for Cable Splicers on such work as lead, and shielded cable and splices or terminations on cable 5KV and above.

Additional \$1.00/hr for Hot work (Atomic plants).

Additional \$2.00/hr for work on radio, TV, light towers and floating platforms or climbing ladders in excess of 100 ft. high.

SUPPLEMENTAL BENEFITS

Per hour: \$ 30.05*

* NOTE - add 3% of the posted straight time or applicable premium wage rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following wages:

0 to 1000 to 2000 to 3500 to 5000 to 6500 to 8000
\$ 13.85 \$ 15.00 \$ 16.85 \$ 20.60 \$ 26.25 \$ 30.00

Supplemental benefits per hour:

0 to 2000 to 6500 to 8200
\$ 13.51* \$ 24.30* \$ 30.05*

* NOTE - add 3% of the posted straight time or applicable premium wage rate.

3-41

Elevator Constructor

12/01/2021

JOB DESCRIPTION Elevator Constructor

DISTRICT 3

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour: 07/01/2021
Elevator Constructor \$ 53.16
Helper 37.21

** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 **

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday or Tuesday thru Friday.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour: \$ 35.83

Note - add 6% of regular hourly rate for all hours worked.

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 15, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year (1,700 hour each) terms at the following percentage of Journeyman's wage:

1st*	2nd	3rd	4th
55%	65%	70%	80%

Supplemental benefits per hour:

\$ 35.83

* Note - 0-6 months of the 1st year term is paid at 50% of Journeyman's wage with no Supplemental benefits.

Note - add 6% of regular hourly rate for all hours worked.

3-14

Glazier

12/01/2021

JOB DESCRIPTION Glazier

DISTRICT 3

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour: 07/01/2021
Glazier \$ 27.88
Working off Suspended
Scaffold (Swing Stage) 28.88
Maintenance 17.50*

* Note - This rate to be used only for all repair and replacement work such as glass breakage, glass replacement, door repair and board ups.

**** IMPORTANT NOTICE ****

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour:
Journeyman Glazier \$ 24.19
Maintenance 15.49

OVERTIME PAY

See (B, E2, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE for Glazier and Glazier Apprentices.
Paid: See (5, 6) on HOLIDAY PAGE for Maintenance
Overtime: See (5, 6) on HOLIDAY PAGE.

REGISTERED APPRENTICES

Wages per hour:

Glazier: 1000 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour:

1st & 2nd terms	\$ 8.00
3rd & 4th terms	8.85
All other terms	10.25

3-660

Insulator - Heat & Frost

12/01/2021

JOB DESCRIPTION Insulator - Heat & Frost

DISTRICT 3

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Erie, Niagara, Wyoming

PARTIAL COUNTIES

Genesee: Only the Townships of Alabama, Alexander, Darien, Oakfield and Pembroke.

WAGES

Per Hour: 07/01/2021
Heat & Frost Insulator \$ 34.15

SUPPLEMENTAL BENEFITS

Per hour:
\$ 26.14

OVERTIME PAY

See (B, *E, **Q) on OVERTIME PAGE

* Note - Double time after 10 hours on Saturday.

** Note - Triple time on Labor Day if WORKED.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits per hour:

1st and 2nd	\$ 21.09
All other terms	\$ 26.14

3-4

Ironworker **12/01/2021**

JOB DESCRIPTION Ironworker

DISTRICT 3

ENTIRE COUNTIES

Cattaraugus, Chautauqua

PARTIAL COUNTIES

Allegany: Entire county except the Towns of Birdsall, Burns and Grove.

Erie: All except the Town of Grand Island north of Whitehaven Road.

Genesee: Only the Townships of Alabama, Alexander, Darien and Pembroke

Steuben: Only the Townships of Canisteo, Freemont, Greenwood, Hartsville, Hornell, Hornellsville, Howard, Jasper, Troupsburg and West Union

Wyoming: Only the Townships of Arcade, Attica, Bennington, Eagle, Gainsville, Java, Orangeville, Pike, Sheldon, Warsaw and Wethersfield.

WAGES

Per hour: 07/01/2021

Structural	\$ 31.90
Ornamental	31.90
Layout	31.90
Rodmen	31.90
Reinforcing	31.90
Welders	31.90
Riggers & Mach. Movers	31.90
Curtain Wall Erector	31.90
Window Erector	29.55
Fence Erector	30.47

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

10% for second shift work from 2:00PM - 7:00PM

15% for third shift work from 7:00PM - 12:00AM

When a single irregular shift is worked outside the standard workday with the start times based on second and third shifts, a 10% premium on hours worked applies.

SUPPLEMENTAL BENEFITS

Per hour:

Fence erectors	\$ 29.13
All others	30.63

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following wage:

1st	2nd	3rd	4th
\$ 19.50	\$ 21.50	\$ 23.50	\$ 25.50

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 13.38	\$ 23.18	\$ 24.58	\$ 25.98

Ironworker **12/01/2021**

JOB DESCRIPTION Ironworker

DISTRICT 3

ENTIRE COUNTIES

Niagara

PARTIAL COUNTIES

Erie: Only that portion of the Township of Grand Island north of Whitehaven Road.

Orleans: Only the Townships of Ridgeway, Shelby and Yates.

WAGES

Per hour: 07/01/2021

Structural	\$ 31.00
Ornamental	31.00
Reinforcing	31.00
Rigger & Mach. Mover	31.00
Pre-Engineered	31.00
Fence Erector	31.00
Pre-Cast Erector	31.00
Welder	31.00
Window Erector	31.00

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:
10% for second shift work from 2:00PM - 7:00PM
15% for third shift work from 7:00PM - 12:00AM

When a single irregular shift is worked outside the standard workday with the start times based on second and third shifts, a 10% premium on hours worked applies.

SUPPLEMENTAL BENEFITS

Per hour: \$ 31.78

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following wage:

1st term	\$ 19.50
2nd term	21.50
3rd term	23.50
4th term	25.50

Supplemental benefits per hour:

1st term	\$ 12.28
2nd term	19.98
3rd term	21.08
4th term	22.18

Laborer - Building

12/01/2021

JOB DESCRIPTION Laborer - Building

DISTRICT 3

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: Only the Townships of Perrysburg and the Village Gowanda.

WAGES

CLASS A: Basic, Safety Man, Flagman, Tool Room Man, Nurseryman, Demolition Worker, Top Man, Wrecker, IBC Barriers Except on Structures, Guard Rail, Asphalt Shovelers, Foundation Laborer over 8' in Depth, Hod Carriers, Plaster Tender, Plaster Scaffold Builder, Pneumatic Gas, Electric Tool Operator including all forms of Busters, Jackhammers and Chipping Guns, Steel Burners.

CLASS B: Mortar Mixer, Asphalt Smoothers, Pneumatic Gas, Electric Tool Operator including all forms of Busters, Jackhammers and Chipping Guns over 8' in depth.

CLASS C: Worker on any Swing Scaffold, Blaster, Plumbing Laborer, Wagon Drill Operator, Bottomman (caisson or cofferdam), Laser Setter, Asphalt Rakers, Asphalt Screed Man.

CLASS D: Stone Cutter, Curb Setter and Flag Layer.

CLASS E: Wearing of replaceable cartridge respirator.

CLASS F: Asbestos Removal, Deleader.

CLASS G: Hazardous Waste Worker.

Per hour:	07/01/2021	07/01/2022
Building Laborer:		Additional
CLASS A	\$ 29.13	\$.60
CLASS B	29.30	.60
CLASS C	29.41	.60
CLASS D	29.88	.60
CLASS E	30.13	.60
CLASS F	30.63	.60
CLASS G	31.13	.60

SUPPLEMENTAL BENEFITS

Per hour: \$ 27.65

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (22) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 500	to 1000	to 1500	to 2000	to 2500	to 3000	to 4000
55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour:

\$ 27.65

3-210b

Laborer - Heavy&Highway

12/01/2021

JOB DESCRIPTION Laborer - Heavy&Highway

DISTRICT 3

ENTIRE COUNTIES

Erie

WAGES

Heavy/Highway Laborer:

GROUP A: Basic, Drill Helper, Flagman, Outboard and Hand Boats, Demolition Worker, Nurseryman, IBC Barriers (except on structures), Guard Rails, Road Markers.

GROUP B: Grade Checker, Chain Saw, Concrete Aggregate Bin, Concrete Bootmen, Gin Buggy, Hand or Machine Vibrator, Jack Hammer, Mason Tender, Mortar Mixer, Pavement Breaker, Handlers of Steel Mesh, Small Generators for Laborers' Tools, Pipe Layers, Vibrator Type Rollers, Tamper, Drill Doctor, Tail or Screw Operator on Asphalt Paver, Water Pump Operators (2" and Single Diaphragm), Nozzle (Asphalt, Guniting, Seeding, and Sand Blasting), Laborers on Chain Link Fence Erection, Rock Splitter and Power Unit, Pusher Type Concrete Saw and all other Gas, Electric, Oil and Air Tool Operators, Wrecking Laborer and Laser Man.

GROUP C: All Rock or Drilling Machine Operators (Except Quarry Master and Similar Type), Acetylene Torch Operators, Asphalt Raker, Powderman and Welder.

GROUP D: Blasters, Curb and Flatwork Formsetter not on structures, Stone or Granite Curb Setters and Stone Cutter.

Per hour:	07/01/2021
Heavy/Highway Laborer:	
GROUP A	\$ 31.41
GROUP B	31.61
GROUP C	31.81
GROUP D	32.01

For all Deleader & Asbestos work add \$1.50 to Group A rate.

For all Hazardous waste work add \$2.00 to Group A rate.

For use of replaceable cartridge respirator add \$1.00 to Group A rate.

An additional \$3.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

Sewer/Water Laborer:

GROUP A: Basic, Flagman, Top man, Wreckers.

GROUP B: Foundation, Plaster tender, Scaffold bootman, Pneumatic, gas, electric, tool operator, jackhammer, chipping guns.

GROUP C: Mortar Mixer, over 8 ft. in depth.

GROUP D: Pavement formsetter, Steelburner, Caisson, Wagon Drill Oper., PipeLayer, Swing Scaffold.

GROUP E: Utility pave driver, Laser operator.

GROUP F: Blaster.

Per hour: 07/01/2021

Sewer/Water Laborer:

GROUP A	\$ 31.41
GROUP B	31.51
GROUP C	31.56
GROUP D	31.66
GROUP E	32.01
GROUP F	32.41

For all Deleader & Asbestos work add \$1.50 to Group A rate.

For all Hazardous waste work add \$2.00 to Group A rate.

An additional \$3.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 27.65

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 500	to 1000	to 1500	to 2000	to 2500	to 3000	to 4000
55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour:

\$ 27.65

3-210h

Laborer - Tunnel

12/01/2021

JOB DESCRIPTION Laborer - Tunnel

DISTRICT 3

ENTIRE COUNTIES

Erie

WAGES

CLASS A: Mole Nipper, Powder Handler, Changehouse Attendant and Top Laborer.

CLASS B: Air Spade, Jackhammer, Pavement Breaker.

CLASS C: Top Bell.

CLASS D: Bottom Bell, Side or Roofbelt Driller, Maintenance men, Burners, Block Layers, Rodmen, Caulkers, Miners helper, Trackmen, Nippers, Derailmen, Electrical Cablemen, Hosemen, Groutmen, Gravelmen, Form Workers, Movers and Shaftmen, Conveyor men.

CLASS E: Powder Monkey.

CLASS F: Blasters, Ironmen and Cement Worker, Miner, Welder, Heading Driller.

CLASS G: Steel Erectors, Piledriver, Rigger.

Per hour: 07/01/2021
 Tunnel Laborer:

CLASS A	\$ 32.91
CLASS B	33.06
CLASS C	33.16
CLASS D	33.66
CLASS E	33.76
CLASS F	34.16
CLASS G	34.41

For all Deleader & Asbestos work add \$1.50 to Class A rate.

For all Hazardous waste add \$2.00 to Class A rate.

For use of replaceable cartridge respirator add \$1.00 to Group A rate.

An additional \$3.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS

Per hour: \$ 27.65

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0 to 500	to 1000	to 1500	to 2000	to 2500	to 3000	to 4000
55%	60%	65%	70%	75%	80%	90%

Supplemental benefits per hour:

\$ 27.65

3-210t

Lineman Electrician

12/01/2021

JOB DESCRIPTION Lineman Electrician

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Per hour:

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines

Below rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of fiber optic cable where no other construction trades are or have been involved. (Ref #14.01.01)

	07/01/2021	05/02/2022	05/01/2023	05/06/2024
Lineman, Technician	\$ 54.70	\$ 56.00	\$ 57.40	\$ 58.90
Crane, Crawler Backhoe	54.70	56.00	57.40	58.90
Welder, Cable Splicer	54.70	56.00	57.40	58.90
Digging Mach. Operator	49.23	50.40	51.66	53.01
Tractor Trailer Driver	46.50	47.60	48.79	50.07
Groundman, Truck Driver	43.76	44.80	45.92	47.12
Equipment Mechanic	43.76	44.80	45.92	47.12
Flagman	32.82	33.60	34.44	35.34

Additional \$1.00 per hour for entire crew when a helicopter is used.

Below rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work". (Ref #14.02.01-A)

Lineman, Technician	\$ 54.70	\$ 56.00	\$ 57.40	\$ 58.90
Crane, Crawler Backhoe	54.70	56.00	57.40	58.90
Cable Splicer	60.17	61.60	63.14	64.79
Certified Welder - Pipe Type Cable	57.44	58.80	60.27	61.85
Digging Mach. Operator	49.23	50.40	51.66	53.01
Tractor Trailer Driver	46.50	47.60	48.79	50.07
Groundman, Truck Driver	43.76	44.80	45.92	47.12
Equipment Mechanic	43.76	44.80	45.92	47.12
Flagman	32.82	33.60	34.44	35.34

Additional \$1.00 per hour for entire crew when a helicopter is used.

Below rates apply on switching structures, maintenance projects, railroad catenary install/maintenance third rail installation, bonding of rails and pipe type cable and installation of fiber optic cable. (Ref #14.02.01-B)

Lineman, Tech, Welder	\$ 56.02	\$ 57.32	\$ 58.72	\$ 60.22
Crane, Crawler Backhoe	56.02	57.32	58.72	60.22
Cable Splicer	61.62	63.05	64.59	66.24
Certified Welder - Pipe Type Cable	58.82	60.19	61.66	63.23
Digging Mach. Operator	50.42	51.59	52.85	54.20
Tractor Trailer Driver	47.62	48.72	49.91	51.19
Groundman, Truck Driver	44.82	45.86	46.98	48.18
Equipment Mechanic	44.82	45.86	46.98	48.18
Flagman	33.61	34.39	35.23	36.13

Additional \$1.00 per hour for entire crew when a helicopter is used.

Below rates applicable on all overhead and underground transmission line work & fiber optic cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction. (Ref #14.03.01)

Lineman, Tech, Welder	\$ 57.21	\$ 58.51	\$ 59.91	\$ 61.41
Crane, Crawler Backhoe	57.21	58.51	59.91	61.41
Cable Splicer	57.21	58.51	59.91	61.41
Digging Mach. Operator	51.49	52.66	53.92	55.27
Tractor Trailer Driver	48.63	49.73	50.92	52.20
Groundman, Truck Driver	45.77	46.81	47.93	49.13
Equipment Mechanic	45.77	46.81	47.93	49.13
Flagman	34.33	35.11	35.95	36.85

Additional \$1.00 per hour for entire crew when a helicopter is used.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM to 4:30 PM REGULAR RATE
2ND SHIFT	4:30 PM to 1:00 AM REGULAR RATE PLUS 17.3 %
3RD SHIFT	12:30 AM to 9:00 AM REGULAR RATE PLUS 31.4 %

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour worked (but also required on non-worked holidays):

	\$25.40 *plus 7% of hourly Wage	\$ 25.90 *plus 7% of hourly wage	\$ 26.40 *plus 7% of hourly wage	\$ 26.90 *plus 7% of hourly wage
Journeyman Lineman or Equipment Operators with Crane License	\$ 26.40 *plus 7% of hourly wage	\$ 27.90 *plus 7% of hourly wage	\$ 29.40 *plus 7% of hourly wage	\$ 30.90 *plus 7% of hourly wage

*The 7% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY

See (B, E, Q,) on OVERTIME PAGE. *Note* Double time for all emergency work designated by the Dept. of Jurisdiction.
 NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked.
 Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.
 Overtime See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyman Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

07/01/2021	05/02/2022	05/01/2023	05/06/2024
\$25.40	\$ 25.90	\$ 26.40	\$ 26.90
*plus 7% of hourly Wage	*plus 7% of hourly wage	*plus 7% of hourly wage	*plus 7% of hourly wage

*The 7% is based on the hourly wage paid, straight time or premium time.

6-1249a

Lineman Electrician - Teledata **12/01/2021**

JOB DESCRIPTION Lineman Electrician - Teledata

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour:

For outside work, stopping at first point of attachment (demarcation).
 07/01/2021

Cable Splicer	\$ 34.78
Installer, Repairman	\$ 33.01
Teledata Lineman	\$ 33.01
Tech., Equip. Operator	\$ 33.01
Groundman	\$ 17.50

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work please see LINEMAN.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED:

1ST SHIFT	REGULAR RATE
2ND SHIFT	REGULAR RATE PLUS 10%
3RD SHIFT	REGULAR RATE PLUS 15%

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman	\$ 5.14
	*plus 3% of wage paid

*The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 16) on HOLIDAY PAGE

6-1249LT - Teledata

Lineman Electrician - Traffic Signal, Lighting **12/01/2021**

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting **DISTRICT 6**

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

A Groundman/Groundman Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/groundman truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.
 (Ref #14.01.01)

Per hour:	07/01/2021	05/02/2022	05/01/2023	05/06/2024
Lineman, Technician	\$ 47.15	\$ 48.19	\$ 49.32	\$ 50.54
Crane, Crawler Backhoe	47.15	48.19	49.32	50.54
Certified Welder	49.51	50.60	51.79	53.07
Digging Machine	42.44	43.37	44.39	45.49
Tractor Trailer Driver	40.08	40.96	41.92	42.96
Groundman, Truck Driver	37.72	38.55	39.46	40.43
Equipment Mechanic	37.72	38.55	39.46	40.43
Flagman	28.29	28.91	29.59	30.32

Above rates are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

1ST SHIFT	8:00 AM TO 4:30 PM	REGULAR RATE
2ND SHIFT	4:30 PM TO 1:00 AM	REGULAR RATE PLUS 17.3%
3RD SHIFT	12:30 AM TO 9:00 AM	REGULAR RATE PLUS 31.4%

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour worked (but also required on non-worked holidays):

\$25.40	\$ 25.90	\$ 26.40	\$ 26.90
*plus 7% of hourly Wage	*plus 7% of hourly wage	*plus 7% of hourly wage	*plus 7% of hourly wage

Journeyman Lineman or Equipment Operators with Crane License	\$ 26.40 *plus 7% of hourly wage	\$ 27.90 *plus 7% of hourly wage	\$ 29.40 *plus 7% of hourly wage	\$ 30.90 *plus 7% of hourly wage
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*The 7% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE. *Note* Double time for all emergency work designated by the Dept. of Jurisdiction.
 NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked.
 Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.
 Overtime: See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Governor of NYS Election Day.

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

WAGES per hour: 1000 hour terms at the following percentage of the applicable Journeyman Lineman wage.

1st	2nd	3rd	4th	5th	6th	7th
60%	65%	70%	75%	80%	85%	90%

SUPPLEMENTAL BENEFITS per hour:

07/01/2021	05/02/2022	05/01/2023	05/06/2024
\$25.40 *plus 7% of hourly Wage	\$ 25.90 *plus 7% of hourly wage	\$ 26.40 *plus 7% of hourly wage	\$ 26.90 *plus 7% of hourly wage

*The 7% is based on the hourly wage paid, straight time or premium time.

6-1249a-LT

Lineman Electrician - Tree Trimmer **12/01/2021**

JOB DESCRIPTION Lineman Electrician - Tree Trimmer

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also would include stump removal near underground energized electrical lines, including telephone and CATV lines.

Per hour:	07/01/2021	01/02/2022	12/31/2023
Tree Trimmer	\$ 27.36	\$ 28.25	\$ 29.80
Equipment Operator	24.19	24.98	26.35
Equipment Mechanic	24.19	24.98	26.35
Truck Driver	20.15	20.80	21.94
Groundman	16.59	17.13	18.07
Flag person	12.50*	12.50*	13.03*

*NOTE: Subject to change due to any minimum wage increases. Rate effective 12/31/2021: \$13.20

SUPPLEMENTAL BENEFITS

Per hour worked (but also required on non-worked holidays):

Journeyman	\$ 9.98 *plus 3% of hourly wage	\$ 10.23 *plus 3% of hourly wage	\$ 10.48 *plus 3% of hourly wage
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* The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked.
Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (5, 6, 8, 15) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 25) on HOLIDAY PAGE

NOTE: All paid holidays falling on a Saturday shall be observed on the preceding Friday.
All paid holidays falling on a Sunday shall be observed on the following Monday.

6-1249TT

Mason - Building

12/01/2021

JOB DESCRIPTION Mason - Building

DISTRICT 3

ENTIRE COUNTIES

Erie, Niagara

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour: 07/01/2021
Plasterer \$ 30.15

Additional \$3.00/hr for work on swing stage over 20 feet.

SUPPLEMENTAL BENEFITS

Per hour:
\$ 22.49

OVERTIME PAY

Exterior work only See (B, E, E2, Q) on OVERTIME PAGE.
All other work See (B, E, Q) on OVERTIME PAGE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following dollar amounts:

0 to 1000 to 2000 to 3000 to 4000 to 4700 to 5400 to 6000 to 7000 to 8000
\$ 12.50 \$ 14.00 \$ 15.00 \$ 16.00 \$ 17.00 \$ 18.00 \$ 19.00 \$ 20.00 \$ 21.00

Supplemental benefits per hour:

Hour terms at the following dollar amounts:

0 to 4000 to 4700 to 5400 to 6000 to 8000
\$ 2.50 \$ 3.50 \$ 4.50 \$ 5.50 \$ 7.50

3-9-Pltr

Mason - Building

12/01/2021

JOB DESCRIPTION Mason - Building

DISTRICT 5

ENTIRE COUNTIES

Erie, Niagara

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per Hour: 07/01/2021
Building:
Bricklayer \$ 32.57
Stone Mason 32.57
Tuck Pointer 32.57

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 31.26

OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1250 hour terms at the following wage:

1st	2nd	3rd	4th
\$ 25.87	\$ 26.01	\$ 27.72	\$ 30.21

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 12.35	\$ 18.61	\$ 23.30	\$ 27.22

5-3B-Z3

Mason - Building / Heavy&Highway

12/01/2021

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 3

ENTIRE COUNTIES

Erie

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour:	07/01/2021	07/01/2022
		Additional
Cement Mason	\$ 31.00	\$ 1.15

Additional \$0.25 per hr for Swing scaffold or exterior scaffold 42' or higher.

Additional \$1.00 per hr when required to wear respirator.

SUPPLEMENTAL BENEFITS

Per hour:
\$ 33.07

OVERTIME PAY

See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following dollar amounts:

1st	2nd	3rd	4th	5th	6th
\$ 15.63	\$ 17.19	\$ 20.25	\$ 23.31	\$ 26.44	\$ 29.56

Supplemental benefits per hour:

1st	2nd	3rd	4th	5th	6th
\$ 8.86	\$ 11.86	\$ 11.80	\$ 15.05	\$ 17.21	\$ 20.54

3-111Erie

Mason - Heavy&Highway

12/01/2021

JOB DESCRIPTION Mason - Heavy&Highway

DISTRICT 5

ENTIRE COUNTIES

Allegany, Broome, Chautauqua, Chemung, Chenango, Cortland, Delaware, Genesee, Livingston, Monroe, Ontario, Orleans, Otsego, Schuylers, Seneca, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Cattaraugus: Entire county except in the Township of Perrysburg and the Village of Gowanda only the Bricklayer classification applies.
Erie: Only the Bricklayer classification applies.
Niagara: Only the Bricklayer classification applies.

WAGES

Per hour: 07/01/2021
Heavy & Highway:
Cement Mason \$ 32.53
Bricklayer 32.53

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 23.13

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1500 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental benefits per hour:

1st term \$ 14.13
2nd - 4th term 23.13

5-3h

Mason - Tile Finisher

12/01/2021

JOB DESCRIPTION Mason - Tile Finisher

DISTRICT 5

ENTIRE COUNTIES

Erie, Niagara, Orleans

PARTIAL COUNTIES

Cattaraugus: Only the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour: 07/01/2021

Building:
Marble, Slate, Terrazzo \$ 29.46
and Tile Finisher

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour: \$ 16.47

OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1200 hours 1st and 2nd term and 1300 hours 3rd term at the following wage:

1st	2nd	3rd
\$ 18.84	\$ 21.38	\$ 24.23

Supplemental benefits per hour:

1st	2nd	3rd
\$ 8.64	\$ 10.71	\$ 12.47

5-3TF - Z3

Mason - Tile Setter

12/01/2021

JOB DESCRIPTION Mason - Tile Setter

DISTRICT 5

ENTIRE COUNTIES

Erie, Niagara, Orleans

PARTIAL COUNTIES

Cattaraugus: Only in the Township of Perrysburg and the Village of Gowanda.

WAGES

Per hour: 07/01/2021

Building:

Marble, Slate, Terrazzo
and Tile Setter \$ 32.60

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour: \$ 30.73

OVERTIME PAY

See (B,E,E2*,Q) on OVERTIME PAGE

*Note - Or other conditions beyond the employer's control such as fire or natural disaster.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1250 hour terms at the following wage:

1st	2nd	3rd	4th
\$ 25.75	\$ 25.84	\$ 27.33	\$ 30.52

Supplemental benefits per hour:

1st	2nd	3rd	4th
\$ 12.17	\$ 18.43	\$ 23.29	\$ 26.46

5-3TS - Z3

Millwright

12/01/2021

JOB DESCRIPTION Millwright

DISTRICT 12

ENTIRE COUNTIES

Erie, Genesee, Niagara

WAGES

Per hour: 07/01/2021

Building	\$ 34.25
Heavy & Highway*	36.25

*All Heavy & Highway Millwright construction will be paid at the rate indicated above. H/H work performed on hazardous waste sites where employees are required to wear protective gear shall receive an additional \$2.00 per hour over the Millwright H/H rate for all hours worked on the day protective gear was worn.

NOTE ADDITIONAL PREMIUMS PAID FOR THE FOLLOWING WORK LISTED BELOW (amount subject to any overtime premiums):

- Certified Welders shall receive \$1.75 per hour in addition to the current Millwright's rate provided he/she is directed to perform certified welding.
- If a building work site has been declared a hazardous site by the Owner and the use of protective gear (including, as a minimum, air purifying canister-type chemical respirators) are required, then that employee shall receive a \$1.50 premium per hour.
- An employee performing the work of a machinist shall receive \$2.00 per hour in addition to the current Building Millwright's rate. For the purposes of this premium to apply, a "machinist" is a person who uses a lathe, Bridgeport, milling machine or similar type of tool to make or modify parts.
- When performing work underground at 500 feet and below, the employee shall receive an additional \$1.00 per hour.

SUPPLEMENTAL BENEFITS

Per hour Paid:

All Classifications	\$ 30.35
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OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1300 hour terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
60%	70%	80%	90%

Supplemental Benefits per hour worked:

1st	2nd	3rd	4th
\$12.26	\$ 24.92	\$ 26.73	\$ 28.54

12-1163-Gen/Nia/Orl/Wyo

Operating Engineer - Building **12/01/2021**

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 12

ENTIRE COUNTIES

Cattaraugus, Chautauqua, Erie, Orleans, Wyoming

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

CLASS A: Air Hoist, All Boom Type Equipment, All Pans and Carry-Alls, Archer Hoist, Asphalt Curb and Gutter Machines, Asphalt Roller, Asphalt Spreader or Paver, Automatic Fine Grade Machine (CMI or similar, first and second operator), Backhoe and Pullhoe, Backhoe and Pullhoe (tractor mounted, rubber tired), Back Filling Machine, Belt Placer (CMI or similar type), Bending Machine (Pipe), Bituminous Spreader and Mixer, Blacktop Plants (Automated and Non-automated), Blast or Rotary Drill (Truck or Track Mounted), Blower for Burning Brush, Boiler (when used for power), Boom Truck (excluding pick-up and delivery), Boring Machine, Bulldozer, Cableway, Cage Hoist, Caisson Auger, Central Mix Plant (and all concrete batching plants), Cherry Picker, Concrete Cleaning Decontamination Machine Operator, Concrete Curb and Gutter Machine, Concrete Curing Machine, Concrete Cutters (Vermeer or Similar Type), Concrete Mixer (over 1/2 cu yd.), Concrete Pavement Spreaders and Finishers, Concrete Paver, Concrete Pump, Conveyor, Core Drill, Crane, Crusher, Decon of Equipment, Derrick, Dragline, Dredge, Drill Rig (Tractor Mounted), Dual Drum Paver, Electric Pump used in conjunction with Well Point Systems, Elevating Grader (self propelled or towed), Elevator, Excavator (all purpose, hydraulically operated), Farm Tractor with Accessories, Fine Grade Machine, Forklift, Front End Loader, Generator (10 outlets or more), Gradall, Grader, Grout or Guniting Machine, Head Tower, Heavy Equipment Robotics Operator/Mechanic, Helicopter (when used for hoisting), Hoist (one drum), Hoisting Engine, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, Hydraulic Boom, Hydraulic Hammer (self-propelled), Hydraulic Pipe Jack Machine (or similar type machine), Hydraulic Rock Expander (or similar type machine), Hydraulic System Pumps, Hydro Crane, Hydro Hammer (or similar type), Industrial Tractor, Jersey Spreader, Kolman Plant Loader (and similar type loaders), Laser Screed, Locomotive, Lubrication Truck, Maintenance Engineer, Maintenance, Lubrication Unit or Truck, Mine Hoist, Mixer for Stabilized Base (self-propelled), Monorail, Motorized Hydraulic Pin Puller, Motorized Hydraulic Seeder, Mucking Machine, Mulching Machine, Multiple Drum Hoist (more than one drum in use), Overhead Crane, Peine Crane (or similar type), Pile Driver, Plant Engineer, Pneumatic Mixer, Post Hole Digger and Driver, Power Broom, Pumpcrete, Push Button Hoist, Push or Snatch Cat, Quarry Master or equivalent, Road Widener, Rock Bit Sharpener (all types), Roller (all), Rolling Machine (pipe), Rotomill, Scissors Trucks, Lift, or Boom Lift of any type (when used for hoisting), Scoopmobile, Shovel, Sideboom, Skidsteer/Bobcat (Similar Type), Skimmer, Slip Form Paver (CMI or similar type), Snorkel/Vacuum Truck, Strato-Tower, Stump Chipping Machine, Tire Truck and Drivers performing tire repair (exclude outside vendor), Towed Roller, Tractor Drawn Belt-Type Grader/Loader, Tractor Shovel, Tractor with Towed Accessories, Tractor (when using winch power), Tractors, Trencher, Truck Crane, Truck Mechanic and Helper (exclude Teamsters when repairing their own trucks), Tunnel Shovel, Tube Finisher (CMI and similar type), Ultra High Pressure Waterjet Cutting Tool System Operator/Mechanic, Vacuum Blasting Machine Operator/Mechanic, Vibratory Compactor, Vibro Tamp, Well Drilling Machine, Well Point, Winch, Winch Truck with A Frame.

CLASS B: Aggregate Bin, Aggregate Plant, Apprentice Engineer, Apprentice Engineer Driver, Articulated Off Road Material Hauler, Boiler (used in conjunction with production), CMI and similar type Concrete Spreads (Apprentice Engineer), Cement Bin, Chipping Machine and Chip Spreader, Compressors (4 or less), Compressors (any size, but subject to other provisions for Compressors, Dust Collectors, Generators, Mechanical Heaters, Pumps, Welding Machines - four of any type or combination), Concrete Mixer (1/2 cu. yd. and under), Fireman, Form Tamper, Form Trucks (excluding Teamster or delivery), Fuel Truck or Drivers (exclude Teamster or delivery), Heaters, Heating Boiler (used for temporary heat), Helper on Lubrication Unit or Truck, Jeep Trencher, Power Heaterman, Power Plant in excess of 10 K.W., Pumps, Revinus Widener, Steam Boilers (if manning or license by local law is required), Steam Cleaner (when used for cleaning equipment on the job site), Welding Machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

Operating Engineer- Building:

Per hour:	07/01/2021
Class A	\$ 38.51
Class B	34.03
Crane(Up to 60 Tons)	40.01
" (61 to 199 Tons)	42.01
" (200 to 399 Tons)	42.51
" (400 Tons or more)	43.01

Additional \$5.00/hr. for Any Tower Crane
Additional \$2.50/hr. for Hazardous Work Site
Additional \$1.00/hr. for Tunnel Work

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyman \$ 31.55**

**Note: For Overtime Hours \$23.35 of this amount is paid a straight time, the remaining balance of \$8.20 is paid at the same premium as the wage.

OVERTIME PAY

See (B, E, *E2, P, **V) on OVERTIME PAGE

* Only Saturdays between October 15th and April 15th.

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1 year Terms

1st	2nd	3rd	4th
\$28.35	\$29.24	\$30.12	\$31.01

Supplemental benefits Per Hour:
 All Apprentices \$30.65**

**Note: For Overtime Hours \$23.35 of this amount to be paid a straight time rate remaining balance of \$7.30 is paid at same premium as the wage.

12-17b

Operating Engineer - Heavy&Highway **12/01/2021**

JOB DESCRIPTION Operating Engineer - Heavy&Highway **DISTRICT 12**

ENTIRE COUNTIES
 Chautauqua, Erie, Niagara, Orleans

WAGES
 Marine Construction/Dredging

Class 1: Diver/Wet Tender, Engineer, Engineer(hydraulic dredge), Blaster.

Class 2(A): Crane, Backhoe Operator, Material Handler, ALL Self-propelled Drill Rigs, Mechanic/Welder, Asst. Engineer(hydraulic dredge), Leverman(hydraulic dredge), Diver/Dry Tender.

Class 2(B): Friction, Lattice Boom, or Crane License Certificate, Endorse Tug or Tow Boat Operator.

Class 3: Deck Equipment Operator, (Machineryman), Maintenance of Crane, Tug/Launch Operator, Loader/Dozer on Barge.

Class 4: Deck Equipment Operator and Machineryman/Fireman on 4 equipment units or more, Off Road Trucks, Deck Hand, Tug Engineer, Crane Maintenance(50 tons and under/ backhoe 115,000lbs or less), Asst. Tug Operator, Blaster Helper.

Per hour: 07/01/2021

Class 1	\$ 48.80
Class 2(A)	47.30
Class 2(B)	50.30
Class 3	42.10
Class 4	35.00

Hazardous/Toxic Waste based on EAP Levels
 Additional:
 Level A - \$2.50/Hr.
 Level B - 2.00/Hr.
 Level C - 1.00/Hr.
 Level D - 0.50/Hr.

SUPPLEMENTAL BENEFITS
 Per Hour Paid:

ALL CLASSES \$ 32.04

OVERTIME PAY
 See (B, E, I, *S) on OVERTIME PAGE
 * If the Holiday is Worked

HOLIDAY
 Paid: See (5, 6, 15, 25) on HOLIDAY PAGE

12-17 Marine

Operating Engineer - Heavy&Highway **12/01/2021**

JOB DESCRIPTION Operating Engineer - Heavy&Highway **DISTRICT 12**

ENTIRE COUNTIES
 Cattaraugus, Chautauqua, Erie, Niagara, Orleans, Wyoming

PARTIAL COUNTIES
 Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

CLASS A: Air Hoist, All Boom Type Equipment, All Pans and Carry-Alls, Asphalt Curb and Cutter Machines, Asphalt Roller, Asphalt Spreader or Paver, Automatic Fine Grade Machine (CMI or similar, first and second operator), Backhoe and Pullhoe (all), Back Filling Machine, Belt Placer (CMI or similar type), Bending Machine (pipe), Bituminous Spreader and Mixer, Blacktop Plant (all), Blast or Rotary Drill (Truck or Track Mounted), Blower for Burning Brush, Boiler (when used for power), Boom Truck, Boring Machine, Bulldozer, Cableway, Cage Hoist, Caisson Auger, Central Mix Plant (and all Concrete Batching Plants), Cherry Picker, Concrete Cleaning Decontamination Machine, Concrete Curb and Gutter Machine, Concrete Curing Machine, Concrete Mixer (over 1/2 cu. yd.), Concrete Pavement Spreaders and Finishers, Concrete Paver, Concrete Pump, Concrete Saw (self propelled), Conveyor, Convoying Vehicles Convoying Engineer's Equipment, Core Drill, Crane, Crusher, Decontamination of Equipment, Derrick, Dragline, Dredge, Drill Rig (Tractor Mounted), Dual Drum Paver, Electric Pump used in conjunction with Well Point Systems, Elevating Grader (self propelled or towed), Elevator, Excavator (all purpose, hydraulically operated), Farm Tractor with Accessories, Fine Grade Machine, Forklift, Front End Loader, Gradall, Grader, Grout or Guniting Machine, Head Tower, Heavy Equipment Robotics Operator/Mechanic, Hoist (all types), Hoisting Engine, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, Hydraulic Boom, Hydraulic Hammer (self propelled), Hydraulic Pipe Jack Machine, (or similar type machine), Hydraulic Rock Expander (or similar type machine), Hydraulic System Pumps, Industrial Tractor, Jersey Spreader, Kolman Plant Loader (and similar type Loaders), Laser Screed, Locomotive, Log Skidder (similar type), Maintenance Engineer, Maintenance, Lubrication Unit or Truck, Mine Hoist, Mixer for Stabilized Base (self propelled), Monorail, Motorized Hydraulic Pin Puller, Motorized Hydraulic Seeder, Mucking Machine, Mulching Machine, Overhead Crane, Parts Chasing, Peine Crane (or similar type), Pile Driver, Plant Engineer, Pneumatic Mixer, Post Hole Digger and Post Driver, Power Broom, Pump Crete, Push Button Hoist, Push or Snatch Cat, Quarry Master (or equivalent), Road Widener, Rock Bit Sharpener (all types), Roller (all), Rolling Machine (Pipe), Rotomill, Scoopmobile, Shovel, Side Boom, Skidsteer/Bobcat (similar type), Skimmer, Slip Form Paver (CMI or similar, first and second operator), Snorkel/Vacuum Truck, Strato-Tower, Tire Truck & Repair, Towed Roller, Tractor Drawn Belt-Type Grader/Loader, Tractor Shovel, Tractor with Towed Accessories, Tractors (when using winch power), Trencher, Truck Crane, Tug Boats, Tunnel Shovel, Tube Finisher (CMI and similar), Vacuum Blasting Machine Operator/Mechanic, Vibratory Compactor, Vibro Tamp, Waterjet Cutting Tool System Operator/Mechanic (Ultra High Pressure), Well Drilling Machine, Well Point, Winch, Winch Truck with A Frame.

CLASS B: Aggregate Bin, Aggregate Plant, Apprentice Engineer, Apprentice Engineer Driver, Articulated Off Road Material Hauler, CMI and similar type Concrete Spreads (Apprentice Engineer), Cement Bin, Chipping Machine and Chip Spreader, Compressors (4 or less), Compressors: any size, but subject to other provisions for Compressors, Dust Collectors, Generators, Mechanical Heaters, Pumps, Welding Machines (four of any type or combination), Concrete Mixer (1/2 cu. yd. and under), Fireman, Form Tamper, Fuel Truck, Heating Boiler (used for temporary heat), Helper on Lubrication Unit or Truck, Jeep Trencher, Power Heaterman, Power Plant in excess of 10 K.W., Pumps (4" or over), Revinus Widener, Steam Cleaner, Stump Chipping Machine, Welding Machine (1 machine over 300 amps or 2 or 3 machines regardless of amps).

Operating Engineer- Heavy/Highway, Sewer/Water, Tunnel:

Per hour:	07/01/2021
Class A	\$ 40.64
Class B	36.14
Crane 5 to 60 tons	43.64
" 61 to 199 tons	44.14
" 200 to 399 tons	44.64
" 400 and over	45.14

Additional \$2.50/hr. for Hazardous Work Site
Additional \$1.00/hr. for Tunnel Work
Additional \$4.00/hr. for Mandated Off-Shift Work

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 33.16*

*Note: For Overtime Hours \$25.21 of the amount paid at straight time, the remaining balance of 7.95 is paid at the same premium as the wage.

OVERTIME PAY

See (B, E, Q, W) on OVERTIME PAGE

HOLIDAY

Paid: See (*5, **6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

*Saturday Holidays will be recognized on the Friday before

**Sunday Holidays will be recognized on the Monday after

REGISTERED APPRENTICES

Wages per hour:

Apprentices at 1 year terms

1st	2nd	3rd	4th
\$33.14	\$34.14	\$35.14	\$36.14

Supplemental Benefits

All Apprentices \$ 32.76*

*Note: For Overtime Hours \$25.21 of the amount paid at straight time, the remaining balance of \$7.55 is paid at same premium as the wage.

12-17 hh/sw/t

Operating Engineer - Survey Crew

12/01/2021

JOB DESCRIPTION Operating Engineer - Survey Crew

DISTRICT 12

ENTIRE COUNTIES

Cattaraugus, Chautauqua, Erie, Niagara, Orleans, Wyoming

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

These rates apply to Building, Heavy and Highway Construction.

Per hour:

SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party.

Instrument Person - One who operates the surveying instruments.

Rod Person - One who holds the rods and assists the Instrument Person.

07/01/2021

Party Chief	\$ 44.09
Instrument Person	41.57
Rod Person	28.75

Additional \$3.00 per hr. for work in a Tunnel.

Additional \$2.50 per hr. for EPA or DEC certified toxic or hazardous waste work.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 28.75

OVERTIME PAY

See (B, E, Q, *X) on OVERTIME PAGE

*Note: \$23.75 Only for "ALL" premium hours when worked.

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES:1000 hour terms based on the Percentage of Rod Person wage:

07/01/2021

0-1000 Hrs	60%
1001-2000 Hrs	70%
2001-3000 Hrs	80%

SUPPLEMENTAL BENEFITS per hour worked:

0-1000 Hrs	\$ 17.25 / PHP \$13.29
1001-2000 Hrs	20.13 / " 15.51
2001-3000 Hrs	23.00 / " 18.12

NOTE: PHP is premium hours paid when worked.

12-17D Sur

Operating Engineer - Survey Crew - Consulting Engineer

12/01/2021

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer

DISTRICT 12

ENTIRE COUNTIES

Cattaraugus, Chautauqua, Erie, Niagara, Orleans, Wyoming

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

These rates apply to feasibility and preliminary design surveying, line of grade surveying for inspection or supervision of construction when performed under a Consulting Engineer Agreement.

Per hour:

SURVEY CLASSIFICATIONS:

Party Chief - One who directs a survey party.

Instrument Person - One who operates the surveying instruments.

Rod Person - One who holds the rods and assists the Instrument Person.

07/01/2021

Party Chief	\$ 44.09
Instrument Person	41.57
Rod Person	28.75

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 28.75
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OVERTIME PAY

See (B, E, Q, *X) on OVERTIME PAGE

*Note: \$23.75 Only for "ALL" premium hours paid.

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES: 1000 hour terms based on the Percentage of Rod Persons Wage:

07/01/2021

0-1000	60%
1001-2000	70%
2001-3000	80%

SUPPLEMENTAL BENEFITS per hour worked:

0-1000	\$ 17.25 / PHP \$13.29
1001-2000	20.13 / " 15.51
2001-3000	23.00 / " 18.12

NOTE: PHP is premium hours paid when worked.

12-17D Con Eng

Painter

12/01/2021

JOB DESCRIPTION Painter

DISTRICT 3

ENTIRE COUNTIES

Allegany, Erie, Genesee, Niagara, Orleans, Wyoming

PARTIAL COUNTIES

Cattaraugus: Entire County except the Townships of Conewango, Leon, Napoli, New Albion, Randolph and South Valley.

Chautauqua: Only the Townships of Awkright, Dunkirk, Hanover, Pomfret, Portland, Sheridan and Villenova.

Livingston: Only the Townships of North Dansville, Nunda, Ossian, Portage, Sparta, Spring Water and West Sparta.

Steuben: Only the Townships of Avoca, Canisteo, Cohocton, Dansville, Fremont, Greenwood, Hartsville, Hornellsville, Howard, Jasper, Prattsburg, Pulteney, Troupsburg, Tuscarora, Urbana, Wayland, Wayne, Woodhull, West Union, Wheeler, and the City of Hornell.

WAGES

Per hour: 07/01/2021

Basic Rate (Brush & Roll)	\$ 28.00
Spray painting, wallcovering	28.00
Abrasive and hydroblasting	28.00
Taping/DryWall Finisher	28.50

Skeleton Steel* 28.75

* Skeleton Steel: No floors, walls or ceiling are constructed, including radio and television towers, flagpoles, smokestacks, cranes and the abatement of coatings with lead, asbestos and/or arsenic, etc. All work within the confines of a plant shall be paid the skeleton steel rate (except in-plant tank work (see Tank Rate)).

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 25.79

OVERTIME PAY

Exterior work only See (B, E4, F*, R) on OVERTIME PAGE.

All other work See (B, F*, R) on OVERTIME PAGE.

* Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Painter/Decorator: 750 hour terms at the following percentage of Journeyman's Basic wage rate:

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	60%	65%	70%	75%	80%	90%

Taper/Drywall Finisher: 750 hour terms at the following percentage of Journeyman's Taper wage:

1st	2nd	3rd	4th	5th	6th
50%	55%	60%	65%	75%	85%

Supplemental benefits per hour:

Painter/Decorator and Taper/Drywall Finisher:

1st	2nd	3rd	4th	5th	6th	7th	8th
\$ 2.35	\$ 4.35	\$ 5.35	\$ 5.85	\$ 6.35	\$ 6.85	\$ 7.35	\$ 7.60

3-4-Buf, Nia, Olean

Painter

12/01/2021

JOB DESCRIPTION Painter

DISTRICT 3

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES

Per hour: 07/01/2021

Bridge	\$ 40.00
Tunnel	40.00
Tank*	38.00

For Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

Tank rate applies to indoor and outdoor tanks, tank towers, standpipes, digesters, waste water treatment tanks, chlorinator tanks, etc. Covers all types of tanks including but not limited to steel tanks, concrete tanks, fiberglass tanks, etc.

Note an additional \$1.00 per hour is required when the contracting agency or project specification requires any shift to start prior to 6:00am or after 12:00 noon.

SUPPLEMENTAL BENEFITS

Per hour:

\$ 29.20

OVERTIME PAY

Exterior work only See (B, E4, F*, R) on OVERTIME PAGE.
 All other work See (B, F*, R) on OVERTIME PAGE.

*Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

750 hour terms at the following percentage of Journeyman's wage rate:

1st	2nd	3rd	4th	5th	6th
50%	55%	60%	65%	75%	85%

Supplemental benefits per hour:

1st & 2nd terms	\$ 5.50	\$ 5.51
3rd & 4th terms	5.50	5.51
5th & 6th terms	6.50	6.51

3-4-Bridge, Tunnel, Tank

Painter - Metal Polisher

12/01/2021

JOB DESCRIPTION Painter - Metal Polisher

DISTRICT 8

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

	07/01/2021
Metal Polisher	\$ 37.13
Metal Polisher*	38.23
Metal Polisher**	41.13

*Note: Applies on New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2021

Journeyworker:

All classification \$ 10.64

OVERTIME PAY

See (B, E, P, T) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE
 Overtime: See (5, 6, 9, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One (1) year term at the following wage rates:

	07/01/2021
1st year	\$ 16.00
2nd year	17.00
3rd year	18.00
1st year*	\$ 16.39
2nd year*	17.44
3rd year*	18.54
1st year**	\$ 18.50
2nd year**	19.50
3rd year**	20.50

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:
Per hour:

1st year	\$ 7.39
2nd year	7.39
3rd year	7.39

8-8A/28A-MP

Plumber **12/01/2021**

JOB DESCRIPTION Plumber

DISTRICT 3

ENTIRE COUNTIES

Erie, Niagara, Wyoming

PARTIAL COUNTIES

Allegany: Only the Townships of Allen, Angelica, Belfast, Caneadea, Centerville, Granger, Hume, New Hudson and Rushford
Cattaraugus: Only the Townships of Ashford, Dayton, East Otto, Ellicottville, Farmersville, Franklinville, Freedom, Leon, Lyndon, Machias, Mansfield, New Albion, Otto, Perrysburg, Persia and Yorkshire.
Chautauqua: Only the Townships of Arkwright, Charlotte, Cherry Creek, Dunkirk, Hanover, Pomfret, Portland, Ripley, Sheridan, Stockton, Villenova, Westfield, City of Dunkirk and Village of Fredonia.
Genesee: Only the Townships of Alabama, Alexander, Batavia, Darien, Elba, Oakfield, Pembroke and the City of Batavia.
Orleans: Only the Townships of Ridgeway, Shelby and Yates.

WAGES

Per hour: 07/01/2021

Plumber	\$ 37.15
Steamfitter	\$ 37.15

Note - Add 10% (ten-percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

SUPPLEMENTAL BENEFITS

Per hour: \$ 27.51

Note - \$4.38 of this amount must be paid at the same premium as the wage.

OVERTIME PAY

See (*B, **E, Q) on OVERTIME PAGE

* Double time after 11 hours per day on Weekdays.

** Double time after 10 hours per day on Saturday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th	5th
45%	55%	65%	75%	90%

Note - Add 10% (ten-percent) to wage when HAZMAT training is required or when OSHA compliant respirator protection is required.

Supplemental benefits per hour:

\$ 22.82

Note - \$4.38 of this amount must be paid at the same premium as the wage.

3-22-Buffalo, Niagara

Roofer **12/01/2021**

JOB DESCRIPTION Roofer

DISTRICT 3

ENTIRE COUNTIES

Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour: 07/01/2021

Asbestos Removal	\$ 33.96
Slate, Tile	31.11
Precast tile / slabs	31.11
Crete / gypsum planks	31.11
Damp and waterproofer	30.96
Composition, sprayers,	30.96
Asphalt mastic,	30.96
Steep roofers	30.96

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:
 15.0% for work from 4:30PM - 1:00AM or second shift
 20.0% for work from 12:30AM - 9:00AM or third shift

SUPPLEMENTAL BENEFITS

Per hour:
 \$ 23.01

OVERTIME PAY

See (B, *E, **E2, Q) on OVERTIME PAGE
 * and ** Double time after 8 hours on Saturday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

Hour terms at the following percentage of Journeyman's wage:

0	to 499	to 999	to 1499	to 1999	to 2499	to 2999	to 3499	to 4499
	60%	65%	70%	75%	80%	85%	90%	95%

Supplemental benefits per hour:

0	to 499	to 999	to 1499	to 1999	to 2499	to 2999	to 3499	to 4499
	\$ 8.21	\$ 8.21	\$ 12.34	\$ 12.54	\$ 20.32	\$ 20.99	\$ 21.66	\$ 22.34

Sheetmetal Worker **12/01/2021**

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 3

ENTIRE COUNTIES

Erie, Genesee, Niagara, Orleans, Wyoming

WAGES

Per hour: 07/01/2021

Sheet Metal Worker \$ 35.00

Additional \$0.50 per hour for work more than 30" above floor on boatswain chair.
 Additional \$1.00 per hour for work in "Hot" areas of atomic laboratories, atomic plants, or any premises where radio-active materials are stored or handled and personal protective equipment is required.
 Additional \$1.00 per hour for work when required to have 40-hour HAZMAT training or the use of OSHA compliant respirator is required.

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply:

Shift Premium per hour:

Second Shift	\$ 3.25
Third Shift	\$ 5.00

SUPPLEMENTAL BENEFITS

Per hour:
 \$ 27.47*

* Note - \$17.57 of this amount must be paid at the same premium as the wages per overtime hours.

OVERTIME PAY

See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 16) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following wage:

1st term	\$ 15.75
2nd term	20.60
3rd term	22.04
4th term	26.36
5th term	29.24

Supplemental benefits per hour:

1st term	\$ 15.94	Note - \$8.04 of this amount must be paid at the same premium as the wage.
2nd term	19.04	Note - \$11.14 of this amount must be paid at the same premium as the wage.
3rd term	24.68	Note - \$14.78 of this amount must be paid at the same premium as the wage.
4th term	25.61	Note - \$15.71 of this amount must be paid at the same premium as the wage.
5th term	26.23	Note - \$16.33 of this amount must be paid at the same premium as the wage.

When shift work is mandated either in the job specification or by the contracting agency the following premiums apply;

Shift Premium per hour:

Second Shift

1st term	\$ 1.46
2nd term	\$ 1.63
3rd term	\$ 1.79
4th term	\$ 2.28
5th term	\$ 2.60

Third Shift

1st term	\$ 2.25
2nd term	\$ 2.50
3rd term	\$ 2.75
4th term	\$ 3.50
5th term	\$ 4.00

3-71

Sprinkler Fitter

12/01/2021

JOB DESCRIPTION Sprinkler Fitter

DISTRICT 1

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Washington, Wayne, Wyoming, Yates

WAGES

Per hour 07/01/2021

Sprinkler \$ 36.33
 Fitter

SUPPLEMENTAL BENEFITS

Per hour

Journey person \$ 27.14

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES

Wages per hour

One Half Year terms at the following wage.

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 17.48	\$ 19.43	\$ 21.12	\$ 23.06	\$ 25.00	\$ 26.95	\$ 28.89	\$ 30.83	\$ 32.77	\$ 34.72

Supplemental Benefits per hour

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
\$ 8.27	\$ 8.27	\$ 19.22	\$ 19.22	\$ 19.47	\$ 19.47	\$ 19.47	\$ 19.47	\$ 19.47	\$ 19.47 1-669

Teamster - Building / Heavy&Highway **12/01/2021**

JOB DESCRIPTION Teamster - Building / Heavy&Highway **DISTRICT 3**

ENTIRE COUNTIES
Erie, Niagara

PARTIAL COUNTIES
Genesee: Only in the Townships of Alabama, Darien and Pembroke.
Orleans: Only the Townships of Ridgeway, Shelby and Yates.
Wyoming: Only in the Townships of Arcade, Bennington, Java and Sheldon.

WAGES
GROUP 1: Warehousemen, Yardmen, Truck Helpers, Pickups, Panel Trucks, Flatboy Material Trucks (straight jobs), Single Axle Dump Trucks, Dumpsters, Material Checkers and Receivers, Greasers, Truck Tiremen, Mechanics Helpers and Parts Chasers.

GROUP 2: Tandems and Batch Trucks, Mechanics, Dispatcher.

GROUP 3: Semi-Trailers, Low-Boy Trucks, Asphalt Distributor Trucks and Agitator, Mixer Trucks and dumpcrete type vehicles, Truck Mechanic, Fuel Trucks

GROUP 4: Specialized Earth Moving Equipment, Euclid type, or similar off-highway, where not self-loading, Straddle (Ross) Carrier, and self-contained concrete mobile truck.

GROUP 5: Off-highway Tandem Back-Dump, Twin Engine Equipment and Double-Hitched Equipment where not self-loading.

Per hour: 07/01/2021
All GROUPS \$ 41.22

Add \$2.00 when required to use personal protection when performing hazardous waste removal work.
An additional \$3.00 per hour is required when a single irregular work shift starting any time from 5:00PM to 1:00AM is mandated either in the job specification or by the contracting agency.

SUPPLEMENTAL BENEFITS
Per hour: \$ 15.36*

*Note - Only \$ 7.16 per hour needs to be paid for overtime hours.

OVERTIME PAY
See (B, G, P) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

3-449

Teamster - Building / Heavy&Highway **12/01/2021**

JOB DESCRIPTION Teamster - Building / Heavy&Highway **DISTRICT 3**

ENTIRE COUNTIES
Erie, Niagara

WAGES
Per hour: 07/01/2021
Dump Truck Operator* \$ 24.25

*Does not include Single Axle Dump Trucks (see Teamster Group 1).
*Does not include Off-highway Dump Trucks (see Teamster Groups 2-5).

SUPPLEMENTAL BENEFITS
Per hour: \$ 1.73

OVERTIME PAY
See (B, B2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

Welder

12/01/2021

JOB DESCRIPTION Welder

DISTRICT 1

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour 07/01/2021

Welder: To be paid the same rate of the mechanic performing the work.*

*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

OVERTIME PAY

HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

- (AA) Time and one half of the hourly rate after 7 and one half hours per day
- (A) Time and one half of the hourly rate after 7 hours per day
- (B) Time and one half of the hourly rate after 8 hours per day
- (B1) Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday.
Double the hourly rate for all additional hours
- (B2) Time and one half of the hourly rate after 40 hours per week
- (C) Double the hourly rate after 7 hours per day
- (C1) Double the hourly rate after 7 and one half hours per day
- (D) Double the hourly rate after 8 hours per day
- (D1) Double the hourly rate after 9 hours per day
- (E) Time and one half of the hourly rate on Saturday
- (E1) Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
- (E2) Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- (E3) Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
- (E4) Saturday and Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- (E5) Double time after 8 hours on Saturdays
- (F) Time and one half of the hourly rate on Saturday and Sunday
- (G) Time and one half of the hourly rate on Saturday and Holidays
- (H) Time and one half of the hourly rate on Saturday, Sunday, and Holidays
- (I) Time and one half of the hourly rate on Sunday
- (J) Time and one half of the hourly rate on Sunday and Holidays
- (K) Time and one half of the hourly rate on Holidays
- (L) Double the hourly rate on Saturday
- (M) Double the hourly rate on Saturday and Sunday
- (N) Double the hourly rate on Saturday and Holidays
- (O) Double the hourly rate on Saturday, Sunday, and Holidays
- (P) Double the hourly rate on Sunday
- (Q) Double the hourly rate on Sunday and Holidays
- (R) Double the hourly rate on Holidays
- (S) Two and one half times the hourly rate for Holidays

- (S1) Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
- (T) Triple the hourly rate for Holidays
- (U) Four times the hourly rate for Holidays
- (V) Including benefits at SAME PREMIUM as shown for overtime
- (W) Time and one half for benefits on all overtime hours.
- (X) Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

- (1) None
- (2) Labor Day
- (3) Memorial Day and Labor Day
- (4) Memorial Day and July 4th
- (5) Memorial Day, July 4th, and Labor Day
- (6) New Year's, Thanksgiving, and Christmas
- (7) Lincoln's Birthday, Washington's Birthday, and Veterans Day
- (8) Good Friday
- (9) Lincoln's Birthday
- (10) Washington's Birthday
- (11) Columbus Day
- (12) Election Day
- (13) Presidential Election Day
- (14) 1/2 Day on Presidential Election Day
- (15) Veterans Day
- (16) Day after Thanksgiving
- (17) July 4th
- (18) 1/2 Day before Christmas
- (19) 1/2 Day before New Years
- (20) Thanksgiving
- (21) New Year's Day
- (22) Christmas
- (23) Day before Christmas
- (24) Day before New Year's
- (25) Presidents' Day
- (26) Martin Luther King, Jr. Day
- (27) Memorial Day
- (28) Easter Sunday

(29) Juneteenth



**New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12240**

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By: _____

(Check Only One)

Contracting Agency Architect or Engineering Firm Public Work District Office Date: _____

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address (Check if new or change)

Telephone: ()

Fax: ()

E-Mail: _____

2. NY State Units (see Item 5)

- | | |
|---|--|
| <input type="checkbox"/> 01 DOT | <input type="checkbox"/> 07 City |
| <input type="checkbox"/> 02 OGS | <input type="checkbox"/> 08 Local School District |
| <input type="checkbox"/> 03 Dormitory Authority | <input type="checkbox"/> 09 Special Local District, i.e.,
Fire, Sewer, Water District |
| <input type="checkbox"/> 04 State University
Construction Fund | <input type="checkbox"/> 10 Village |
| <input type="checkbox"/> 05 Mental Hygiene
Facilities Corp. | <input type="checkbox"/> 11 Town |
| <input type="checkbox"/> 06 OTHER N.Y. STATE UNIT | <input type="checkbox"/> 12 County |
| | <input type="checkbox"/> 13 Other Non-N.Y. State
(Describe) |

3. SEND REPLY TO check if new or change)
Name and complete address: _____

Telephone:()

Fax: ()

E-Mail: _____

4. SERVICE REQUIRED. Check appropriate box and provide project information.

New Schedule of Wages and Supplements.

APPROXIMATE BID DATE : _____

Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR
THIS PROJECT : _____

OFFICE USE ONLY

B. PROJECT PARTICULARS

5. Project Title _____

Description of Work _____

Contract Identification Number _____

Note: For NYS units, the OSC Contract No. _____

6. Location of Project:
Location on Site _____

Route No/Street Address _____

Village or City _____

Town _____

County _____

7. Nature of Project - Check One:

- 1. New Building
- 2. Addition to Existing Structure
- 3. Heavy and Highway Construction (New and Repair)
- 4. New Sewer or Waterline
- 5. Other New Construction (Explain)
- 6. Other Reconstruction, Maintenance, Repair or Alteration
- 7. Demolition
- 8. Building Service Contract

8. OCCUPATION FOR PROJECT :

- | | |
|--|---|
| <input type="checkbox"/> Construction (Building, Heavy
Highway/Sewer/Water) | <input type="checkbox"/> Guards, Watchmen |
| <input type="checkbox"/> Tunnel | <input type="checkbox"/> Janitors, Porters, Cleaners,
Elevator Operators |
| <input type="checkbox"/> Residential | <input type="checkbox"/> Moving furniture and
equipment |
| <input type="checkbox"/> Landscape Maintenance | <input type="checkbox"/> Trash and refuse removal |
| <input type="checkbox"/> Elevator maintenance | <input type="checkbox"/> Window cleaners |
| <input type="checkbox"/> Exterminators, Fumigators | <input type="checkbox"/> Other (Describe) |
| <input type="checkbox"/> Fire Safety Director, NYC Only | |

9. Has this project been reviewed for compliance with the Wicks Law involving separate bidding? YES NO

10. Name and Title of Requester _____

Signature



NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

**LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE
AWARDED ANY PUBLIC WORK CONTRACT**

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

Debarment Database: To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: <https://applications.labor.ny.gov/EDList/searchPage.do>

For inquiries where WCB is listed as the "Agency", please call 1-866-546-9322

NYSDOL Bureau of Public Work Debarment List 11/29/2021

Article 8

AGENCY	Fiscal Officer	FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	DOL	*****5754	0369 CONTRACTORS, LLC		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	NYC	*****9839	A.J.S. PROJECT MANAGEMENT, INC.		149 FIFTH AVENUE NEW YORK NY 10010	12/29/2016	12/29/2021
DOL	DOL	*****4018	ADIRONDACK BUILDING RESTORATION INC.		4156 WILSON ROAD EAST TABERG NY 13471	03/26/2019	03/26/2024
DOL	AG	*****1812	ADVANCED BUILDERS & LAND DEVELOPMENT, INC.		400 OSER AVE #2300HAUPPAUGE NY 11788	09/11/2019	09/11/2024
DOL	DOL	*****1687	ADVANCED SAFETY SPRINKLER INC		261 MILL ROAD P.O BOX 296EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	NYC	*****6775	ADVENTURE MASONRY CORP.		1535 RICHMOND AVENUE STATEN ISLAND NY 10314	12/13/2017	12/13/2022
DOL	NYC		AGOSTINHO TOME		405 BARRETTO ST BRONX NY 10474	05/31/2018	05/31/2023
DOL	NYC		AMJAD NAZIR		2366 61ST ST BROOKLYN NY 11204	12/15/2016	12/15/2021
DOL	NYC		AMJED PARVEZ		401 HANOVER AVENUE STATEN ISLAND NY 10304	01/11/2021	01/11/2026
DOL	DOL		ANGELO F COKER		2610 SOUTH SALINA STREET SUITE 14SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL		ANGELO F COKER		2610 SOUTH SALINA STREET SUITE 14SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL		ANGELO GARCIA		515 WEST AVE UNIT PH 13NORWALK CT 06850	05/12/2021	05/12/2026
DOL	DOL		ANITA SALERNO		158 SOLAR ST SYRACUSE NY 13204	01/07/2019	01/07/2024
DOL	NYC		ANTHONY J SCLAFANI		149 FIFTH AVE NEW YORK NY 10010	12/29/2016	12/29/2021
DOL	DOL		ANTHONY PERGOLA		3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10323	01/23/2017	01/23/2022
DOL	DOL		ANTONIO ESTIVEZ		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		ARNOLD A. PAOLINI		1250 BROADWAY ST BUFFALO NY 14212	02/03/2020	02/03/2025
DOL	NYC		ARSHAD MEHMOOD		168-42 88TH AVENUE JAMAICA NY 11432	11/20/2019	11/20/2024
DOL	DOL		ARVINDER ATWAL		65 KENNETH PLACE NEW HYDE PARK NY 11040	07/19/2017	07/19/2022
DOL	NYC	*****6683	ATLAS RESTORATION CORP.		35-12 19TH AVENUE ASTORIA NY 11105	08/02/2017	08/02/2022
DOL	NYC	*****5532	ATWAL MECHANICALS, INC		65 KENNETH PLACE NEW HYDE PARK NY 11040	07/19/2017	07/19/2022
DOL	NYC	*****2591	AVI 212 INC.		260 CROSEY AVENUE APT 11GBROOKLYN NY 11214	10/30/2018	10/30/2023
DOL	NYC		AZIDABEGUM		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	NYC		BALWINDER SINGH		421 HUDSON ST SUITE C5NEW YORK NY 10014	02/20/2019	02/20/2024
DOL	NYC	*****8416	BEAM CONSTRUCTION, INC.		50 MAIN ST WHITE PLAINS NY 10606	01/04/2019	01/04/2024
DOL	DOL		BERNARD BEGLEY		38 LONG RIDGE ROAD BEDFORD NY 10506	12/18/2019	12/18/2024
DOL	NYC	*****2113	BHW CONTRACTING, INC.		401 HANOVER AVENUE STATEN ISLAND NY 10304	01/11/2021	01/11/2026
DOL	DOL		BIAGIO CANTISANI			06/12/2018	06/12/2023
DOL	DOL	*****3627	BJB CONSTRUCTION CORP.		38 LONG RIDGE ROAD BEDFORD NY 10506	12/18/2019	12/18/2024
DOL	DOL	*****4512	BOB BRUNO EXCAVATING, INC		5 MORNINGSIDE DR AUBURN NY 13021	05/28/2019	05/28/2024
DOL	DOL		BOGDAN MARKOVSKI		370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601	02/11/2019	02/11/2024
DOL	DOL		BRADLEY J SCHUKA		4 BROTHERS ROAD WAPPINGERS FALLS NY 12590	10/20/2020	10/20/2025
DOL	DOL		BRUCE P. NASH JR.		5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057	09/12/2018	09/12/2023
DOL	DOL	*****0225	C&D LAFACE CONSTRUCTION, INC.		8531 OSWEGO RD BALDWINVILLE NY 13027	02/03/2020	01/09/2023

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DOL	DOL	****8809	C.B.E. CONTRACTING CORPORATION		310 MCGUINNESS BLVD GREENPOINT NY 11222	03/07/2017	03/07/2022
DOL	DOL	****9383	C.C. PAVING AND EXCAVATING, INC.		2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL	****9383	C.C. PAVING AND EXCAVATING, INC.		2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL	****5161	CALADRI DEVELOPMENT CORP.		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	DOL	****3391	CALI ENTERPRISES, INC.		1223 PARK STREET PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	NYC		CALVIN WALTERS		465 EAST THIRD ST MT. VERNON NY 10550	09/09/2019	09/09/2024
DOL	DOL		CANTISANI & ASSOCIATES LTD		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CANTISANI HOLDING LLC			06/12/2018	06/12/2023
DOL	DOL		CARMEN RACHETTA		8531 OSWEGO RD BALDWINVILLE NY 13027	02/03/2020	02/03/2025
DOL	DOL		CARMENA RACHETTA		8531 OSWEGO ROAD BALDWINVILLE NY 13027	02/03/2020	01/09/2023
DOL	DOL	****3812	CARMODY "2" INC			06/12/2018	06/12/2023
DOL	DOL	****1143	CARMODY BUILDING CORP	CARMODY CONTRACTING AND CARMODY CONTRACTING CORP.	442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CARMODY CONCRETE CORPORATION			06/12/2018	06/12/2023
DOL	DOL		CARMODY ENTERPRISES, LTD.		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CARMODY INC		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	****3812	CARMODY INDUSTRIES INC			06/12/2018	06/12/2023
DOL	DOL		CARMODY MAINTENANCE CORPORATION		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		CARMODY MASONRY CORP		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	****8809	CBE CONTRACTING CORP		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	AG		CESAR J. AGUDELO		81-06 34TH AVENUE APT. 6EJACKSON HEIGHTS NY 11372	02/07/2018	02/07/2023
DOL	DOL	****0026	CHANTICLEER CONSTRUCTION LLC		4 BROTHERS ROAD WAPPINGERS FALLS NY 12590	10/20/2020	10/20/2025
DOL	NYC		CHARLES ZAHRADKA		863 WASHINGTON STREET FRANKLIN SQUARE NY 11010	03/10/2020	03/10/2025
DOL	DOL		CHRISTOPHER GRECO		26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956	02/18/2021	02/18/2026
DOL	DOL		CHRISTOPHER J MAINI		19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL		CHRISTOPHER PAPASTEFANO A/K/A CHRIS PAPASTEFANO		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL	****1927	CONSTRUCTION PARTS WAREHOUSE, INC.	CPW	5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057	09/12/2018	09/12/2023
DOL	DOL	****3228	CROSS-COUNTY LANDSCAPING AND TREE SERVICE, INC.	ROCKLAND TREE SERVICE	26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956	02/18/2021	02/18/2026
DOL	DOL	****2524	CSI ELECTRICAL & MECHANICAL INC		42-32 235TH ST DOUGLSTON NY 11363	01/14/2019	01/14/2024
DOL	NYC		DALJIT KAUR BOPARAI		185-06 56TH AVE FRESH MEADOW NY 11365	10/17/2017	10/17/2022
DOL	DOL	****7619	DANCO CONSTRUCTION UNLIMITED INC.		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL		DARIAN L COKER		2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DOL		DARIAN L COKER		2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	NYC		DAVID WEINER		14 NEW DROP LANE 2ND FLOORSTATEN ISLAND NY 10306	11/14/2019	11/14/2024
DOL	DOL		DEBBIE STURDEVANT		29 MAPLEWOOD DRIVE BINGHAMTON NY 13901	02/21/2017	02/21/2022

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DOL	AG		DEBRA MARTINEZ		31 BAY ST BROOKLYN NY 11231	03/28/2018	03/28/2023
DOL	DOL		DELPHI PAINTING & DECORATING CO INC		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL		DF CONTRACTORS OF ROCHESTER, INC.		1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	DOL		DF CONTRACTORS, INC.		1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	NYC		DIMITRIOS TSOUMAS		35-12 19TH AVENUE ASTORIA NY 11105	08/02/2017	08/02/2022
DOL	DOL		DOMENICO LAFACE		8531 OSWEGO RD BALDWINSVILLE NY 13027	02/03/2020	01/09/2023
DOL	DOL	****3242	DONALD R. FORSAY	DF LAWN SERVICE	1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	DOL		DONALD R. FORSAY		1835 DAANSEN RD. PALMYRA NY 14522	05/16/2017	05/16/2022
DOL	NYC		DUARTE LOPES		66-05 WOODHAVEN BLVD. STE 2REGO PARK NY 11374	04/20/2017	04/20/2022
DOL	DOL	****5175	EAGLE MECHANICAL AND GENERAL CONSTRUCTION LLC		11371 RIDGE RD WOLCOTT NY 14590	02/03/2020	02/03/2025
DOL	DOL		EAST COAST PAVING		2238 BAKER RD GILLET PA 16923	03/12/2018	03/12/2023
DOL	DA		EDWIN HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	NYC	****5917	EPOCH ELECTRICAL, INC		97-18 50TH AVE CORONA NY 11368	04/19/2018	04/19/2024
DOL	DOL		FAIGY LOWINGER		11 MOUNTAIN RD 28 VAN BUREN DRMONROE NY 10950	03/20/2019	03/20/2024
DOL	DOL		FRANK BENEDETTO		19 CATLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	DOL	****4722	FRANK BENEDETTO AND CHRISTOPHER J MAINI	B & M CONCRETE	19 CAITLIN AVE JAMESTOWN NY 14701	09/17/2018	09/17/2023
DOL	NYC		FRANK MAINI		1766 FRONT ST YORKTOWN HEIGHTS NY 10598	01/17/2018	01/17/2023
DOL	DA		FREDERICK HUTZLER		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	NYC	****6616	G & G MECHANICAL ENTERPRISES, LLC.		1936 HEMPSTEAD TURNPIKE EAST MEDOW NY 11554	11/29/2019	11/29/2024
DOL	DOL		GABRIEL FRASSETTI			04/10/2019	04/10/2024
DOL	DOL		GEOFF CORLETT		415 FLAGGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DA		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DOL		GIGI SCHNECKENBURGER		261 MILL RD EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	DOL		GIOVANNI LAFACE		8531 OSWEGO RD BALDWINSVILLE NY 13027	02/03/2020	01/09/2023
DOL	NYC	****3164	GLOBE GATES INC	GLOBAL OVERHEAD DOORS	405 BARRETTO ST BRONX NY 10474	05/31/2018	05/31/2023
DOL	NYC		GREAT ESTATE CONSTRUCTION, INC.		327 STAGG ST BROOKLYN NY 11206	10/10/2017	10/10/2022
DOL	DOL		GREGORY S. OLSON		P.O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL		HANS RATH		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	NYC	****3228	HEIGHTS ELEVATOR CORP.		1766 FRONT ST YORKTOWN HEIGHTS NY 10598	01/17/2018	01/17/2023
DOL	DOL	****5131	INTEGRITY MASONRY, INC.	M&R CONCRETE	722 8TH AVE WATERVLIET NY 12189	06/05/2018	06/05/2023
DOL	DOL		IRENE KASSELIS		32 PENNINGTON AVE WALDWICK NJ 07463	05/30/2019	05/30/2024
DOL	DOL	****9211	J. WASE CONSTRUCTION CORP.		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026
DOL	DOL		J.A. HIRES CADWALLADER		P.O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845	03/08/2018	03/08/2023

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DOL	DOL		JAMES C. DELGIACCO		722 8TH AVE WATERVLIET NY 12189	06/05/2018	06/05/2023
DOL	DOL		JAMES J. BAKER		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL		JAMES LIACONE		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL		JAMES RACHEL		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL		JASON P. RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL	*****7993	JBS DIRT, INC.		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	*****5368	JCH MASONRY & LANDSCAPING INC.		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
DOL	NYC		JENNIFER GUERRERO		1936 HEMPSTEAD TURNPIKE EAST MEADOW NY 11554	11/29/2019	11/29/2024
DOL	DOL		JIM PLAUGHER		17613 SANTE FE LINE ROAD WAYNEFIELD OH 45896	07/16/2021	07/16/2026
DOL	AG		JOHN ANTHONY MASSINO		36-49 204TH STREET BAYSIDE NY 11372	02/07/2018	02/07/2023
DOL	DOL		JOHN F. CADWALLADER		200 LATTI BROOK PARK HORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL	*****4612	JOHN F. CADWALLADER, INC.	THE GLASS COMPANY	P.O BOX 100 200 LATTI BROOK PARKHORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL		JOHN GOCEK		14B COMMERCIAL AVE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL		JOHN LUCIANO			05/14/2018	05/14/2023
DOL	DOL		JOHN WASE		8545 RT 9W ATHENS NY 12015	03/09/2021	03/09/2026
DOL	AG	*****0600	JOHNCO CONTRACTING, INC.		36-49 204TH STREET BAYSIDE NY 11372	02/07/2018	02/07/2023
DOL	DOL		JON E DEYOUNG		261 MILL RD P.O BOX 296EAST AURORA NY 14052	05/29/2019	05/29/2024
DOL	DOL		JORGE RAMOS		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026
DOL	DOL		JORI PEDERSEN		415 FLAGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL		JOSE CHUCHUCA		35 CLINTON AVE OSSINING NY 10562	09/12/2018	09/12/2023
DOL	NYC		JOSEPH FOLEY		66-05 WOODHAVEN BLVD. STE 2REGO PARK NY 11374	04/20/2017	04/20/2022
DOL	NYC		JOSEPH MARTINO		1535 RICHMOND AVENUE STATEN ISLAND NY 10314	12/13/2017	12/13/2022
DOL	DOL		JOY MARTIN		2404 DELAWARE AVE NIGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	DOL	*****5116	JP RACE PAINTING, INC. T/A RACE PAINTING		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL	*****5062	K R F SITE DEVELOPMENT INC		375 LAKE SHORE DRIVE PUTNAM VALLEY NY 10579	01/23/2017	01/23/2022
DOL	NYC		K.S. CONTRACTING CORP.		29 PHILLIP DRIVE PARSIPPANY NJ 07054	02/13/2017	02/13/2022
DOL	DOL		KARIN MANGIN		796 PHELPS ROAD FRANKLIN LAKES NJ 07417	12/01/2020	12/01/2025
DOL	DOL		KATE E. CONNOR		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KATIE BURDICK		2238 BAKER RD GILLET PA 16923	03/12/2018	03/12/2023
DOL	DOL	*****2959	KELC DEVELOPMENT, INC		7088 INTERSTATE ISLAND RD SYRACUSE NY 13209	03/31/2021	03/31/2026
DOL	DOL		KENNETH FIORENTINO		375 LAKE SHORE DRIVE PUTNAM VALLEY NY 10579	01/23/2017	01/23/2022
DOL	DOL		KIMBERLY F. BAKER		7901 GEE ROAD CANASTOTA NY 13032	08/17/2021	08/17/2026
DOL	DOL	*****3490	L & M CONSTRUCTION/DRYWALL INC.		1079 YONKERS AVE YONKERS NY 10704	08/07/2018	08/07/2023
DOL	DA	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998

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DOL	DOL	****4505	LARAPINTA ASSOCIATES INC		29 MAPLEWOOD DRIVE BINGHAMTON NY 13901	02/21/2017	02/21/2022
DOL	DOL		LAVERN GLAVE		161 ROBYN RD MONROE NY 10950	01/30/2018	01/30/2023
DOL	DOL	****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	06/24/2016	09/19/2022
DOL	DOL	****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	06/24/2016	09/19/2022
DOL	DOL	****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	01/17/2017	09/19/2022
DOL	DOL	****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL	****4388	LEN.J CONSTRUCTION, LLC		PO BOX 10007 ALBANY NY 12201	08/14/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	09/19/2017	09/19/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	08/14/2017	08/14/2022
DOL	DOL		LEROY NELSON JR		PO BOX 10007 ALBANY NY 12201	01/17/2017	09/19/2022
DOL	DA	****4460	LONG ISLAND GLASS & STOREFRONTS, LLC		4 MANHASSET TRL RIDGE NY 11961	09/06/2018	09/06/2023
DOL	AG	****4216	LOTUS-C CORP.		81-06 34TH AVENUE APT. 6E JACKSON HEIGHTS NY 11372	02/07/2018	02/07/2023
DOL	DOL		LOUIS A. CALICCHIA		1223 PARK ST. PEEKSKILL NY 10566	05/17/2021	05/17/2026
DOL	NYC		LUBOMIR PETER SVOBODA		27 HOUSMAN AVE STATEN ISLAND NY 10303	12/26/2019	12/26/2024
DOL	NYC		M & L STEEL & ORNAMENTAL IRON CORP.		27 HOUSMAN AVE STATEN ISLAND NY 10303	12/26/2019	12/26/2024
DOL	DOL		M ANVER BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	DOL		M. ANVER BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	DOL	****2196	MAINSTREAM SPECIALTIES, INC.		11 OLD TOWN RD SELKIRK NY 12158	02/02/2021	02/02/2026
DOL	DA		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	DA		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	NYC		MAREK FABIJANOWSKI		50 MAIN ST WHITE PLAINS NY 10606	01/04/2019	01/04/2024
DOL	NYC		MARIA NUBILE		84-22 GRAND AVENUE ELMHURST NY 11373	03/10/2020	03/10/2025
DOL	NYC		MARTINE ALTER		1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
DOL	DOL		MARVIN A STURDEVANT		29 MAPLEWOOD DRIVE BINGHAMTON NY 13901	02/21/2017	02/21/2022
DOL	DOL		MASONRY CONSTRUCTION, INC.		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL	****3333	MASONRY INDUSTRIES, INC.		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	NYC		MATINA KARAGIANNIS		97-18 50TH AVE CORONA NY 11368	04/19/2018	04/19/2023
DOL	DOL		MATTHEW P. KILGORE		4156 WILSON ROAD EAST TABERG NY 13471	03/26/2019	03/26/2024
DOL	DOL		MAURICE GAWENO		442 ARMONK RD MOUNT KISCO NY 10549	06/12/2018	06/12/2023
DOL	DOL		MCLEAN "MIKKI BEANE"		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL		MCLEAN "MIKKI" DRAKE		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022

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DOL	DOL		MCLEAN M DRAKE-BEANE		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL	****9445	MCLEAN M WALSH	ELITE PROFESSION AL PAINTING OF CNY	1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL	****9445	MCLEAN M WALSH	ELITE PROFESSION AL PAINTING OF CNY	1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL		MICHAEL LENIHAN		1079 YONKERS AVE UNIT 4YONKERS NY 10704	08/07/2018	08/07/2023
DOL	AG		MICHAEL RIGLIETTI		31 BAY ST BROOKLYN NY 11231	03/28/2018	03/28/2023
DOL	DOL	****4829	MILESTONE ENVIRONMENTAL CORPORATION		704 GINESI DRIVE SUITE 29MORGANVILLE NJ 07751	04/10/2019	04/10/2024
DOL	NYC	****9926	MILLENNIUM FIRE PROTECTION, LLC		325 W. 38TH STREET SUITE 204NEW YORK NY 10018	11/14/2019	11/14/2024
DOL	NYC	****0627	MILLENNIUM FIRE SERVICES, LLC		14 NEW DROP LNE 2ND FLOORSTATEN ISLAND NY 10306	11/14/2019	11/14/2024
DOL	NYC	****3826	MOVING MAVEN OF NY, INC.		1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
DOL	NYC	****3550	MOVING MAVEN, INC		1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
DOL	AG		MSR ELECTRICAL CONSTRUCTION CORP.		31 BAY ST BROOKLYN NY 11231	03/28/2018	03/28/2023
DOL	DOL		MUHAMMAD BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	DOL		MUHAMMAD BEIG		142 EAST MARKET STREET LONG BEACH NY 11561	03/07/2017	03/07/2022
DOL	NYC		MUHAMMED A. HASHEM		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	NYC		NAMOW, INC.		84-22 GRAND AVENUE ELMHURST NY 11373	03/10/2020	03/10/2025
DOL	DA	****9786	NATIONAL INSULATION & GC CORP		180 MILLER PLACE HICKSVILLE NY 11801	12/12/2018	12/12/2023
DOL	DOL	****3684	NATIONAL LAWN SPRINKLERS, INC.		645 N BROADWAY WHITE PLAINS NY 10603	05/14/2018	05/14/2023
DOL	NYC		NICHOLAS FILIPAKIS		7113 FORT HAMILTON PARKWA BROOKLYN NY 11228	12/09/2016	12/09/2021
DOL	DOL		NICHOLE E. FRASER A/K/A NICHOLE RACE		3469 STATE RT. 69 PERISH NY 13131	09/29/2021	09/29/2026
DOL	DOL	****7429	NICOLAE I. BARBIR	BESTUCCO CONSTRUCTI ON, INC.	444 SCHANTZ ROAD ALLENTOWN PA 18104	09/17/2020	09/17/2025
DOL	DOL	****0065	NORTHEAST LANDSCAPE AND MASONRY ASSOC		3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10523	01/23/2017	01/23/2022
DOL	DOL	****1845	OC ERECTERS, LLC A/K/A OC ERECTERS OF NY INC.		1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442	01/16/2018	01/16/2023
DOL	NYC	****0818	ONE TEN RESTORATION, INC.		2366 61ST ST BROOKLYN NY 11204	12/15/2016	12/15/2021
DOL	NYC		PARESH SHAH		29 PHILLIP DRIVE PARSIPPANY NJ 07054	02/13/2017	02/13/2022
DOL	DOL		PAULINE CHAHALES		935 S LAKE BLVD MAHOPAC NY 10541	03/02/2021	03/02/2026
DOL	NYC	****9422	PELIUM CONSTRUCTION, INC.		22-33 35TH ST. ASTORIA NY 11105	12/30/2016	12/30/2021
DOL	DOL		PETER M PERGOLA		3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10523	01/23/2017	01/23/2022
DOL	DOL		PETER STEVENS		11 OLD TOWN ROAD SELKIRK NY 12158	02/02/2021	02/02/2026
DOL	DOL		PIERRE LAPORT		224 COUNTY HIGHWAY 138 BROADALBIN NY 12025	03/07/2017	03/07/2022
DOL	DOL	****1543	PJ LAPORT FLOORING INC		224 COUNTY HIGHWAY 138 BROADALBIN NY 12025	03/07/2017	03/07/2022
DOL	NYC	****5771	PMJ ELECTRICAL CORP		7113 FORT HAMILTON PARKWA BROOKLYN NY 11228	12/09/2016	12/09/2021
DOL	DOL	****0466	PRECISION BUILT FENCES, INC.		1617 MAIN ST PEEKSKILL NY 10566	03/03/2020	03/03/2025
DOL	NYC	****4532	PROFESSIONAL PAVERS CORP.		66-05 WOODHAVEN BLVD. REGO PARK NY 11374	04/20/2017	04/20/2022

NYS DOL Bureau of Public Work Debarment List 11/29/2021

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DOL	NYC		RASHEL CONSTRUCTION CORP		524 MCDONALD AVENUE BROOKLYN NY 11218	09/17/2020	09/17/2025
DOL	DOL	****1068	RATH MECHANICAL CONTRACTORS, INC.		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	DOL	****2633	RAW POWER ELECTRIC CORP		3 PARK CIRCLE MIDDLETOWN NY 10940	01/30/2018	01/30/2023
DOL	AG	****7015	RCM PAINTING INC.		69-06 GRAND AVENUE 2ND FLOORMASPETH NY 11378	02/07/2018	02/07/2023
DOL	DA	****7559	REGAL CONTRACTING INC.		24 WOODBINE AVE NORTHPORT NY 11768	10/01/2020	10/01/2025
DOL	DOL		REGINALD WARREN		161 ROBYN RD MONROE NY 10950	01/30/2018	01/30/2023
DOL	DOL	****9148	RICH T CONSTRUCTION		107 WILLOW WOOD LANE CAMILLUS NY 13031	11/13/2018	11/13/2023
DOL	DOL		RICHARD MACONE		8617 THIRD AVE BROOKLYN NY 11209	09/17/2018	09/17/2023
DOL	DOL		RICHARD REGGIO		1617 MAIN ST PEEKSKILL NY 10566	03/03/2020	03/03/2025
DOL	DOL	****9148	RICHARD TIMIAN	RICH T CONSTRUCTI ON	108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	10/16/2018	10/16/2023
DOL	DOL		RICHARD TIMIAN JR.		108 LAMONT AVE SYRACUSE NY 13209	11/13/2018	11/13/2023
DOL	DOL		ROBBYE BISSE SAR		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROBERT A. VALERINO		3841 LANYARD COURT NEW PORT RICHEY FL 34652	07/09/2019	07/09/2024
DOL	DOL		ROBERT BRUNO		5 MORNINGSIDE DRIVE AUBURN NY 13021	05/28/2019	05/28/2024
DOL	NYC		ROBERT HOHMAN		149 FIFTH AVE NEW YORK NY 10010	12/29/2016	12/29/2021
DOL	DOL		RODERICK PUGH		404 OAK ST SUITE 101SYRACUSE NY 13203	07/23/2018	07/23/2023
DOL	DOL	****4880	RODERICK PUGH CONSTRUCTION INC.		404 OAK ST SUITE 101SYRACUSE NY 13203	07/23/2018	07/23/2023
DOL	DOL		ROMEO WARREN		161 ROBYN RD MONROE NY 10950	01/30/2018	01/30/2023
DOL	DOL		RONALD MESSEN		14B COMMERCIAL AVE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL		ROSEANNE CANTISANI			06/12/2018	06/12/2023
DOL	DOL		RYAN ALBIE		21 S HOWELLS POINT ROAD BELLPORT NY 11713	02/21/2017	02/21/2022
DOL	DOL	****3347	RYAN ALBIE CONTRACTING INC		21 S HOWELLS POINT ROAD BELLPORT NY 11713	02/21/2017	02/21/2022
DOL	DOL	****1365	S & L PAINTING, INC.		11 MOUNTAIN ROAD P.O BOX 408MONROE NY 10950	03/20/2019	03/20/2024
DOL	DOL	****7730	S C MARTIN GROUP INC.		2404 DELAWARE AVE NIAGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	DOL		SAL FRESINA MASONRY CONTRACTORS, INC.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL		SAL MASONRY CONTRACTORS, INC.		(SEE COMMENTS) SYRACUSE NY 13202	07/16/2021	07/16/2026
DOL	DOL	****9874	SALFREE ENTERPRISES INC		P.O BOX 14 2821 GARDNER RDPOMPEI NY 13138	07/16/2021	07/16/2026
DOL	DOL		SALVATORE A FRESINA A/K/A SAM FRESINA		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	DOL		SAM FRESINA		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218	07/16/2021	07/16/2026
DOL	NYC	****0349	SAM WATERPROOFING INC		168-42 88TH AVENUE APT.1 AJAMAICA NY 11432	11/20/2019	11/20/2024
DOL	NYC		SANDEEP BOPARAI		185-06 56TH AVE FRESH MEADOW NY 11365	10/17/2017	10/17/2022
DOL	NYC	****1130	SCANA CONSTRUCTION CORP.		863 WASHINGTON STREET FRANKLIN SQUARE NY 11010	03/10/2020	03/10/2025
DOL	DOL	****9751	SCW CONSTRUCTION		544 OLD ROUTE 23 ACRE NY 12405	02/14/2017	02/14/2022

NYS DOL Bureau of Public Work Debarment List 11/29/2021

Article 8

DOL	NYC	****6597	SHAIRA CONSTRUCTION CORP.		421 HUDSON STREET SUITE C5NEW YORK NY 10014	02/20/2019	02/20/2024
DOL	DOL	****1961	SHANE BURDICK	CENTRAL TRAFFIC CONTROL, LLC.	2238 BAKER ROAD GILLETT PA 16923	03/12/2018	03/12/2023
DOL	DOL		SHANE BURDICK		2238 BAKER ROAD GILLETT PA 16923	03/12/2018	03/12/2023
DOL	DOL		SHANE NOLAN		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL		SHULEM LOWINGER		11 MOUNTAIN ROAD 28 VAN BUREN DRMONROE NY 10950	03/20/2019	03/20/2024
DOL	DOL	****0816	SOLAR ARRAY SOLUTIONS, LLC		9365 WASHINGTON ST LOCKPORT IL 60441	07/23/2018	07/23/2023
DOL	DOL	****0440	SOLAR GUYS INC.		8970 MIKE GARCIA DR MANASSAS VA 20109	07/16/2021	07/16/2026
DOL	DOL	****2221	SOUTH BUFFALO ELECTRIC, INC.		1250 BROADWAY ST BUFFALO NY 14212	02/03/2020	02/03/2025
DOL	DOL		STANADOS KALOGELAS		485 RAFT AVENUE HOLBROOK NY 11741	10/19/2021	10/19/2026
DOL	DOL	****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	DOL	****6844	STEAM PLANT AND CHX SYSTEMS INC.		14B COMMERCIAL AVENUE ALBANY NY 12065	11/14/2019	11/14/2024
DOL	DOL	****9933	STEED GENERAL CONTRACTORS, INC.		1445 COMMERCE AVE BRONX NY 10461	05/30/2019	05/30/2024
DOL	DOL	****9528	STEEL-IT, LLC.		17613 SANTE FE LINE ROAD WAYNESFIELD OH 45896	07/16/2021	07/16/2026
DOL	DOL		STEFANOS PAPAŞTEFANOU, JR. A/K/A STEVE PAPAŞTEFANOU, JR.		256 WEST SADDLE RIVER RD UPPER SADDLE RIVER NJ 07458	05/30/2019	05/30/2024
DOL	DOL	****9751	STEPHEN C WAGAR		544 OLD ROUTE 23 ACRE NY 12405	02/14/2017	02/14/2022
DOL	DOL		STEVE TATE		415 FLAGER AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	DOL		STEVEN MARTIN		2404 DELWARE AVE NIAGARA FALLS NY 14305	09/12/2018	09/12/2023
DOL	DOL		STEVEN TESTA		50 SALEM STREET - BLDG B LYNNFIELD MA 01940	01/23/2017	01/23/2022
DOL	NYC	****5863	SUKHMANY CONSTRUCTION, INC.		185-06 56TH AVE FRESH MEADOW NY 11365	10/17/2017	10/17/2022
DOL	DOL	****1060	SUNN ENTERPRISES GROUP, LLC		370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601	02/11/2019	02/11/2024
DOL	DOL	****8209	SYRACUSE SCALES, INC.		158 SOLAR ST SYRACUSE NY 13204	01/07/2019	01/07/2024
DOL	DOL		TALAILA OCAMPA		1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442	01/16/2018	01/16/2023
DOL	DOL		TERRY THOMPSON		11371 RIDGE RD WOLCOTT NY 14590	02/03/2020	02/03/2025
DOL	DOL	****9733	TERSAL CONSTRUCTION SERVICES INC		107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13208	07/16/2021	07/16/2026
DOL	DOL		TERSAL CONTRACTORS, INC.		221 GARDNER RD P.O BOX 14POMPEI NY 13138	07/16/2021	07/16/2026
DOL	DOL		TERSAL DEVELOPMENT CORP.		1935 TEALL AVENUE SYRACUSE NY 13206	07/16/2021	07/16/2026
DOL	DOL		TEST		P O BOX 123 ALBANY NY 12204	05/20/2020	05/20/2025
DOL	DOL	****6789	TEST1000		P O BOX 123 ALBANY NY 12044	03/01/2021	03/01/2026
DOL	DOL	****5570	TESTA CORP		50 SALEM STREET - BLDG B LYNNFIELD MA 01940	01/23/2017	01/23/2022
DOL	DOL	****5766	THE COKER CORPORATION	COKER CORPORATION	2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205	12/04/2018	12/04/2023
DOL	DOL	****5766	THE COKER CORPORATION	COKER CORPORATION	2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205	09/17/2020	09/17/2025
DOL	DA	****4106	TRIPLE H CONCRETE CORP		2375 RAYNOR STREET RONKONKOMA NY 11779	08/04/2021	08/04/2026
DOL	DOL	****6392	V.M.K CORP.		8617 THIRD AVE BROOKLYN NY 11209	09/17/2018	09/17/2023
DOL	DOL	****6418	VALHALLA CONSTRUCTION, LLC.		796 PHEPS ROAD FRANKLIN LAKES NJ 07417	12/01/2020	12/01/2025

NYS DOL Bureau of Public Work Debarment List 11/29/2021

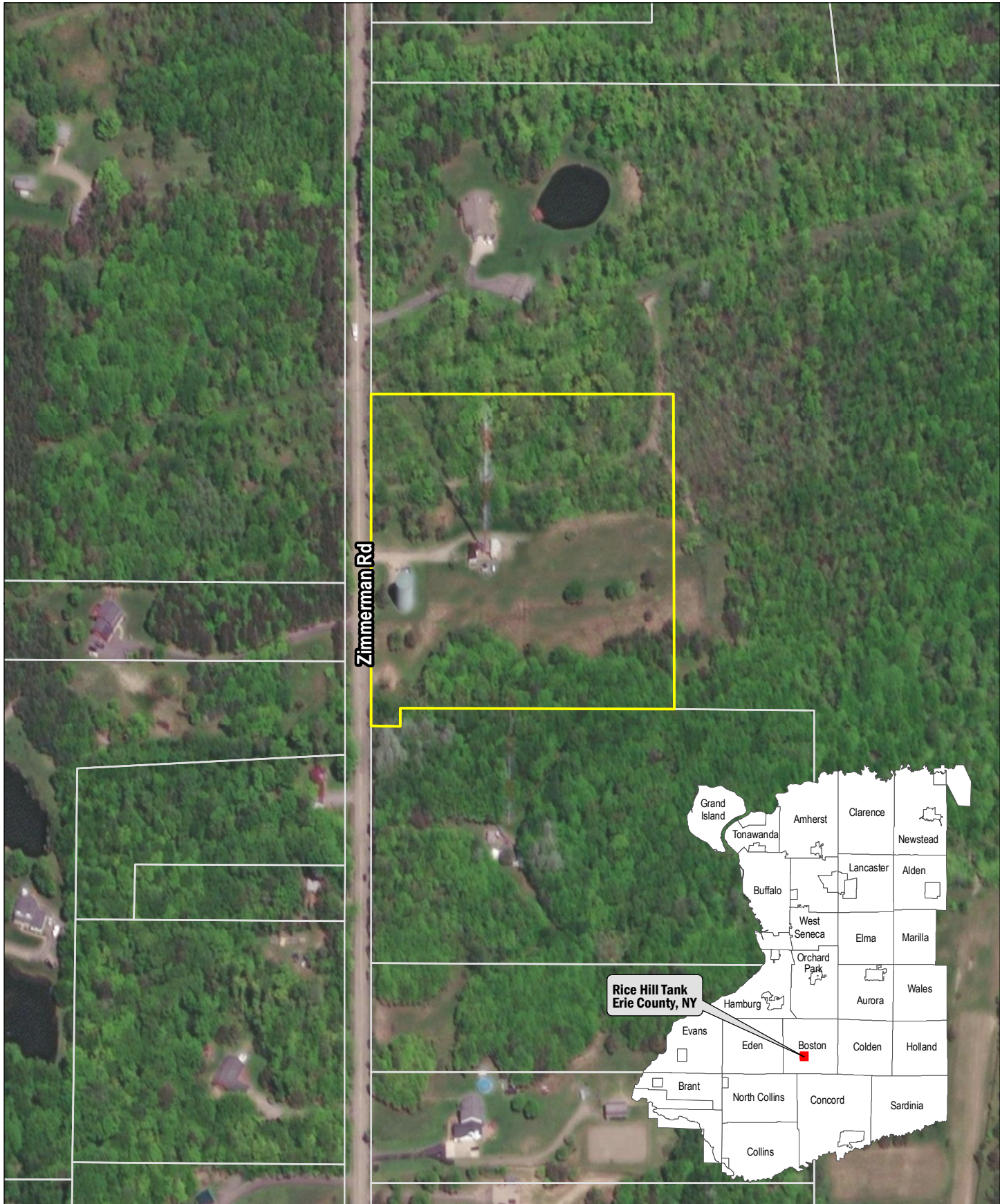
Article 8

DOL	NYC	****7361	VIABLE HOLDINGS, INC.	MOVING MAVEN	1010 NORTHERN BLVD. GREAT NECK NY 11021	03/09/2017	03/09/2022
DOL	DOL		VICTOR ALICANTI		42-32 235TH ST DOUGLASTON NY 11363	01/14/2019	01/14/2024
DOL	NYC		VIKTAR PATONICH		2630 CROPSEY AVE BROOKLYN NY 11214	10/30/2018	10/30/2023
DOL	DOL		VIKTORIA RATH		24 ELDOR AVENUE NEW CITY NY 10956	02/03/2020	02/03/2025
DOL	NYC		VITO GARGANO		1535 RICHMOND AVE STATEN ISLAND NY 10314	12/13/2017	12/13/2022
DOL	NYC	****3673	WALTERS AND WALTERS, INC.		465 EAST AND THIRD ST MT. VERNON NY 10550	09/09/2019	09/09/2024
DOL	DOL	****3296	WESTERN NEW YORK CONTRACTORS, INC.		3841 LAYNARD COURT NEW PORT RICHEY FL 34652	07/09/2019	07/09/2024
DOL	DOL		WHITE PLAINS CARPENTRY CORP		442 ARMONK RD	06/12/2018	06/12/2023
DOL	DOL		WILLIAM C WATKINS		1229 JAMES STREET SYRACUSE NY 13203	05/02/2017	05/02/2022
DOL	DOL	****4043	WINDSHIELD INSTALLATION NETWORK, INC.		200 LATTA BROOK PARK HORSEHEADS NY 14845	03/08/2018	03/08/2023
DOL	DOL	****4730	XGD SYSTEMS, LLC	TDI GOLF	415 GLAGE AVE #302STUART FL 34994	10/31/2018	10/31/2023
DOL	NYC		ZAKIR NASEEM		30 MEADOW ST BROOKLYN NY 11206	10/10/2017	10/10/2022
DOL	NYC	****8277	ZHN CONTRACTING CORP		30 MEADOW ST BROOKLYN NY 11206	10/10/2017	10/10/2022

APPENDIX

D

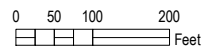
TANK LOCATION MAPS

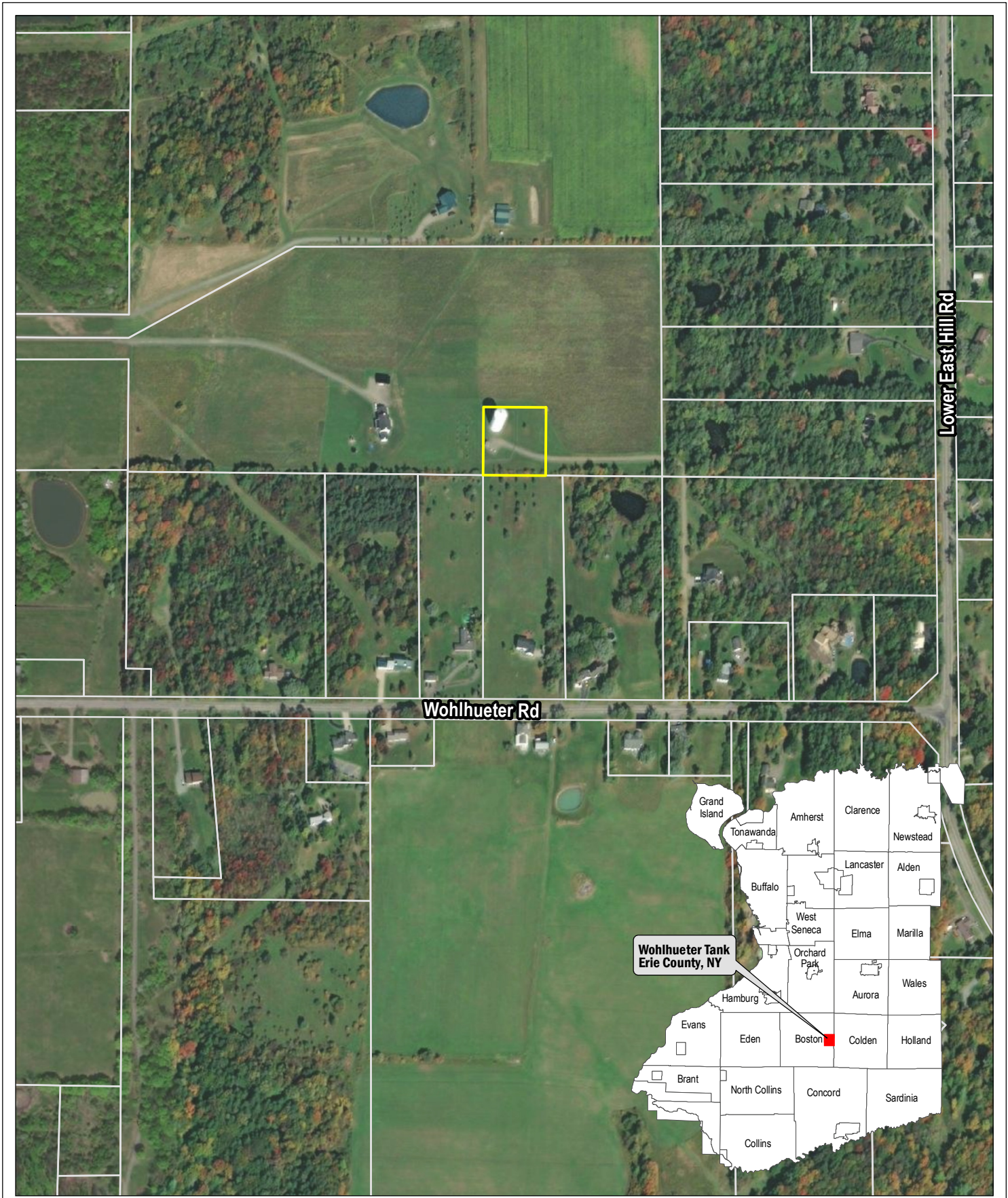


Rice Hill Tank
 8971 Zimmerman Rd
 Boston, NY 14025

LEGEND

- ECWA Tank Location
- Parcel Boundary

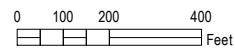


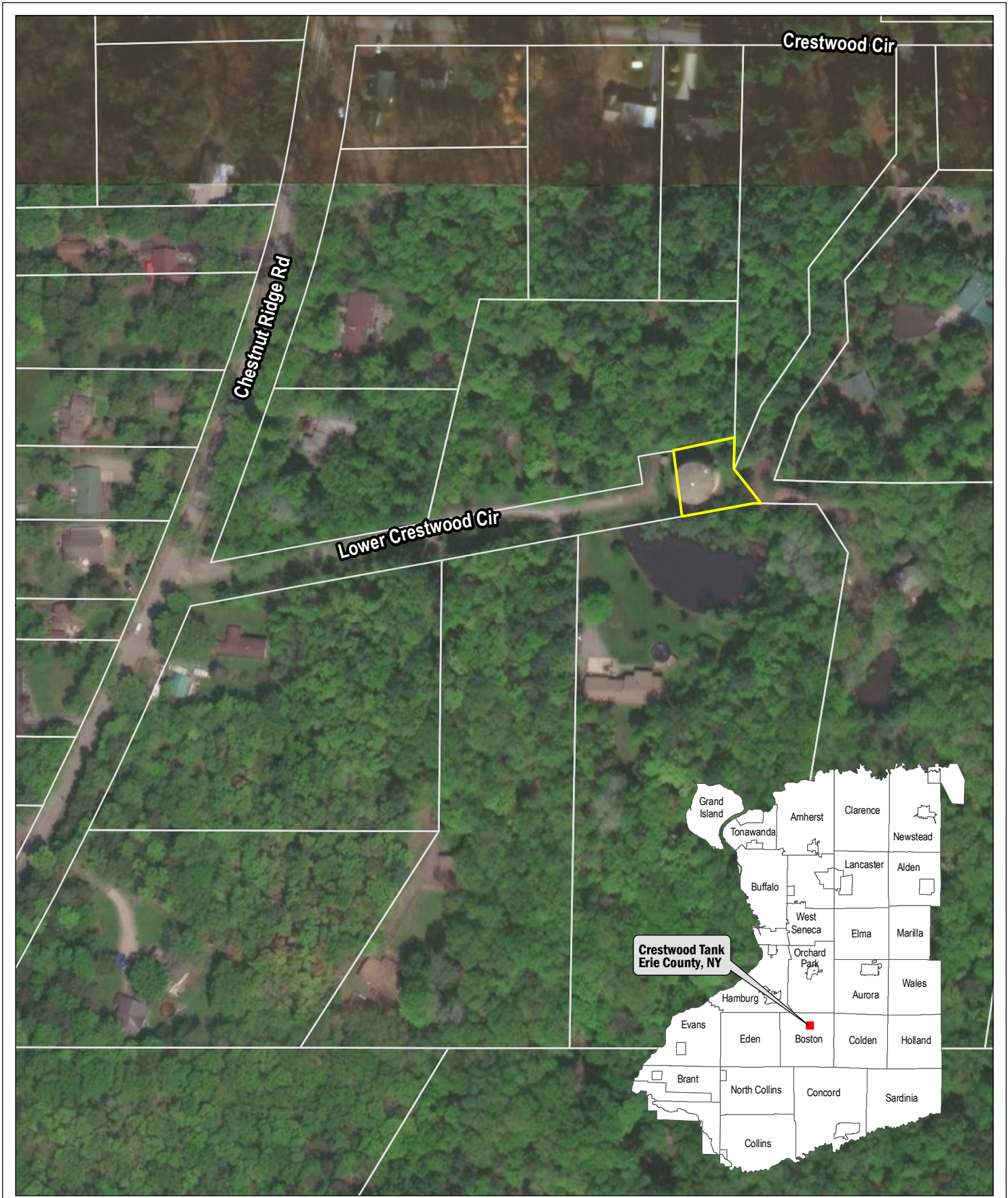


Wohlhueter Tank
 North of 7695 Wohlhueter Rd
 Colden, NY 14033

LEGEND

- ECWA Tank Location
- Parcel Boundary

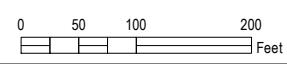




Crestwood Tank
 North of 7519 Crestwood Cir
 Orchard Park, NY 14127

LEGEND

- ECWA Tank Location
- Parcel Boundary

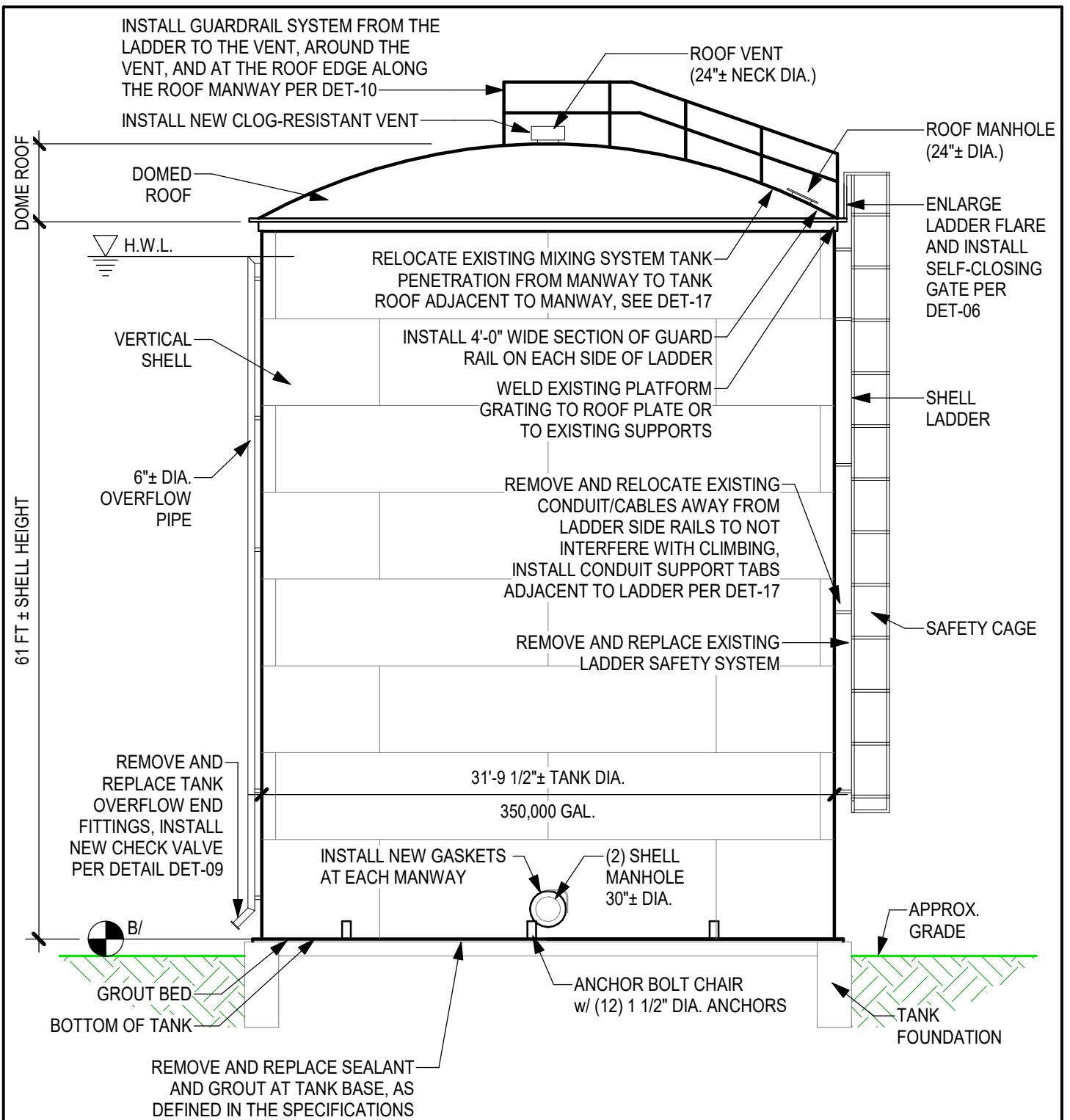


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APPENDIX

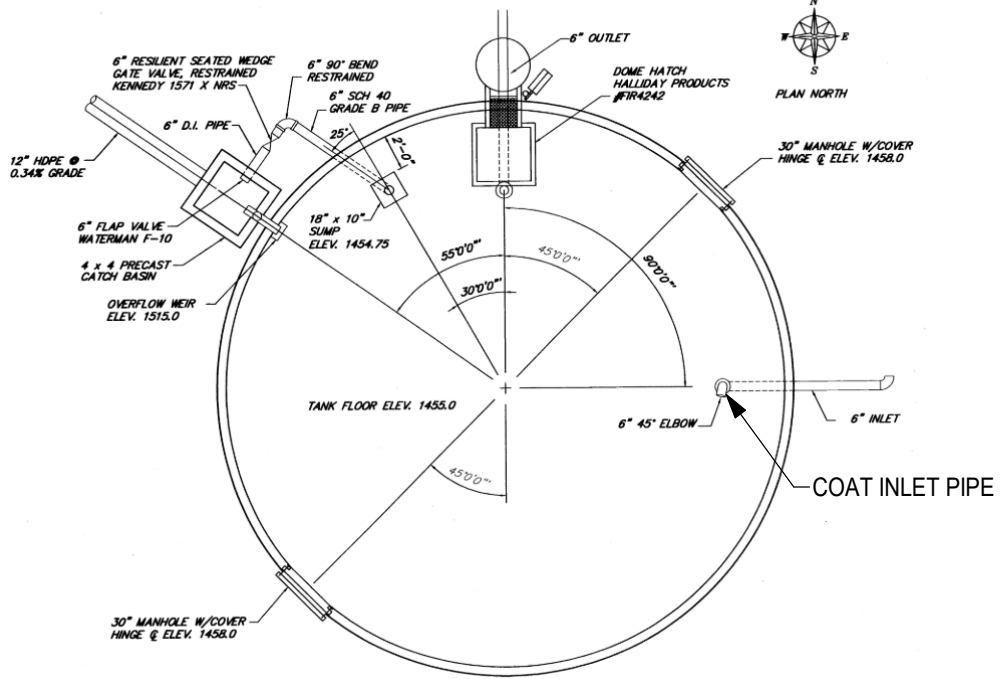
E

DETAILS



1 TANK ELEVATION
N.T.S

 <p>www.wendelcompanies.com</p>	<p>ERIE COUNTY WATER AUTHORITY</p> <p>05-RICE HILL TANK</p> <p>CONTRACT NUMBER: W-34</p>	<p>Proj. No.: 239843</p>
	<p>RICE HILL TANK - TANK ELEVATION</p>	<p>Date: DEC. 2021</p>
		<p>Ref. DWG.:</p>
		<p>Sheet No.: RH-01</p>



1 PLAN
N.T.S



ERIE COUNTY WATER AUTHORITY
05-RICE HILL TANK
 CONTRACT NUMBER: W-34
 RICE HILL TANK - PLAN

Proj. No.:	239843
Date:	DEC. 2021
Ref. DWG.:	
Sheet No.:	RH-02



REMOVE AND REPLACE
OVERFLOW END WITH NEW
CHECK VALVE, SEE DETAIL



1 PHOTO - OVERFLOW



REPLACE GASKET
(2 LOCATIONS)

PLUG WEEP HOLES
(2 LOCATIONS)

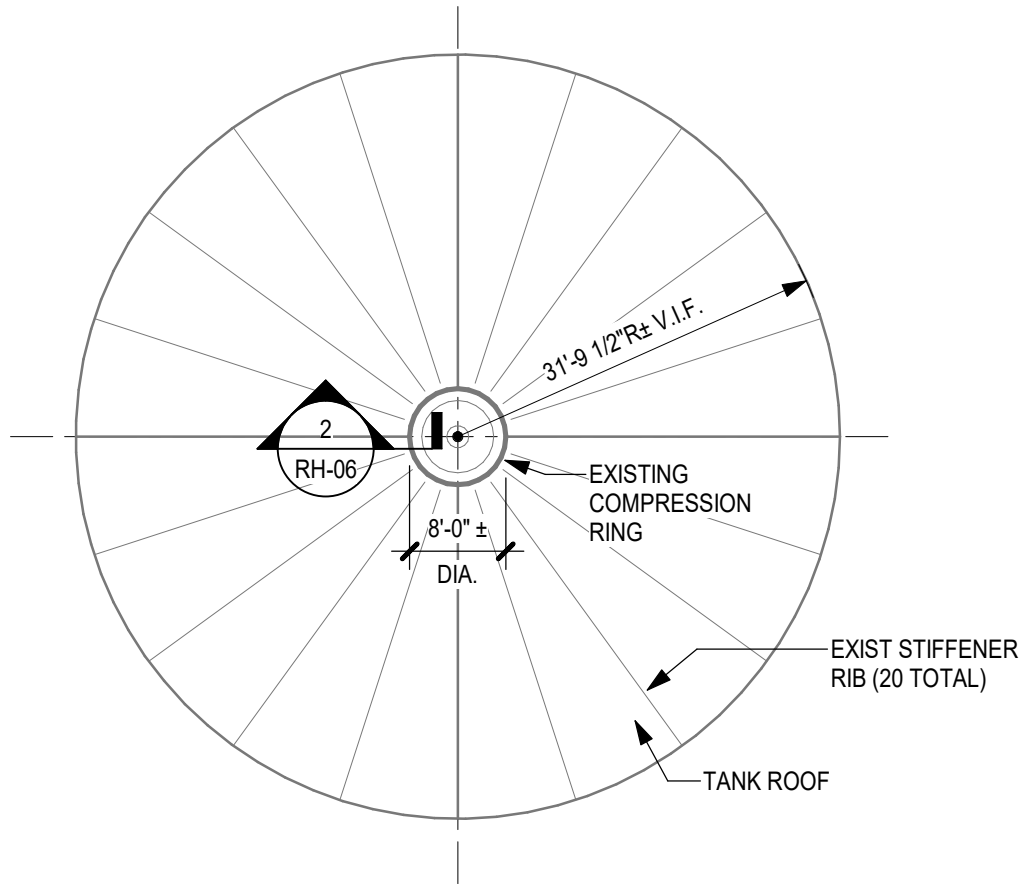


1 PHOTO - MANHOLE DETAILS



ERIE COUNTY WATER AUTHORITY
05-RICE HILL TANK
 CONTRACT NUMBER: W-34
 RICE HILL TANK - DETAILS

Proj. No.:	239843
Date:	DEC. 2021
Ref. DWG.:	
Sheet No.:	RH-04



NOTES:

1. ALL REINFORCING STEEL SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 ksi
2. REINFORCING MEMBERS SHALL BE CONTINUOUS, IF MEMBER IS SPLIT FOR INSTALLATION PURPOSES, CONTRACTOR SHALL PROVIDE A FULL PENETRATION WELD AT SPLICE JOINT TO PROVIDE A CONTINUOUS MEMBER
3. REINFORCING PLATE SHALL FOLLOW THE EXISTING RADIUS OF THE INTERIOR STIFFENER RIB. VERIFY IN FIELD.
4. CONTRACTOR SHALL VERIFY MEMBER SIZES IN FIELD AND NOTIFY THE E.O.R. OF ANY DISCREPANCIES
5. CONTRACTOR TO PROVIDE TEMPORARY SHORING AS REQUIRED TO PERFORM WORK. SHORING SYSTEM SHALL BE A DELEGATED DESIGN SYSTEM, DESIGNED BY A NYS PE.

1 RICE HILL - TANK PLAN

SCALE: 1/16" = 1'-0"



ERIE COUNTY WATER AUTHORITY

05-RICE HILL TANK

CONTRACT NUMBER: W-34

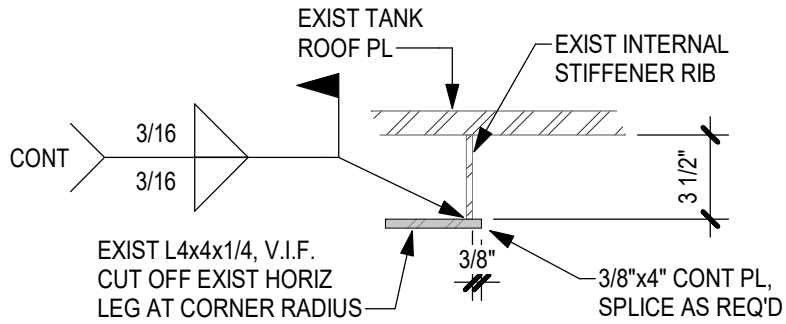
RICE HILL TANK - ROOF REPAIR PLAN

Proj. No.: 239843

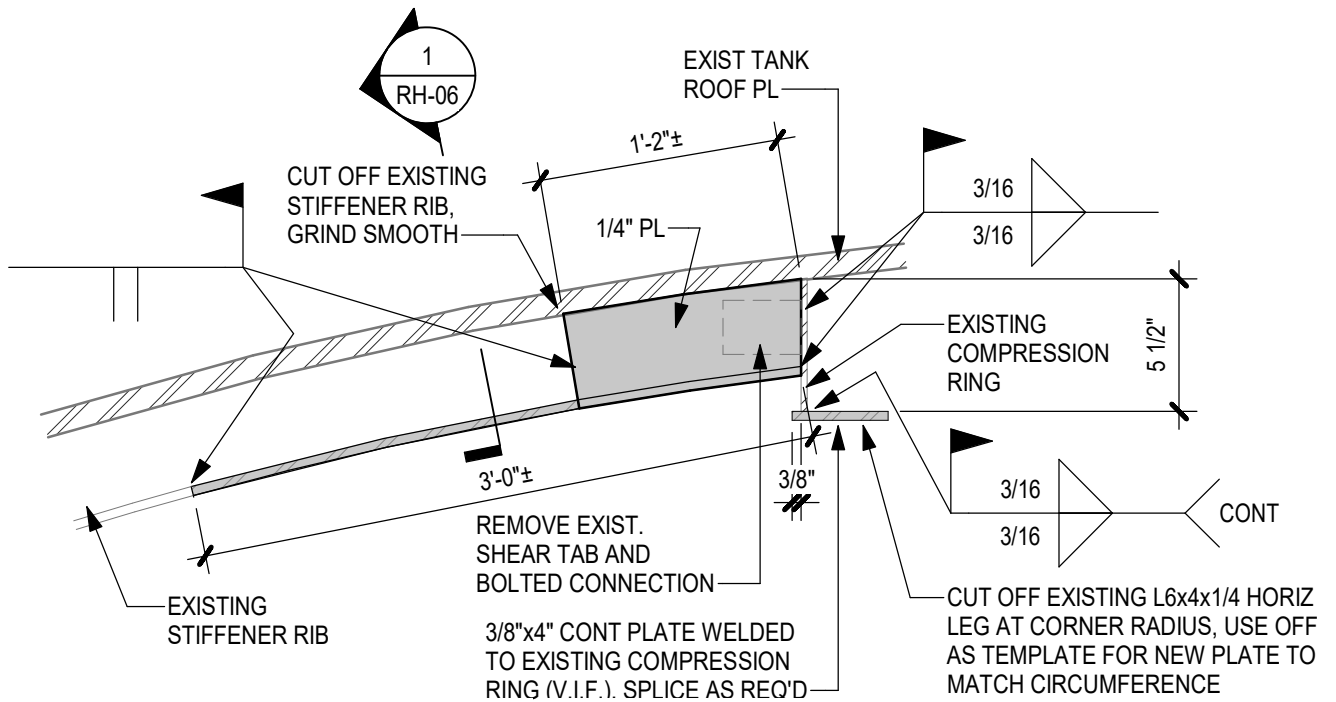
Date: DEC. 2021

Ref. DWG.:

Sheet No.: **RH-05**



1 RICE HILL - ROOF REPAIR DETAIL
N.T.S



2 RICE HILL - ROOF REPAIR DETAIL
N.T.S



ERIE COUNTY WATER AUTHORITY

05-RICE HILL TANK

CONTRACT NUMBER: W-34

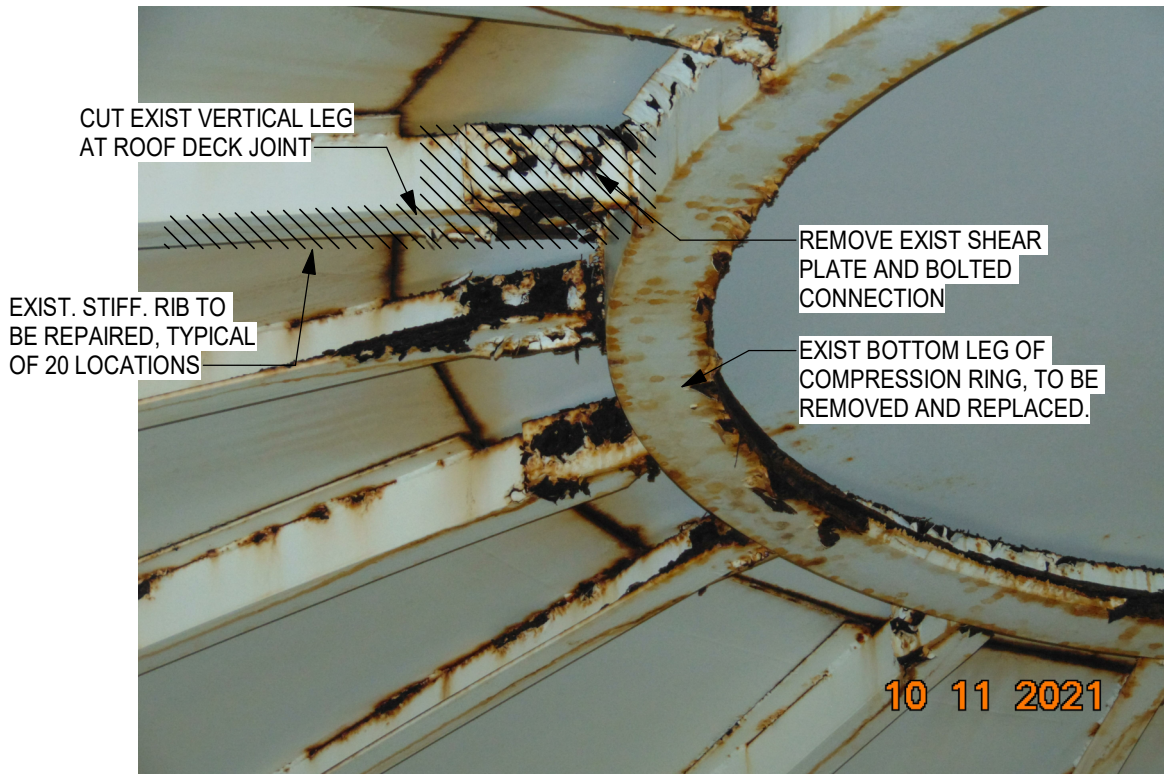
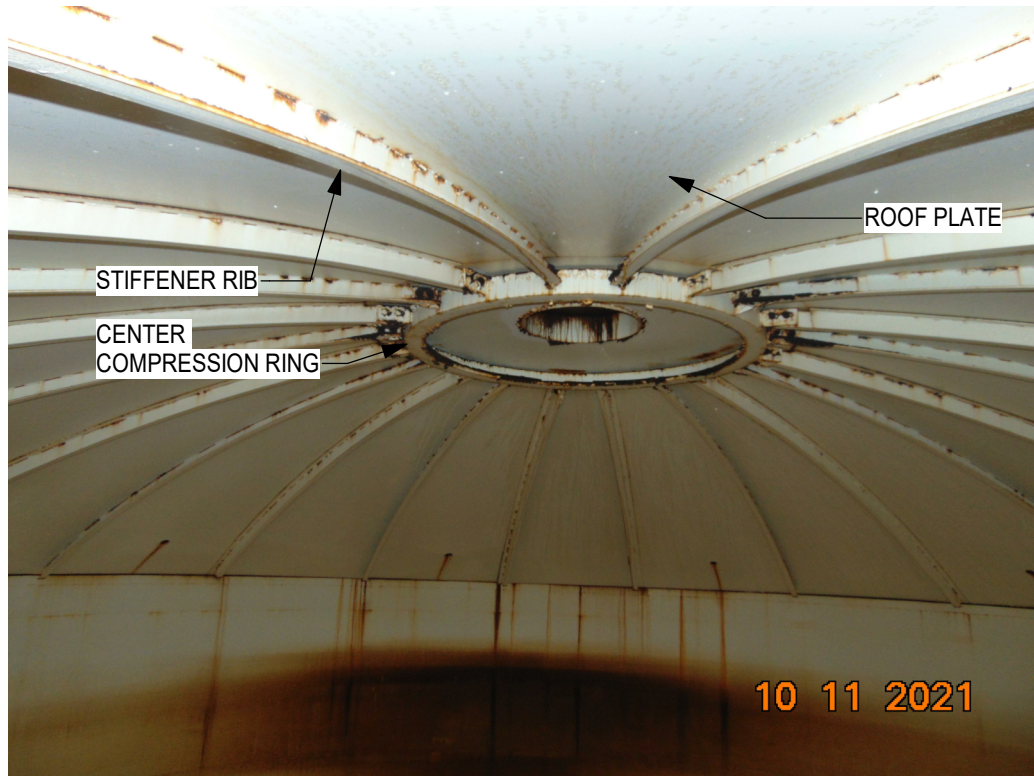
RICE HILL TANK - ROOF REPAIR DETAILS

Proj. No.: 239843

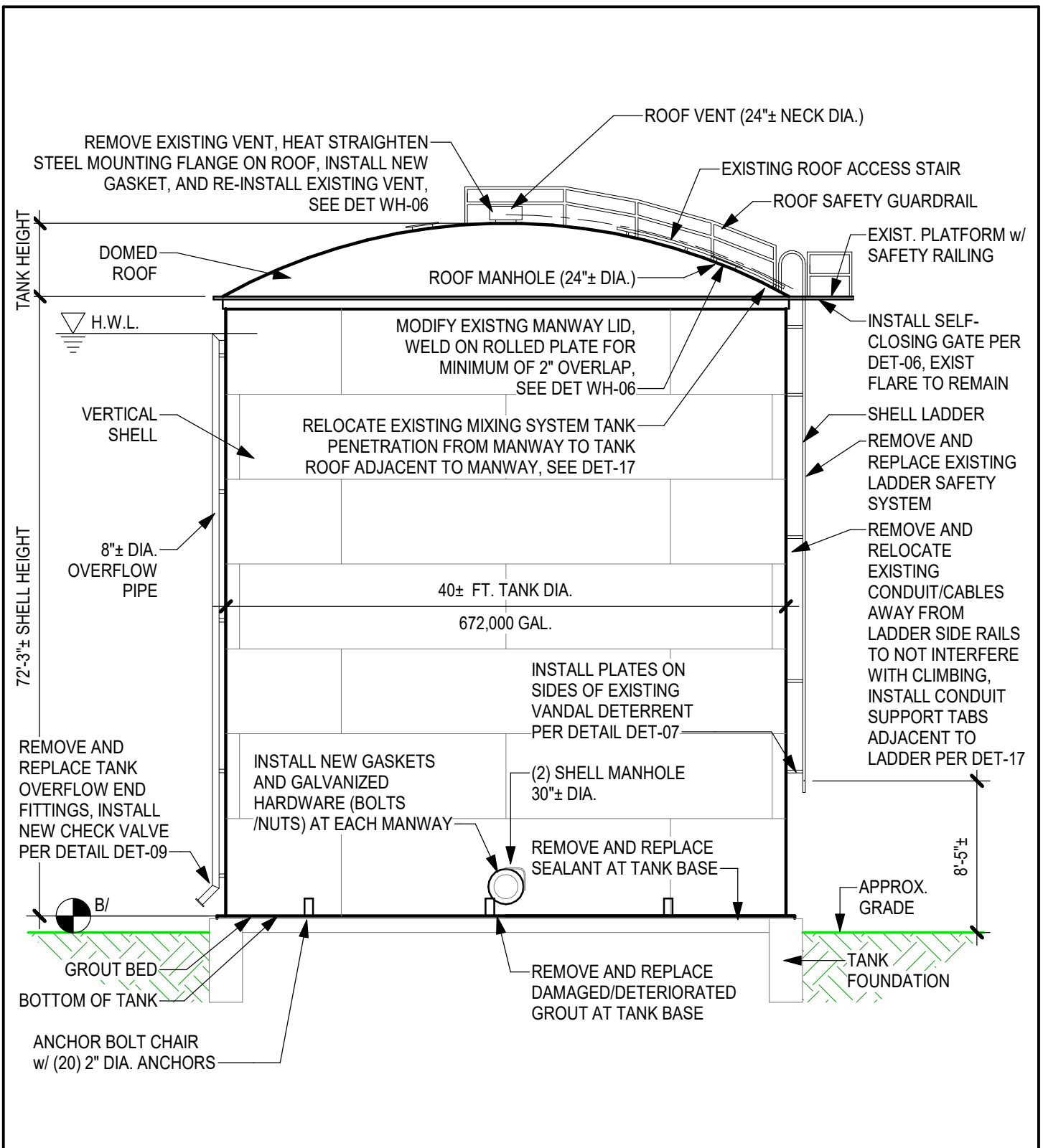
Date: DEC. 2021

Ref. DWG.:


Sheet No.: **RH-06**



1 PHOTO - DETAILS
SCALE: 1" = 1'-0"



1 TANK ELEVATION
N.T.S

 <p>www.wendelcompanies.com</p>	ERIE COUNTY WATER AUTHORITY 06-WOHLHUETER TANK CONTRACT NUMBER: W-34 WOHLHUETER - ELEVATION	Proj. No.: 239843 Date: DEC. 2021 Ref. DWG.: Sheet No.: WH-01



REPLACE EXISTING DUPLEX RECEPTACLE WITH GFCI RECEPTACLE AND NEW WEATHERPROOF COVER (6 LOCATIONS IN CONTROL SHED). REFER TO SPECIFICATION 26272 FOR ADDITIONAL INFORMATION.



1

WOHLHUETER - SHED DETAILS



ERIE COUNTY WATER AUTHORITY
06-WOHLHUETER TANK
 CONTRACT NUMBER: W-34
 WOHLHUETER - DETAILS

Proj. No.: 239843

Date: DEC. 2021

Ref. DWG.:

Sheet No.: **WH-02**



REPLACE GASKET (2 LOCATIONS).
 REPLACE HARDWARE WITH
 GALVANIZED STEEL (2 LOCATIONS).
 ABRASIVE BLAST AND RECOAT
 DOOR AND HINGE PER
 SPECIFICATION (2 LOCATIONS)



1

PHOTO - MANHOLE DETAILS

REPLACE EXISTING DUPLEX RECEPTACLE WITH
NEW GFCI RECEPTACLE AND WEATHERPROOF
COVER (3 LOCATIONS IN VALVE VAULT)



REPLACE EXISTING
JUNCTION BOX WITH A
NEW WEATHER
PROOF JUNCTION BOX
(PRIME ADVANCE
WDB575G) AND WEATHER
PROOF COVER. REFER
TO SPECIFICATION 26053
FOR ADDITIONAL
INFORMATION.



CLEAN AND PAINT
SECTION OF PIPING

1 WOHLHUETER - VALVE VAULT DETAIL



ERIE COUNTY WATER AUTHORITY
06-WOHLHUETER TANK
CONTRACT NUMBER: W-34
WOHLHUETER - DETAILS

Proj. No.:	239843
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Sheet No.:	WH-04



REMOVE AND REPLACE OVERFLOW
END WITH NEW CHECK VALVE PER
DETAIL DET-09

1 PHOTO - OVERFLOW



RELOCATE PENETRATION THROUGH TANK ROOF PER DETAIL DET-17. WELD COVER OVER PIPE PENETRATION IN ROOF MANHOLE COVER

FURNISH AND INSTALL ADDITIONAL 2" OVERLAP ON ROOF MANHOLE COVER

1 WOHLHUETER - ROOF MANHOLE DETAIL



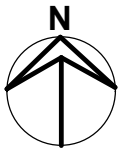
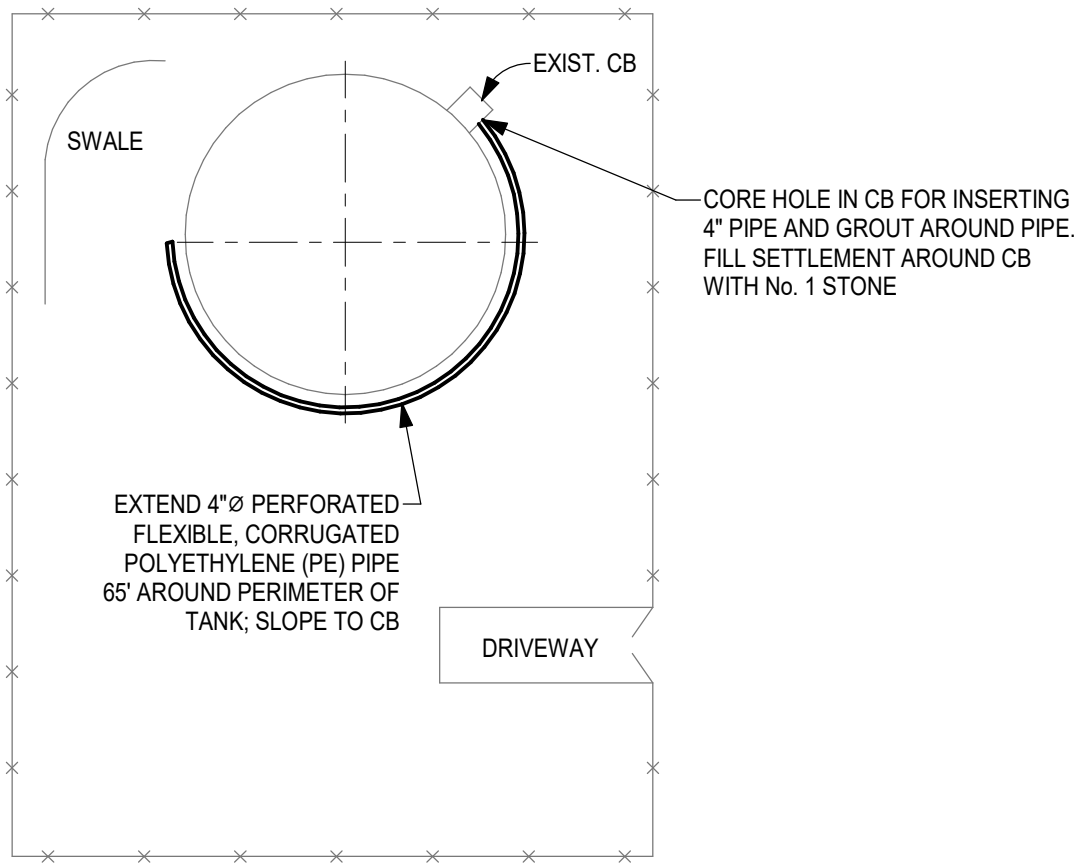
REMOVE EXISTING VENT, HEAT STRAIGHTEN STEEL MOUNTING FLANGE ON ROOF TO PREVENT INSECTS AND RAINWATER FROM GETTING INTO TANK, INSTALL NEW GASKET, AND RE-INSTALL EXISTING VENT

2 WOHLHUETER - ROOF VENT DETAIL



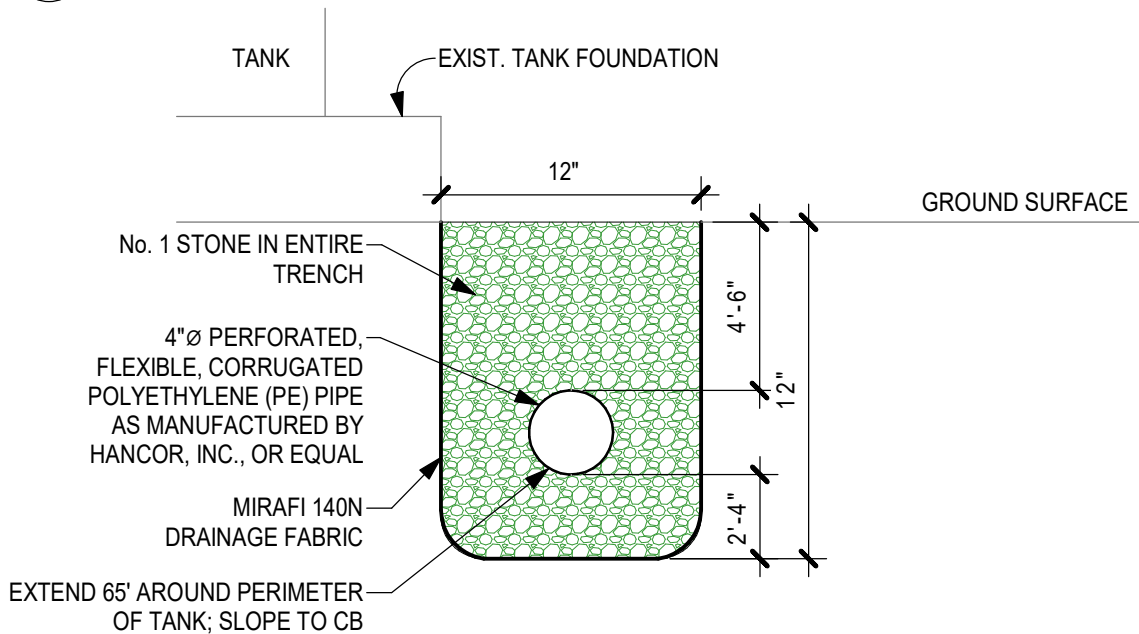
ERIE COUNTY WATER AUTHORITY
06-WOHLHUETER TANK
 CONTRACT NUMBER: W-34
 WOHLHUETER - DETAILS

Proj. No.:	239843
Date:	DEC. 2021
Ref. DWG.:	
Sheet No.:	WH-06



2

SITE PLAN



1

WOHLHUETER DRAINAGE DETAIL



ERIE COUNTY WATER AUTHORITY

06-WOHLHUETER TANK

CONTRACT NUMBER: W-34

WOHLHUETER - SITE PLAN AND DETAIL

Proj. No.: 239843

Date: DEC. 2021

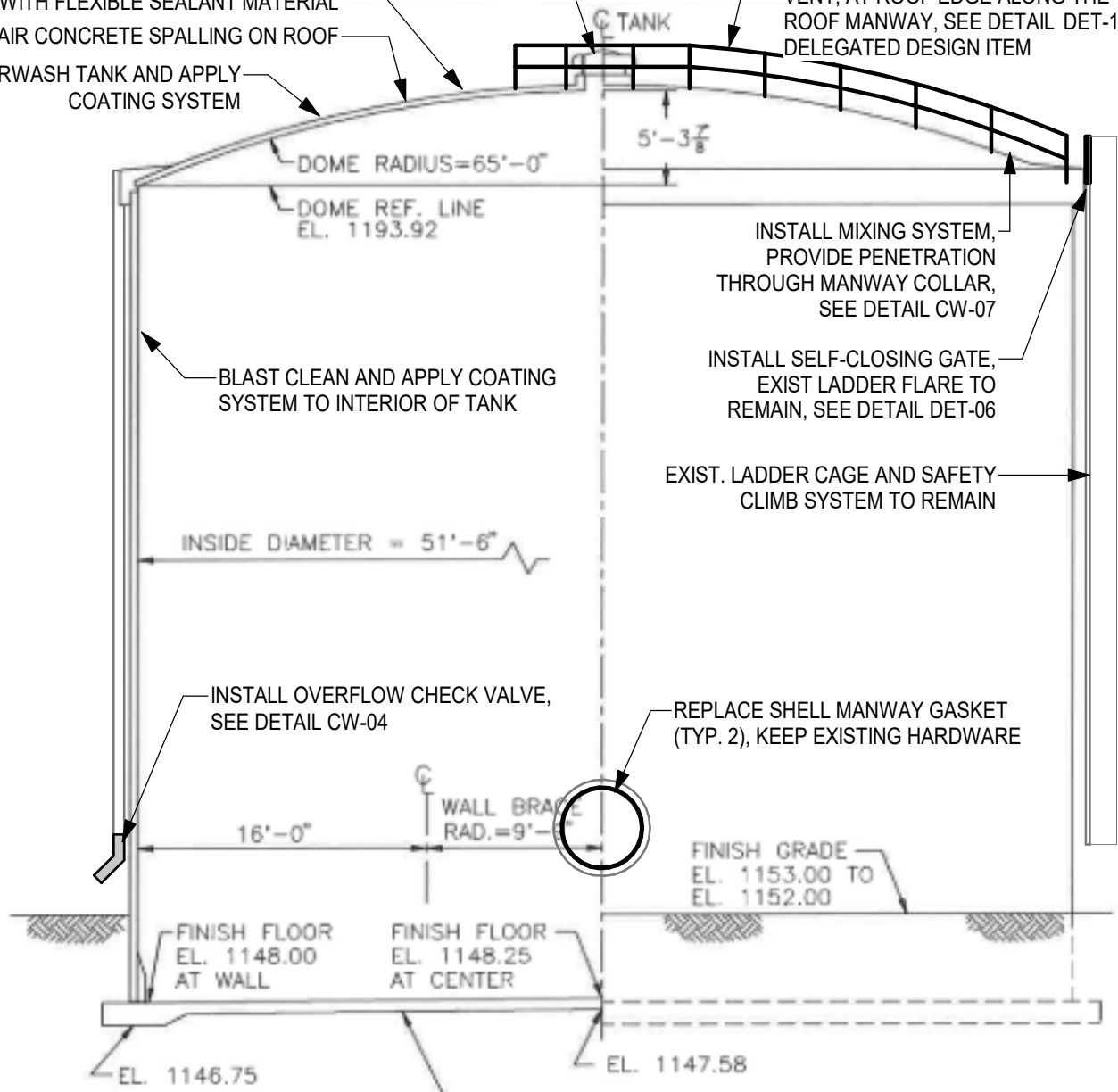
Ref. DWG.:

Sheet No.: **WH-07**

INSTALL CLOG RESISTANT VENT, SEE DET-01 TO DET-05.
USE EXISTING BOLT PATTERN AND CIP ANCHORS, OR IF NOT
POSSIBLE, INSTALL NEW ADHESIVE ANCHORS.

ROUTE EXISTING CRACKS AND FILL
WITH FLEXIBLE SEALANT MATERIAL
REPAIR CONCRETE SPALLING ON ROOF
POWERWASH TANK AND APPLY
COATING SYSTEM

INSTALL GUARDRAIL SYSTEM FROM
LADDER TO ROOF VENT, AROUND
VENT, AT ROOF EDGE ALONG THE
ROOF MANWAY, SEE DETAIL DET-10
DELEGATED DESIGN ITEM

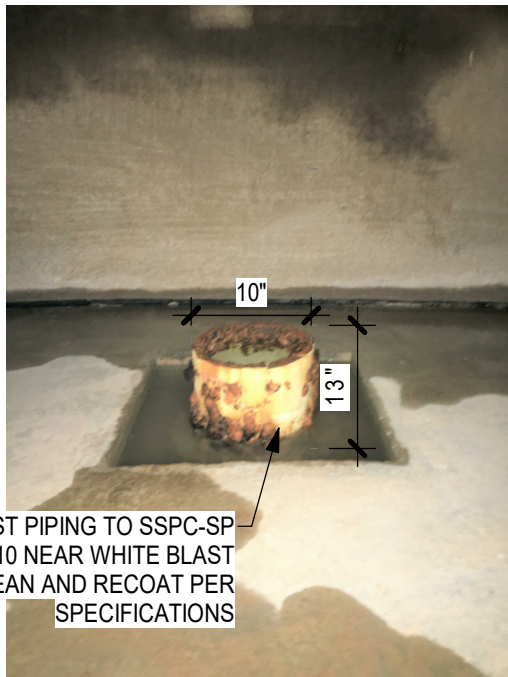


1 **TANK ELEVATIONAL VIEW**

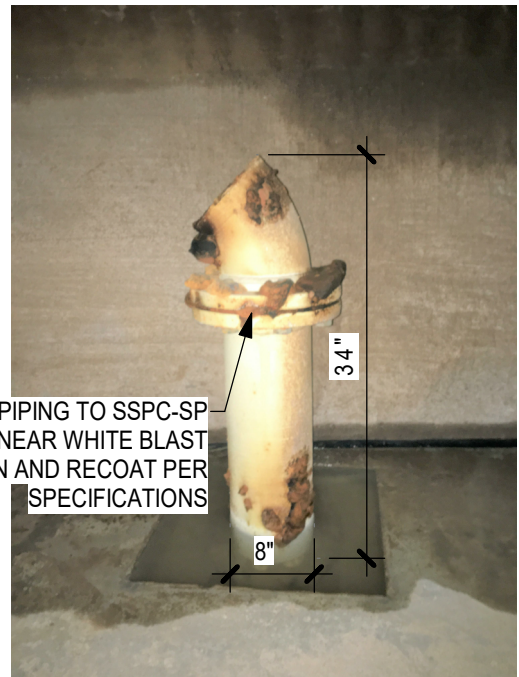


ERIE COUNTY WATER AUTHORITY
03-CRESTWOOD CONCRETE TANK
CONTRACT NUMBER: W-34
CRESTWOOD TANK - ELEVATION

Proj. No.: 239843
Date: DEC. 2021
Ref. DWG.:
Sheet No.: **CW-01**



BLAST PIPING TO SSPC-SP
10 NEAR WHITE BLAST
CLEAN AND RECOAT PER
SPECIFICATIONS



BLAST PIPING TO SSPC-SP
10 NEAR WHITE BLAST
CLEAN AND RECOAT PER
SPECIFICATIONS

1 PHOTO - INTERIOR DETAILS



ERIE COUNTY WATER AUTHORITY
03-CRESTWOOD CONCRETE TANK
 CONTRACT NUMBER: W-34
 CRESTWOOD - DETAILS

Proj. No.: 239843
 Date: DEC. 2021
 Ref. DWG.:
 Sheet No.: **CW-02**



1

PHOTO - OVERFLOW

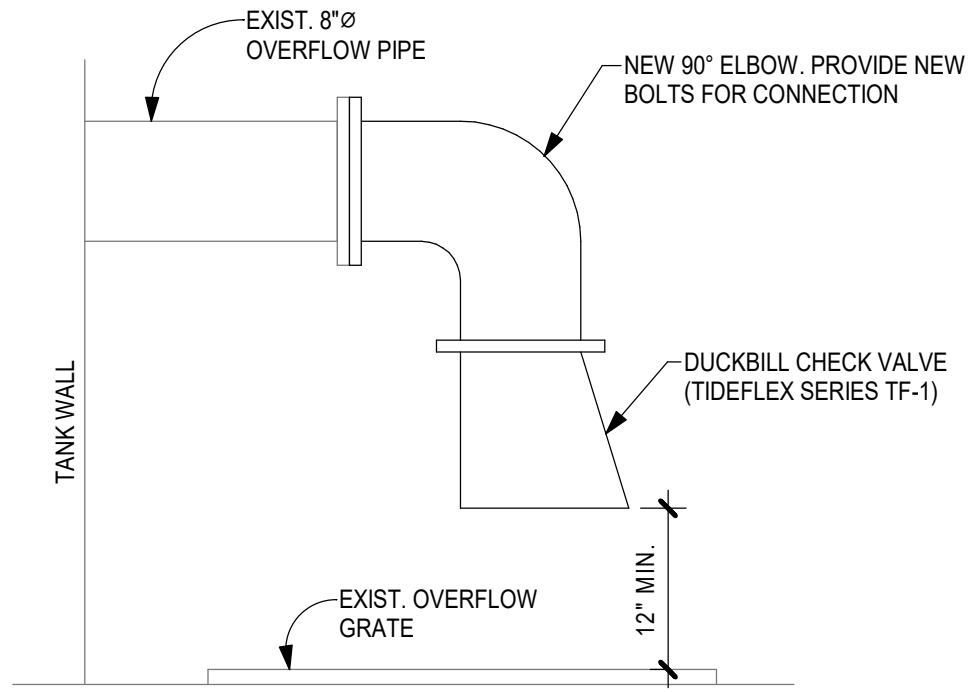


ERIE COUNTY WATER AUTHORITY
03-CRESTWOOD CONCRETE TANK
CONTRACT NUMBER: W-34
CRESTWOOD TANK - DETAILS

Proj. No.:	239843
Date:	DEC. 2021
Ref. DWG.:	
Sheet No.:	CW-03



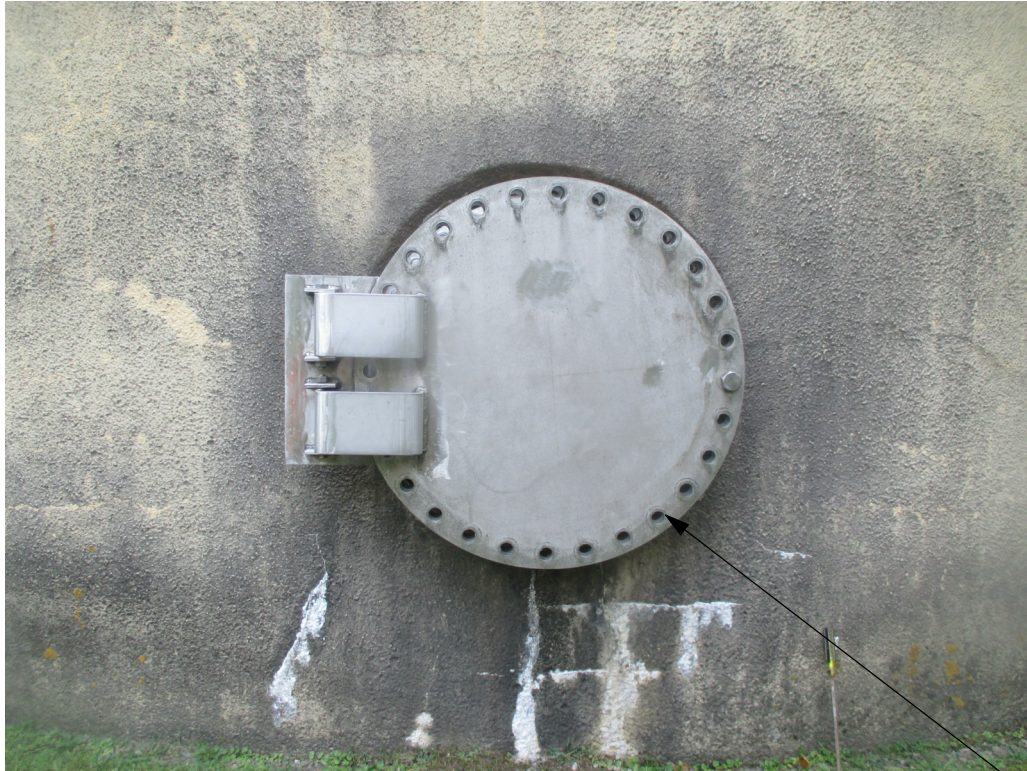
1 PHOTO - OVERFLOW DETAIL



2 CRESTWOOD - OVERFLOW DETAIL



ERIE COUNTY WATER AUTHORITY 03-CRESTWOOD CONCRETE TANK CONTRACT NUMBER: W-34	Proj. No.: 239843
	Date: DEC. 2021
CRESTWOOD - DETAILS	Ref. DWG.:
	Sheet No.: CW-04



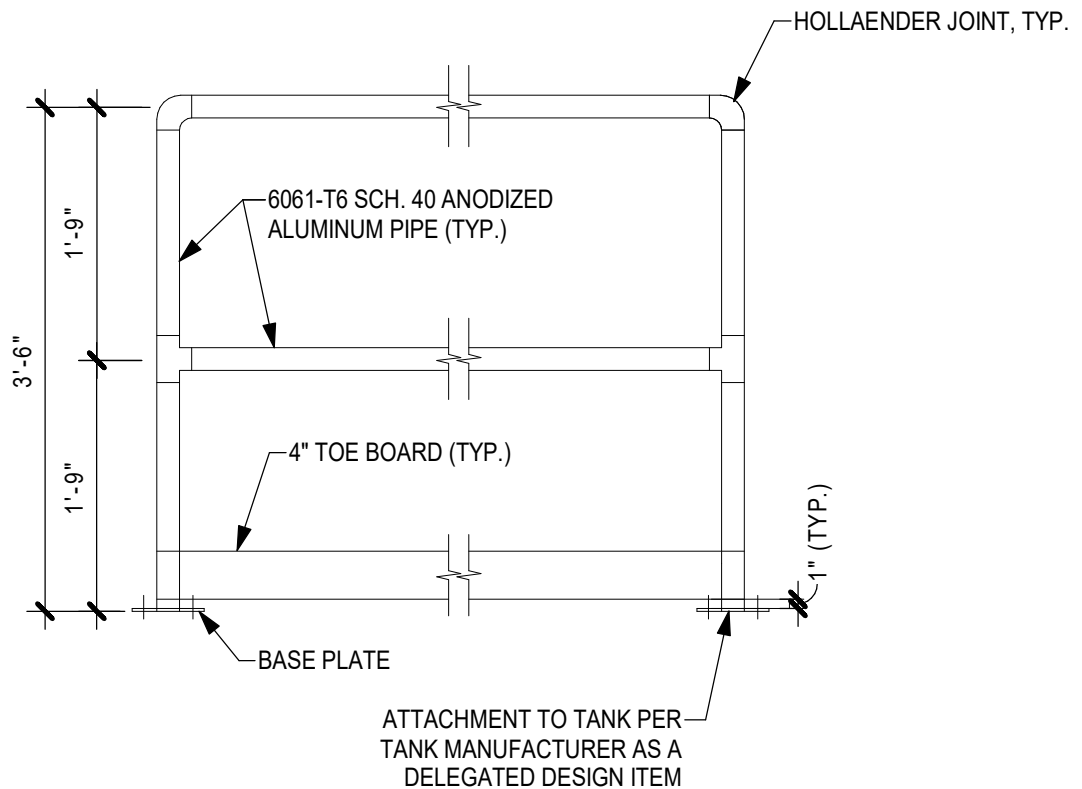
REPLACE GASKET
(2 LOCATIONS)




1 PHOTO - MANHOLE DETAILS

NOTES:

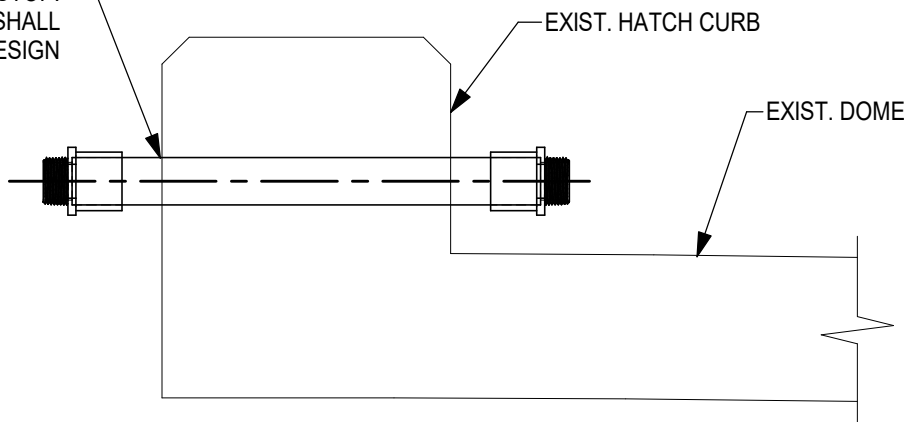
1. ALL ALUMINUM SHALL BE ISOLATED FROM CONCRETE USING NEOPRENE GASKETS.
2. FOUR INCH TOE BOARD SHALL BE PROVIDED ON FRONT CIRCUMFERENTIAL HANDRAIL. ALL SIDES OF HATCH PERIMETER. DELEGATED DESIGN ITEM.
3. GUARDRAIL ATTACHMENT SHALL BE COMPLETED BY A PRE-QUALIFIED CONTRACTOR.
4. CONTRACTOR SHALL DEMOLISH EXISTING INTERIOR LADDER AND REPAIR LADDER CONNECTION LOCATIONS TO THE TANK.



1 CRESTWOOD - DOME ACCESS HATCH GUARDRAIL

 <p>www.wendelcompanies.com</p>	ERIE COUNTY WATER AUTHORITY 03-CRESTWOOD CONCRETE TANK CONTRACT NUMBER: W-34	Proj. No.: 239843
	CRESTWOOD - DETAIL	Date: DEC. 2021
		Ref. DWG.:
		Sheet No.: CW-06

(2) NEW 1" DIA. CONDUIT
INCLUDING WATER STOP.
CORING AND INSTALL SHALL
BE DELEGATED DESIGN

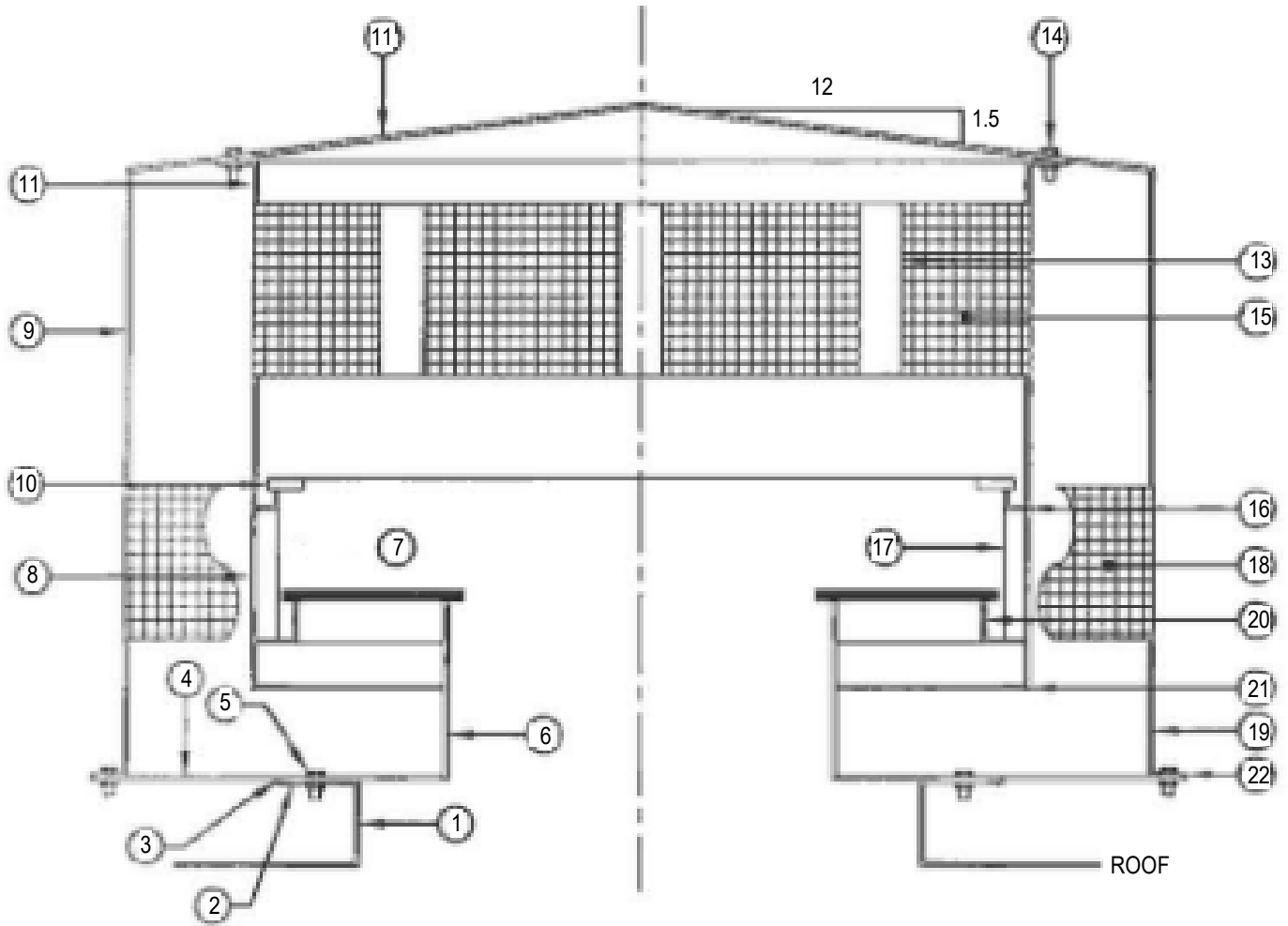


1 CURB CORE DETAIL



ERIE COUNTY WATER AUTHORITY
03-CRESTWOOD CONCRETE TANK
CONTRACT NUMBER: W-34
CRESTWOOD - DETAIL

Proj. No.: 239843
Date: DEC. 2021
Ref. DWG.:
Sheet No.: **CW-07**



NOTES:

1. INSTALL VENT ASSEMBLY PLUMB $\pm 1/8$ INCH IN 12 INCHES

1

24" DIA. CLOG RESISTANT ALUM ROOF VENT (FIGURE 1)

N.T.S



ERIE COUNTY WATER AUTHORITY

07-TYPICAL DETAILS

CONTRACT NUMBER: W-34

ROOF VENT DETAILS

Proj. No.: 239843

Date: DEC. 2021

Ref. DWG.:

Sheet No.: **DET-01**

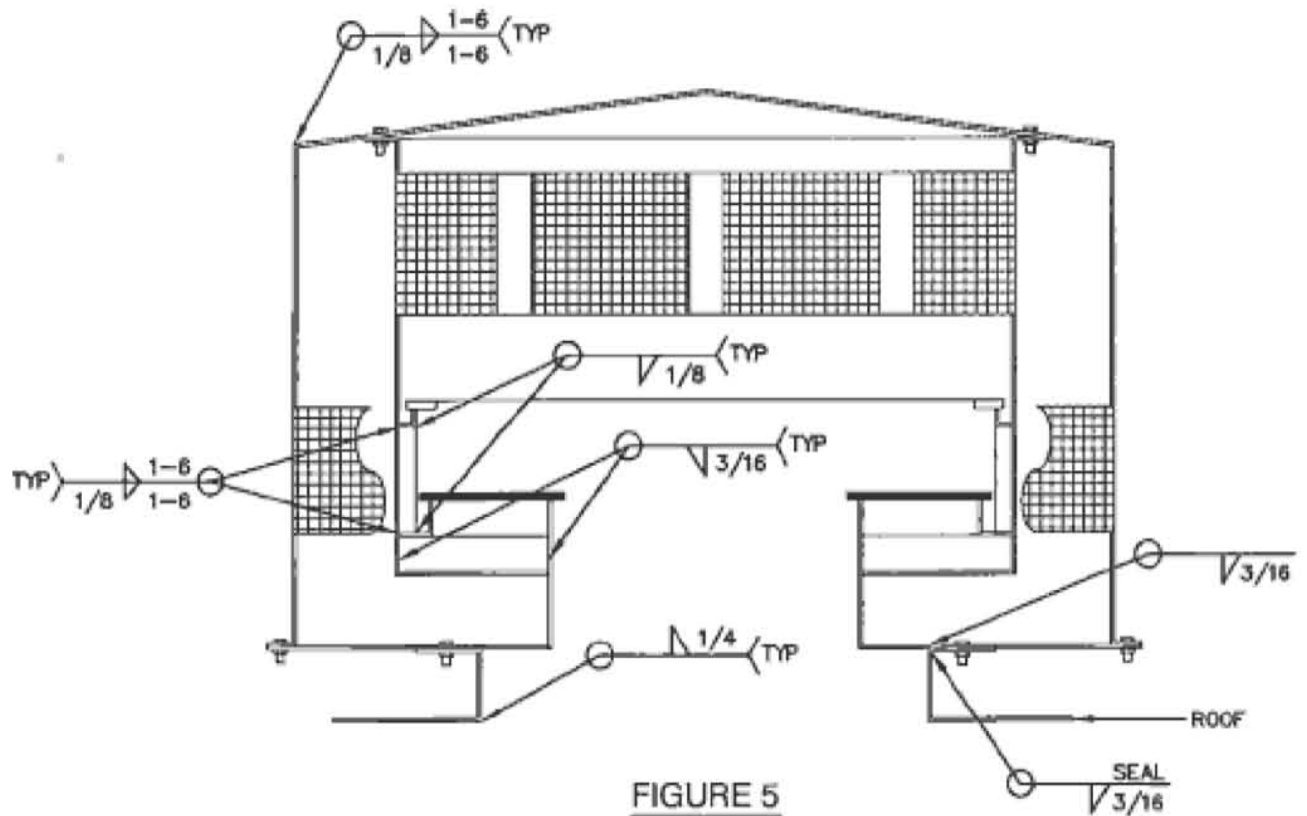


FIGURE 5

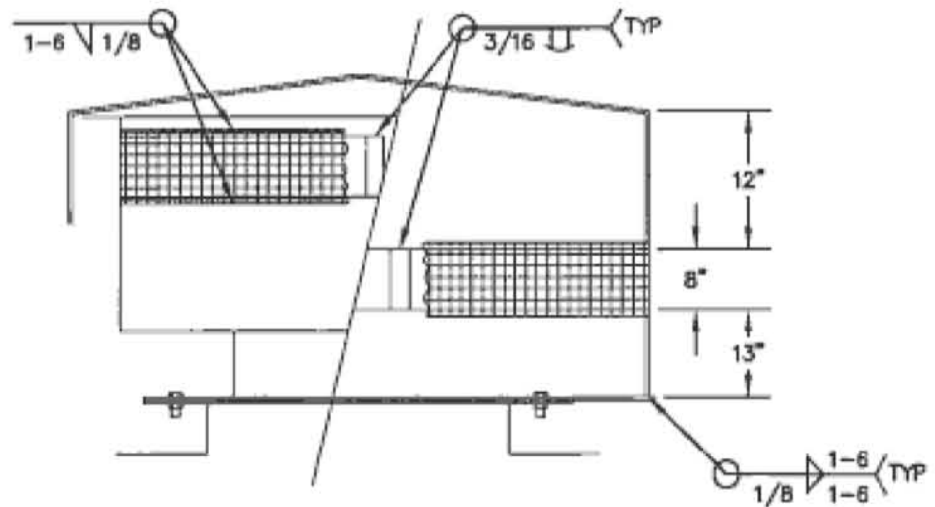


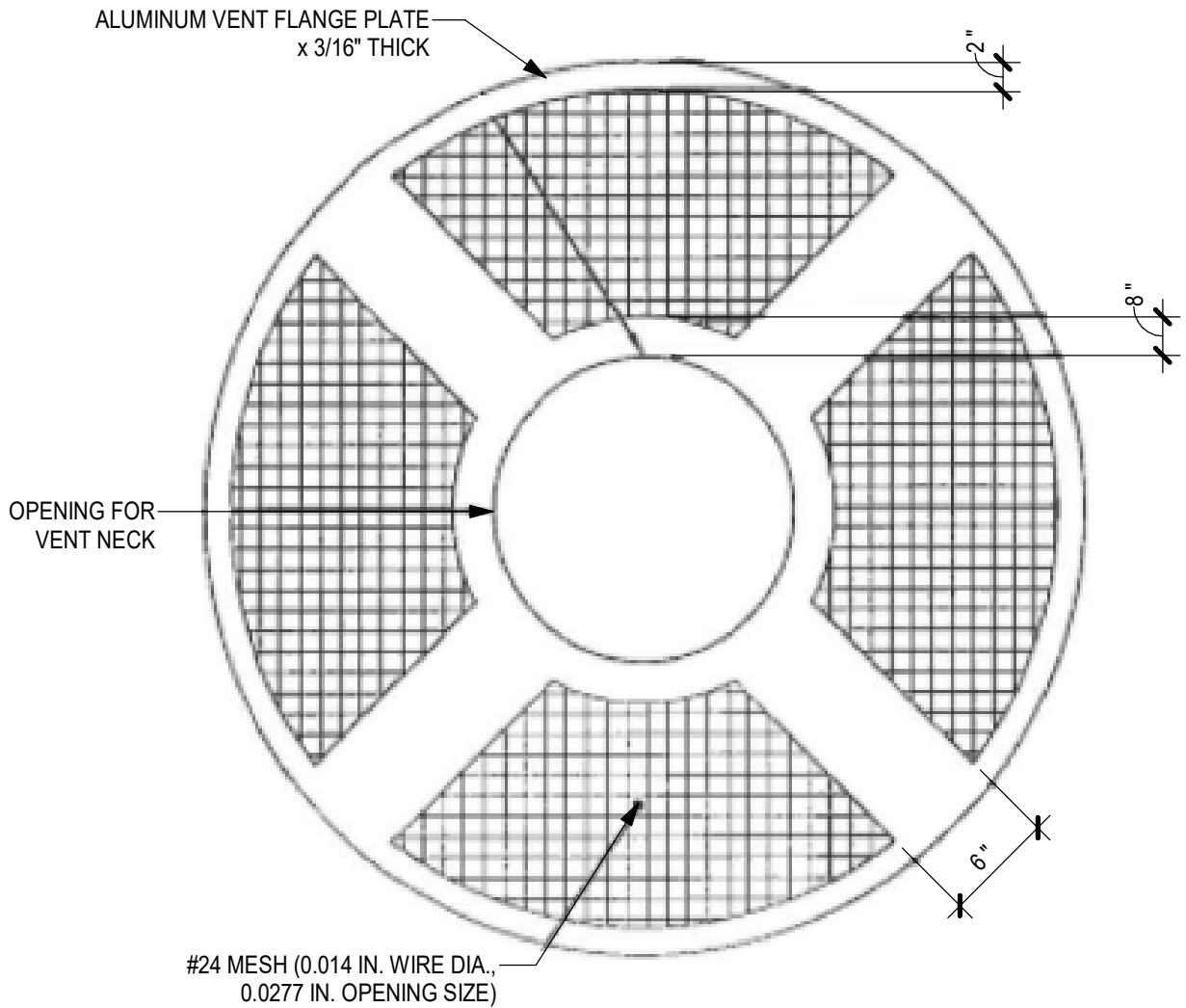
FIGURE 6

1 VENT WELDING SPECIFICATIONS
N.T.S

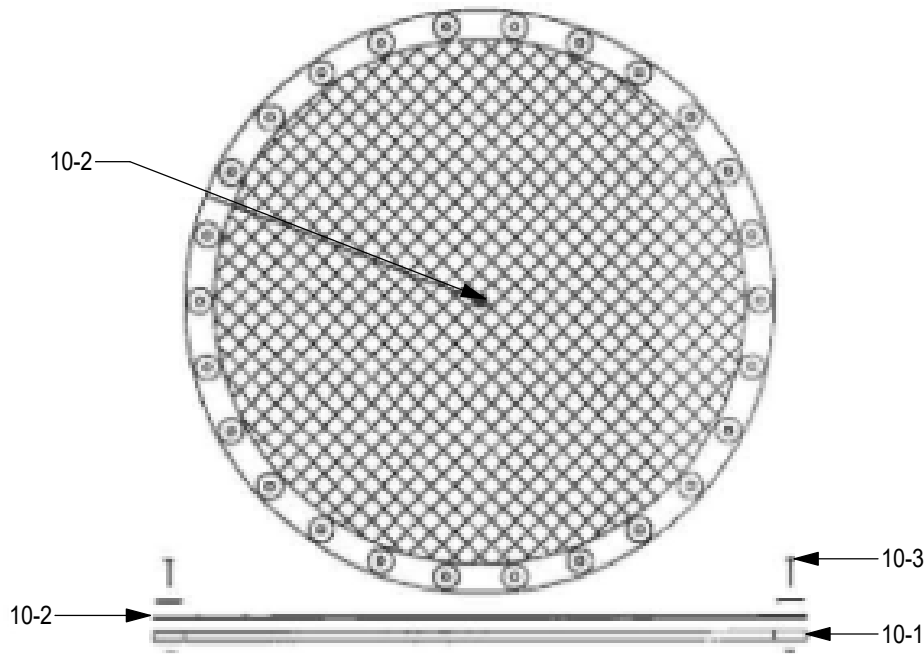


ERIE COUNTY WATER AUTHORITY
07-TYPICAL DETAILS
 CONTRACT NUMBER: W-34
 ROOF VENT DETAILS

Proj. No.:	239843
Date:	DEC. 2021
Ref. DWG.:	
Sheet No.:	DET-02

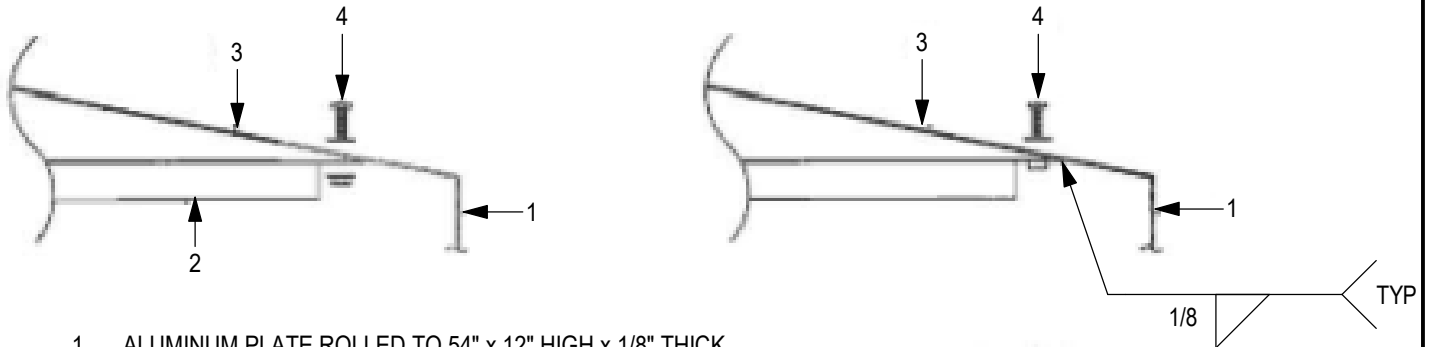


1 **24" DIA. CLOG RESISTANT VENT SCREEN (FIGURE 2)**
N.T.S



- 10-1 HDPE RING 47"O.D. x 43"I.D. x 1/2" THICK
BOLT CIRCLE: (36) 1/4" DIA. HOLES EVENLY SPACED @ 22-1/2" RAD
- 10-2 16 x 16 FIBERGLASS MESH: 46" DIA. (0.018 - FIBERGLASS SCREEN)
BOLT CIRCLE: (36) 1/4" DIA. HOLES EVENLY SPACED @ 22-1/2" RAD.
- 10-3 (36) No. 12 PAN HEAD 316 S.S. MACHINE SCREWS w/ NUTS AND
FENDER WASHERS, 1-1/2" LONG

FIGURE 3 - PRESSURE PALLET (24" DIA. VENT)



- 1 ALUMINUM PLATE ROLLED TO 54" x 12" HIGH x 1/8" THICK
- 2 ALUMINUM 2" x 2" x 3/16" ANGLE ROLLED TO 47-3/4" I.D. LEG OUT w/ (4) EVENLY SPACED 9/16" DIA. HOLES
- 3 ALUMINUM CONE ROOF PLATE 54" DIA. x 1/8" THICK (MAY SUBSTITUTE PRESSED PLATE FLANGED AND DISHED HEAD)
- 4 (4) 304 STAINLESS STEEL BUTTON - HEAD CAP SCREW 1/2" DIA. x 1-1/2" LONG w/ (1) FLAT WASHER,
(1) LOCK WASHER AND (1) NUT PER BOLT (REFER TO FIGURE 3). MAY SUBSTITUTE 1" DIA. x 1/2" THICK BAR STOCK,
DRILLED AND TAPPED AND WELDED TO ANGLE FOR NUT AND LOCK WASHER

FIGURE 4 - VENT COVER CONNECTION

1 VENT PRESSURE PALLET & COVER CONNECTION
N.T.S



ERIE COUNTY WATER AUTHORITY
07-TYPICAL DETAILS
 CONTRACT NUMBER: W-34
 ROOF VENT DETAILS

Proj. No.: 239843
 Date: DEC. 2021
 Ref. DWG.:
 Sheet No.: **DET-04**

1. STEEL PLATE ROLLED TO 24 -1/2" O.D. x 6" HIGH (MIN.) x 1/4" THICK. WITH 1/2"x28" DIA FLANGE ON BASE, BOLTED TO FLANGE PLATE ON EXISTING PIPE STUB MUST PROJECT 4" ABOVE ROOF. CONTRACTOR TO VERIFY DIMENSIONS IN FIELD. AFTER VERIFYING IN FIELD, ADJUST SO THAT VENT WILL MOUNT TO EXISTING OPENING/FLANGE. (INSTALL PLUMB)
2. STEEL PLATE 34" O.D. x 1/4" x 24" I.D. (MUST BE INSTALLED LEVEL); BOLT CIRCLE: (8) 13/16" DIA. HOLES @ 15-1/8" RAD.
3. RUBBER GASKET 34" O.D. x 3/8" x 24-1/4" I.D.; BOLT CIRCLE:(8) 13/16" DIA. HOLES @ 15-1/8" RAD.
4. ALUMINUM PLATE 58" O.D. x 3/16" x 24" I.D. EQUIPPED w/ (4) OPENING COVERED BY 3/4" x .125" FLATTENED EXPANDED ALUMINUM, OPENING SIZE .625" x 1.75" (FIG 2)
5. (8 INNER, 20 OUTER) 304 S.S. BOLTS w/ H.H. NUTS & (2) FLAT WASHERS PER BOLT, 3/4" DIA. 1-1/2" LONG BOLT CIRCLES: (8) 7/16" DIA. HOLES @ 15-1/8" RAD. & (20) 1/4" DIA. HOLES @ 22-1/4" RAD.
6. ALUMINUM PLATE ROLLED TO 24" I.D. x 3/16" x 12-1/2" LONG (ROUND ONE EDGE).
7. LINEAR HIGH DENSITY POLY-ETHYLENE (HDPE) VACUUM PALLET, 44"O.D. x 23" I.D. x 1/2" THICK.
8. ALUMINUM PLATE ROLLED TO 48"O.D. x 12-1/2" HIGH x 1/8" THICK
9. ALUMINUM PLATE ROLLED TO 54"O.D. x 12" HIGH x 1/8" THICK
10. PRESSURE ROLLER (REFER TO FIG. 2).
11. ALUMINUM 2" x 2" x 3/16", ANGLE ROLLED TO 47-3/4" I.D. LEG OUT w/ (4) EVENLY SPACED 9/16" DIA. HOLES (REFER TO FIG. 3)
12. ALUMINUM CONE ROOF PLATE: 54" DIA. x 1/8" THICK (MAY SUBSTITUTE PRESSED PLATE OR FLANGED AND DISHED HEAD)
13. (6) ALUMINUM BAR 2" x 3/16" x 8" LONG (REFER TO FIG. 5)
14. (4) 304 S.S. BOLTS 1/2" DIA. x 1-1/2" LONG WITH (1) FLAT WASHER, (1) LOCK WASHER AND (1) NUT PER BOLT (REFER TO FIG. 3). MAY SUBSTITUTE 1" DIA. x 1/2" THICK BAR STOCK, DRILLED AND TAPPED, AND WELDED TO ANGLE FOR NUT AND LOCK WASHER.
15. #24 MESH, 304 STAINLESS STEEL (0.014 IN. WIRE DIA., 0.0277 IN. OPENING SIZE) FORMED TO 48" I.D. x 11" HIGH.
16. ALUMINUM ANGLE 1" x 1" x 3/16" ROLLED TO 45-3/4" I.D. LEG OUT w/ (8) EVENLY SPACED 3/16" DIA. HOLES LOCATED MIDWAY ON THE HORIZONTAL LEG.
17. (6) ALUMINUM BAR 6" x 1-1/4" x 1/8"
18. #24 MESH, 304 STAINLESS STEEL (0.014 IN. WIRE DIA., 0.0277 IN. OPENING SIZE) FORMED TO 54" I.D. x 9" HIGH, SUPPORTED BY (6) EVENLY SPACED ALUMINUM BARS, 2" x 3/16" x 6" LONG.
19. ALUMINUM PLATE ROLLED TO 54" O.D. x 13" HIGH x 1/8" THICK SECTION OF VERTICAL SHIELD.
20. ALUMINUM ANGLE 2" x 2" x 3/16" ROLLED TO 43-3/4" I.D. LEG OUT w/ (8) EVENLY SPACED 3/16" DIA. HOLES LOCATED MIDWAY ON THE HORIZONTAL LEG.
21. (6) ALUMINUM ANGLE 2" x 2" x 3/16" x 11-5/8" LONG, ORIENTED LEG-DOWN
22. ALUMINUM PLATE 58" O.D. x 3/16" x 54" I.D. TO PROVIDE 2" WIDE LIP FOR BOLTING

NOTES:

1. ALL STEEL ITEMS TO BE MADE FROM A36 OR A283 GRADES A, B OR C STAINLESS UNLESS OTHERWISE SPECIFIED.
2. ALL ALUMINUM ITEMS TO BE MADE FROM GRADE 3003-H14 OR H-16 FORMABLE UNLESS OTHERWISE SPECIFIED.
3. ALL DIMENSIONS TO BE ±1/8" TOLERANCE. EXCEPT BOLT HOLE DIAMETERS TO BE ±1/32" TOLERANCE.

1 24" DIA. CLOG RESISTANT ALUM ROOF VENT NOTES

N.T.S



ERIE COUNTY WATER AUTHORITY

07-TYPICAL DETAILS

CONTRACT NUMBER: W-34

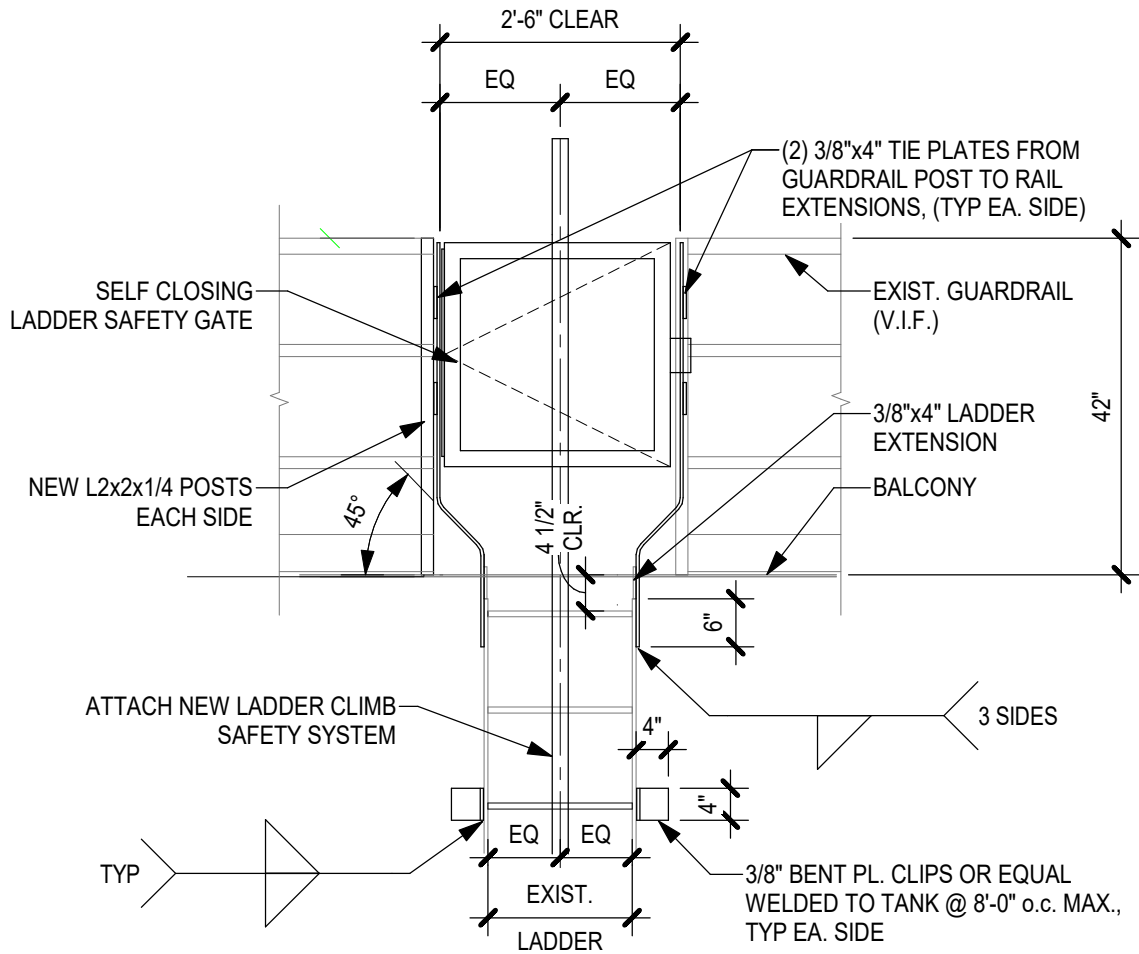
ROOF VENT DETAILS

Proj. No.: 239843

Date: DEC. 2021

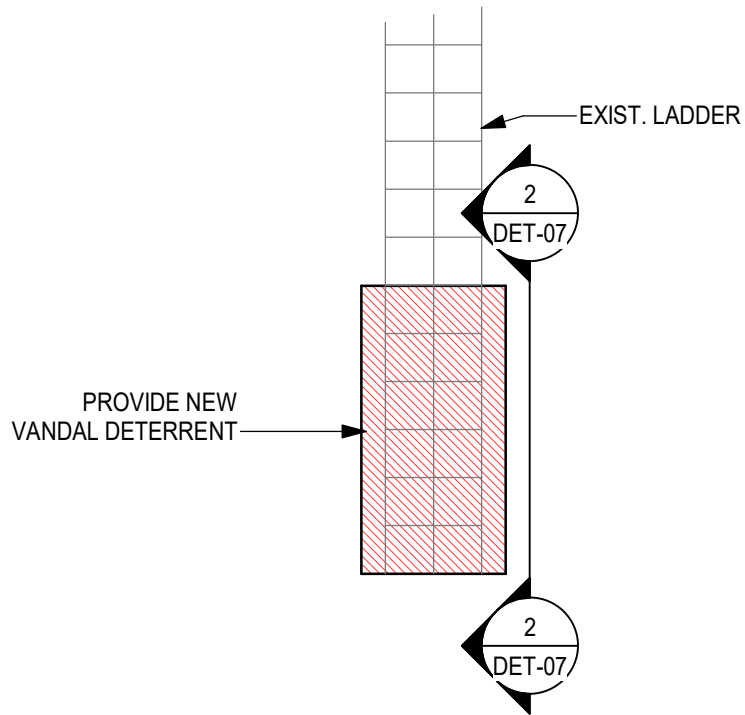
Ref. DWG.:

Sheet No.: **DET-05**

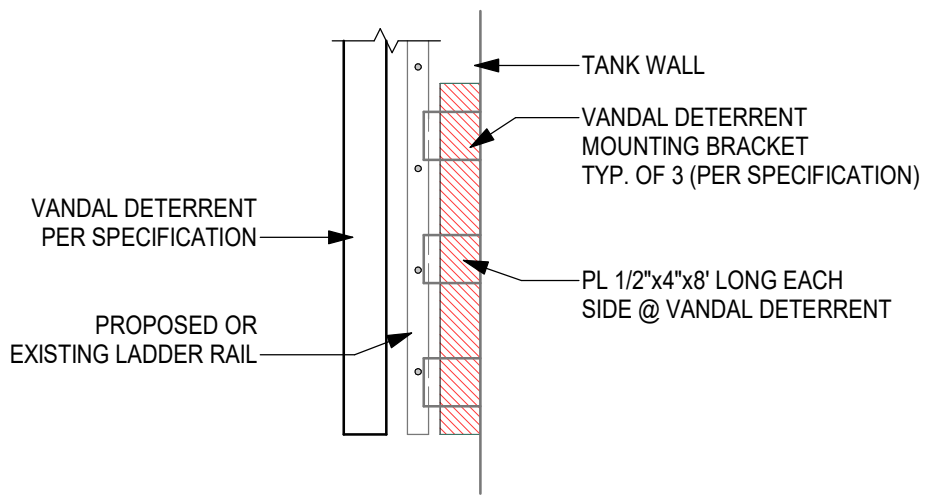


1 LADDER FLARE DETAIL

N.T.S



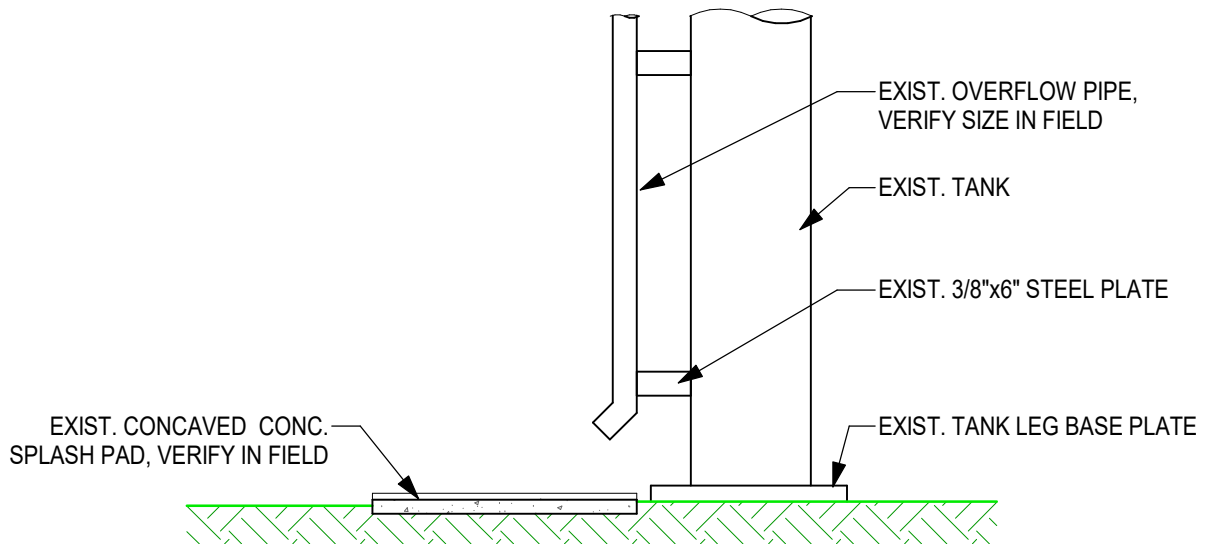
1 VANDAL DETERRENT
N.T.S



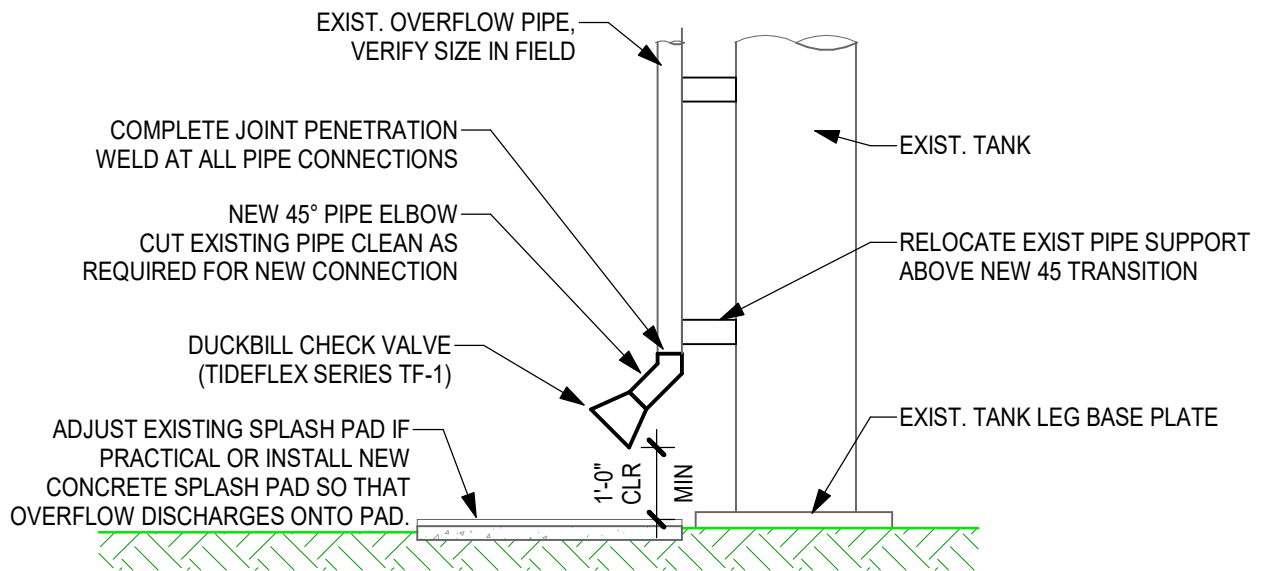
2 ADDITION TO VANDAL DETERRENT
N.T.S



ERIE COUNTY WATER AUTHORITY 07-TYPICAL DETAILS CONTRACT NUMBER: W-34	Proj. No.: 239843
	Date: DEC. 2021
LADDER DETAIL - VANDAL DETERRENT	Ref. DWG.:
	Sheet No.: DET-07



1 **EXISTING OVERFLOW CONDITIONS**
N.T.S

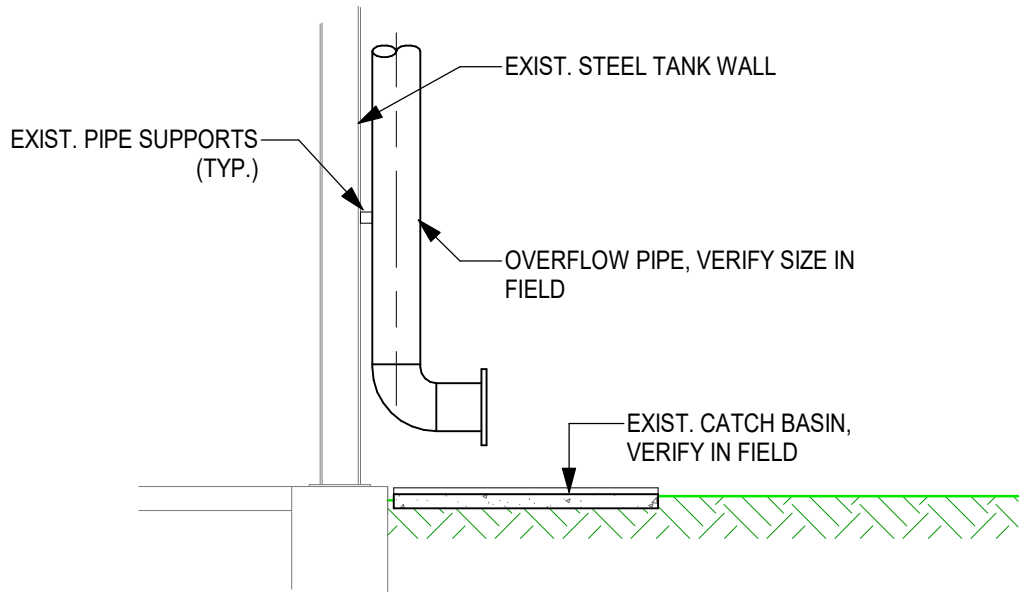


2 **OVERFLOW MODIFICATIONS**
N.T.S

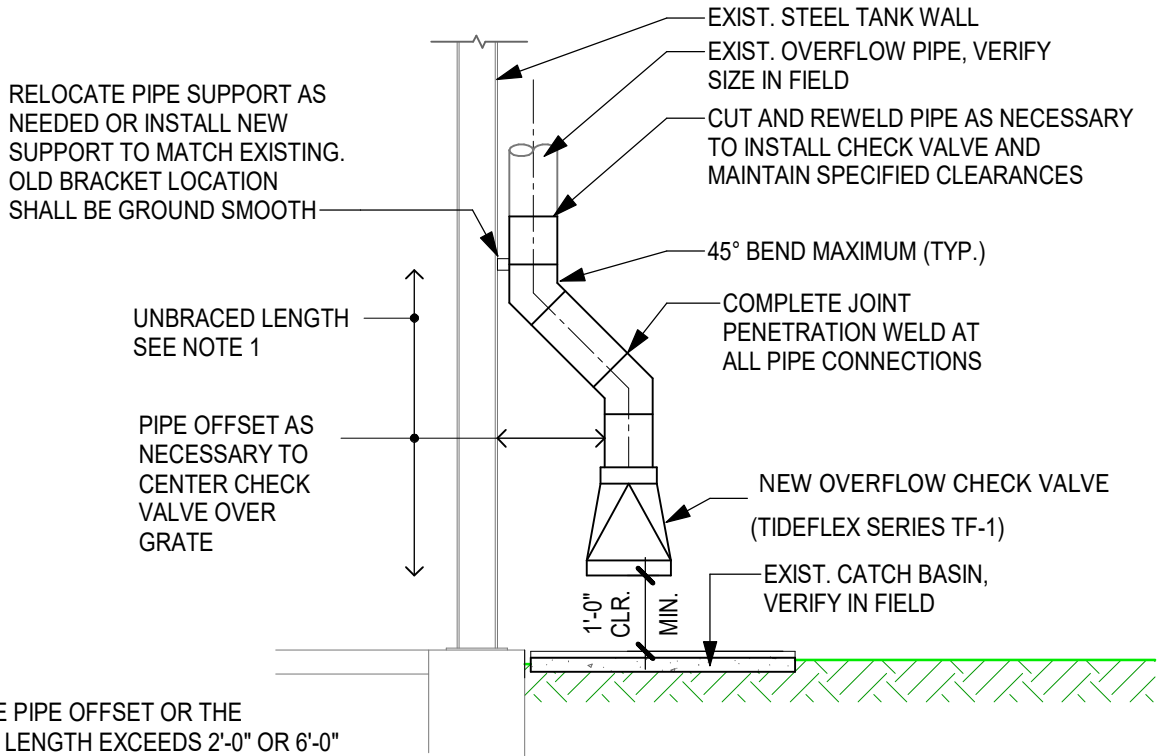


ERIE COUNTY WATER AUTHORITY
07-TYPICAL DETAILS
 CONTRACT NUMBER: W-34
 OVERFLOW PIPE DETAILS

Proj. No.: 239843
 Date: DEC. 2021
 Ref. DWG.:
 Sheet No.: **DET-08**



EXISTING



RELOCATE PIPE SUPPORT AS NEEDED OR INSTALL NEW SUPPORT TO MATCH EXISTING. OLD BRACKET LOCATION SHALL BE GROUND SMOOTH

UNBRACED LENGTH SEE NOTE 1

PIPE OFFSET AS NECESSARY TO CENTER CHECK VALVE OVER GRATE

NOTE 1:
WHERE THE PIPE OFFSET OR THE UNBRACED LENGTH EXCEEDS 2'-0" OR 6'-0" RESPECTIVELY, PROVIDE ADDITIONAL PIPE SUPPORT PER THE DETAIL ON SHEET DET-16

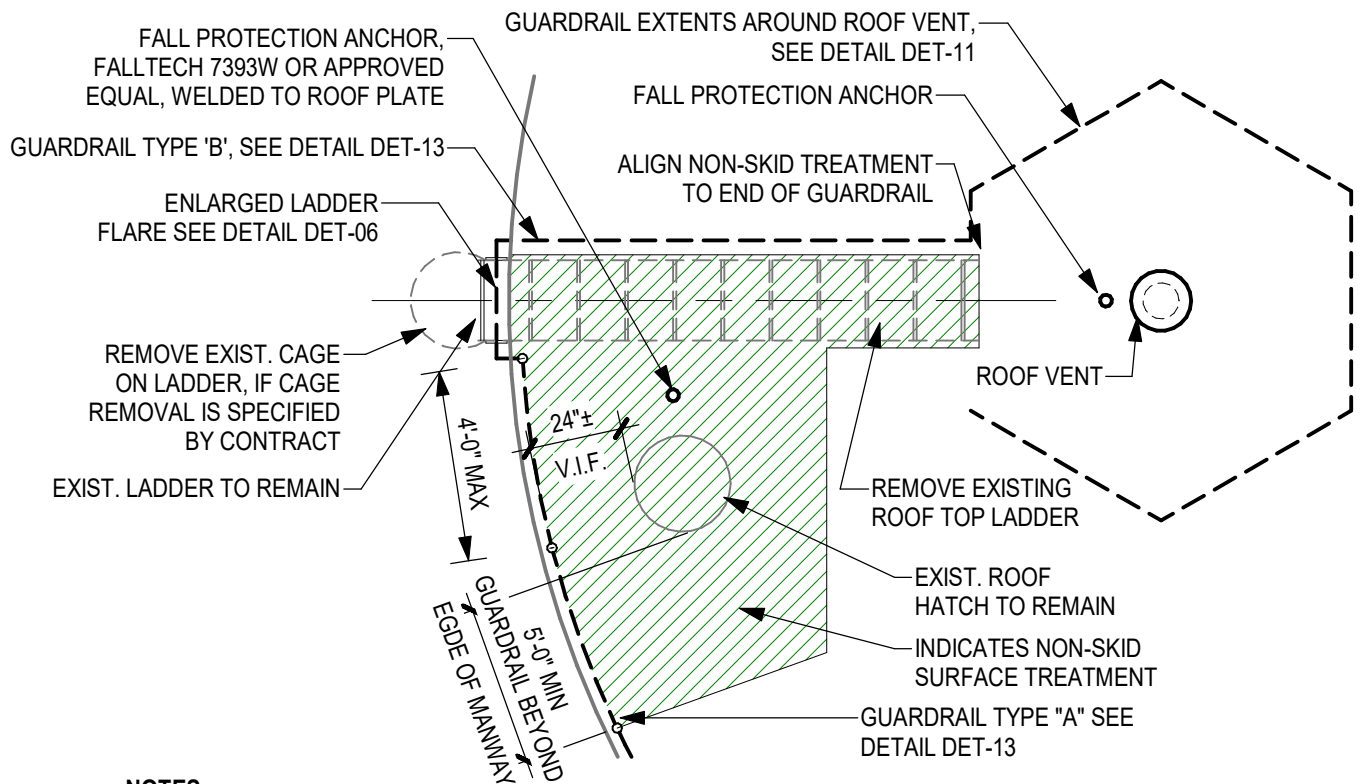
PROPOSED

1 OVERFLOW PIPE MODIFICATIONS
N.T.S



ERIE COUNTY WATER AUTHORITY
07-TYPICAL DETAILS
CONTRACT NUMBER: W-34
OVERFLOW PIPE MODIFICATIONS

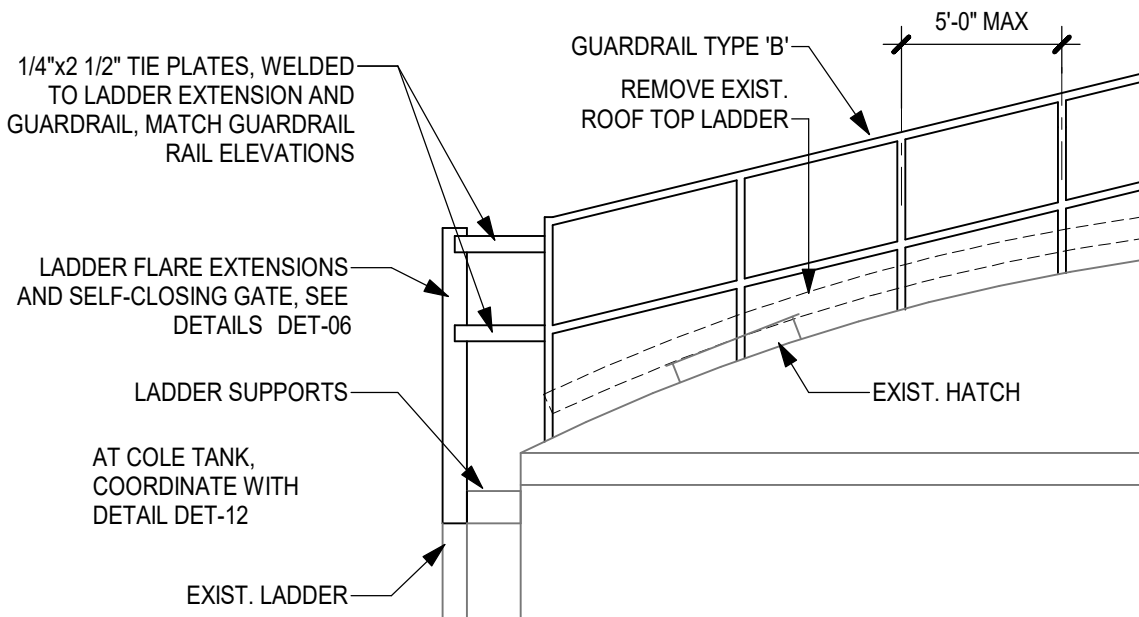
Proj. No.: 239843
Date: DEC. 2021
Ref. DWG.:
Sheet No.: **DET-09**



NOTES:

1. VERIFY LOCATION OF EXISTING TANK KNUCKLE PRIOR TO GUARDRAIL INSTALLATION
2. VERIFY LOCATION OF EXTENTS OF EXISTING ROOF PRIOR TO GUARDRAIL INSTALLATION
3. COORDINATE ALL IN-FIELD DISCREPANCIES WITH THE ENGINEER

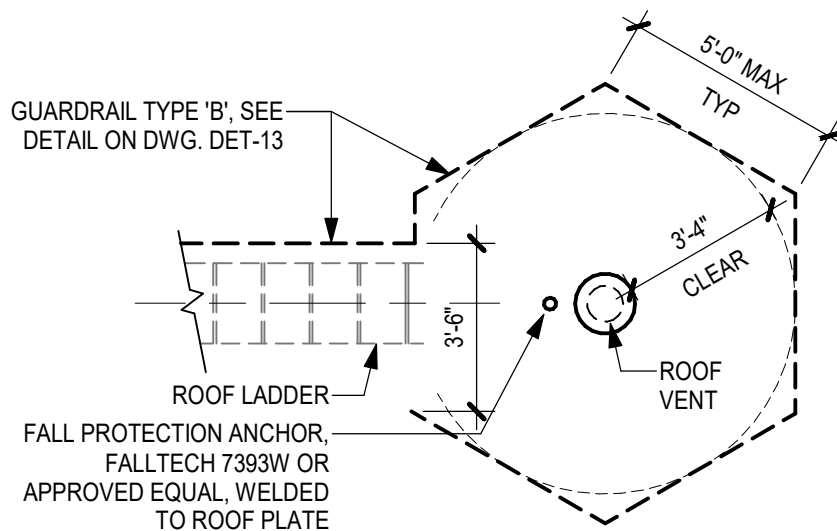
1 GUARDRAIL LAYOUT PLAN
N.T.S



2 GUARDRAIL ELEVATION
N.T.S

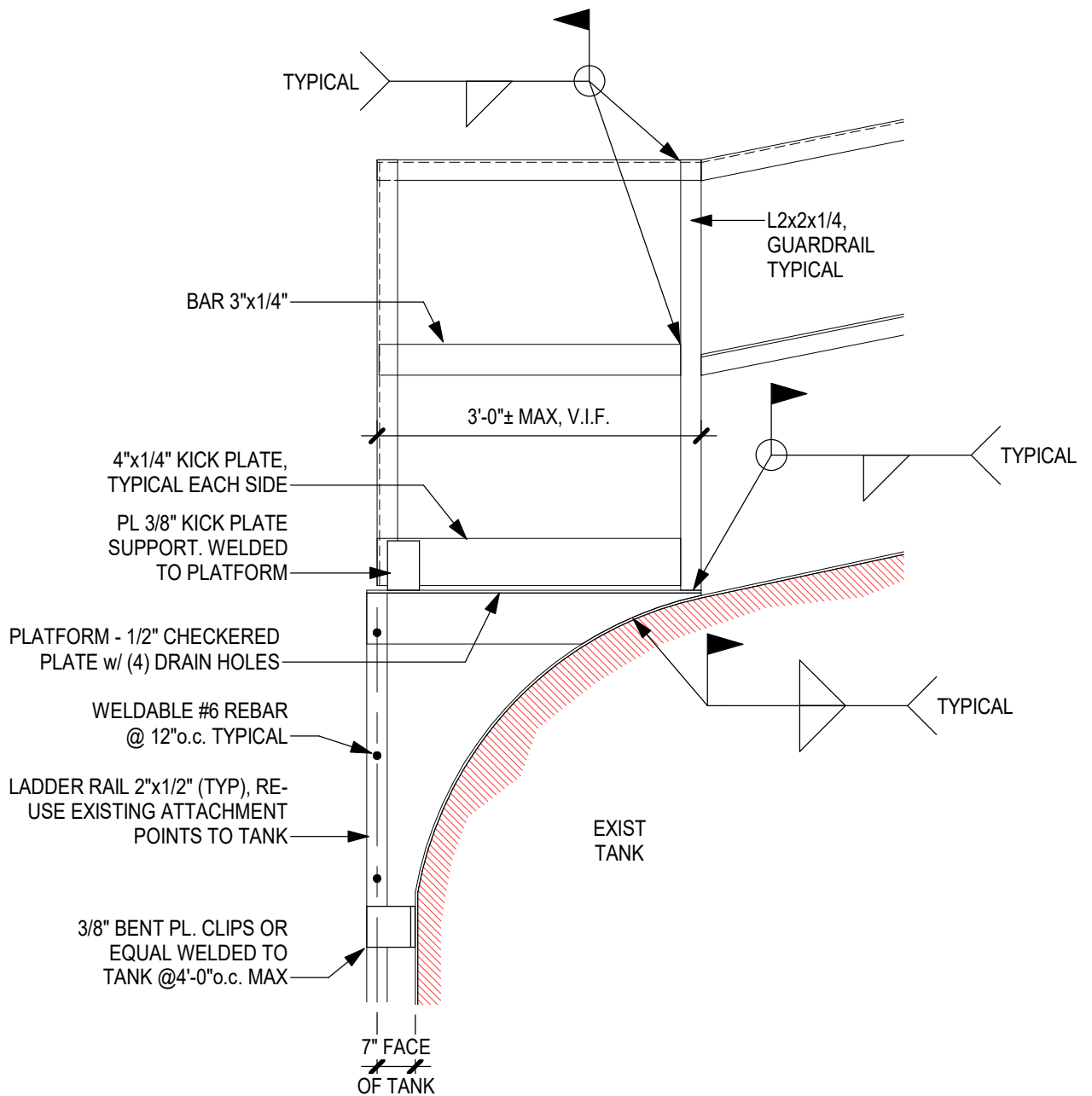


ERIE COUNTY WATER AUTHORITY 07-TYPICAL DETAILS CONTRACT NUMBER: W-34 GUARDRAIL LAYOUT PLAN AND ELEVATION	Proj. No.: 239843
	Date: DEC. 2021
	Ref. DWG.:
	Sheet No.: DET-10



1 **GUARDRAIL LAYOUT AT ROOF VENT**

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

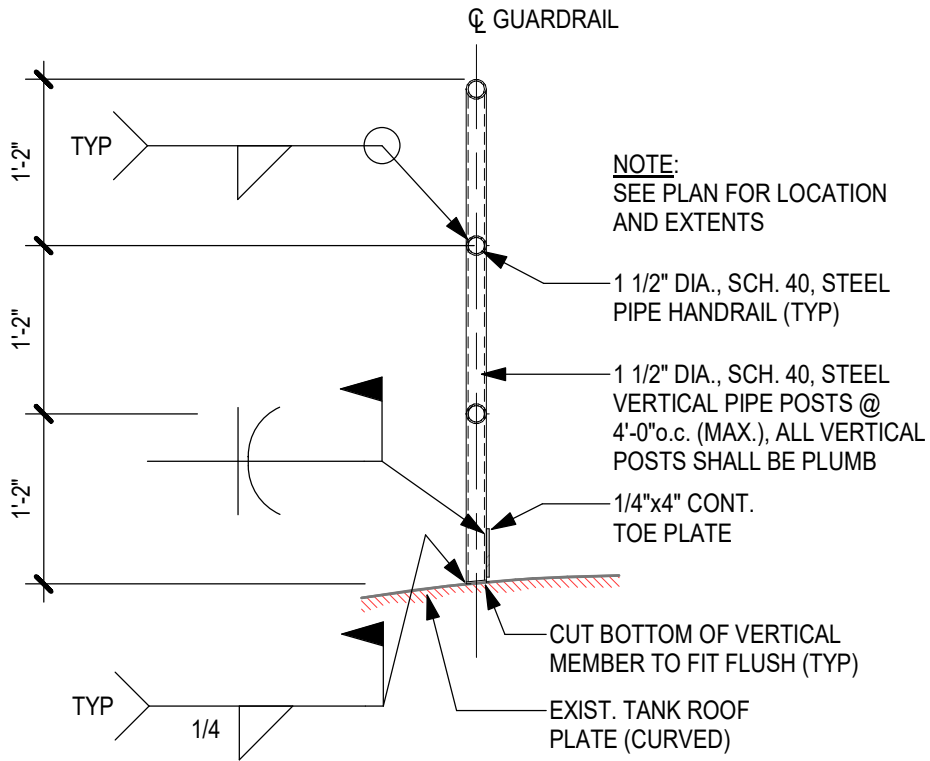


1 **GUARDRAIL DETAIL**
N.T.S

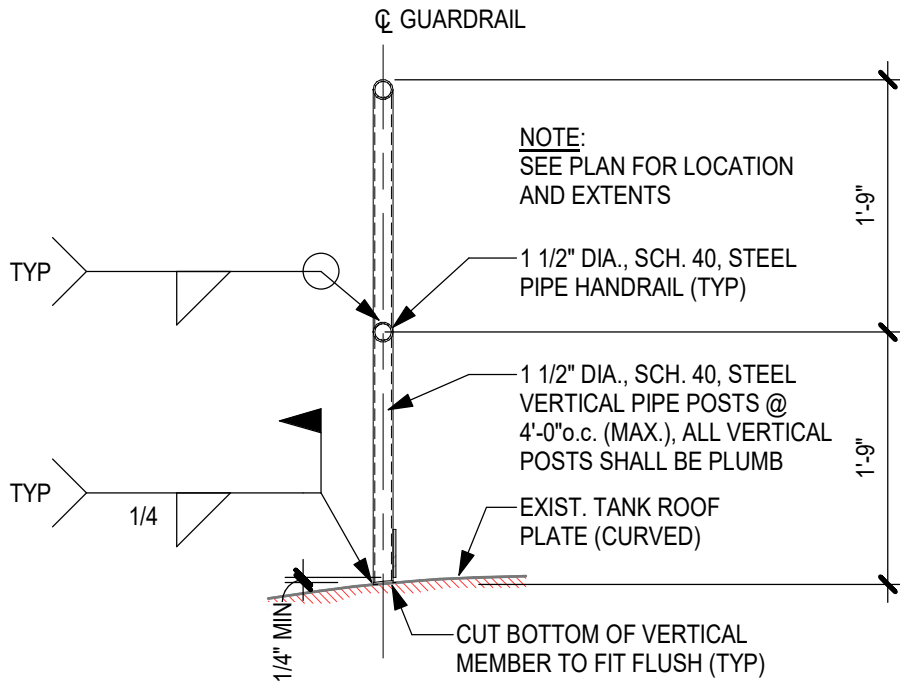


ERIE COUNTY WATER AUTHORITY
07-TYPICAL DETAILS
 CONTRACT NUMBER: W-34
 GUARDRAIL DETAIL

Proj. No.: 239843
 Date: DEC. 2021
 Ref. DWG.:
 Sheet No.: **DET-12**



1 **GUARDRAIL TYPE A**
N.T.S



2 **GUARDRAIL TYPE B**
N.T.S



ERIE COUNTY WATER AUTHORITY
07-TYPICAL DETAILS
 CONTRACT NUMBER: W-34
 GUARDRAIL TYPES

Proj. No.:	239843
Date:	DEC. 2021
Ref. DWG.:	
Sheet No.:	DET-13

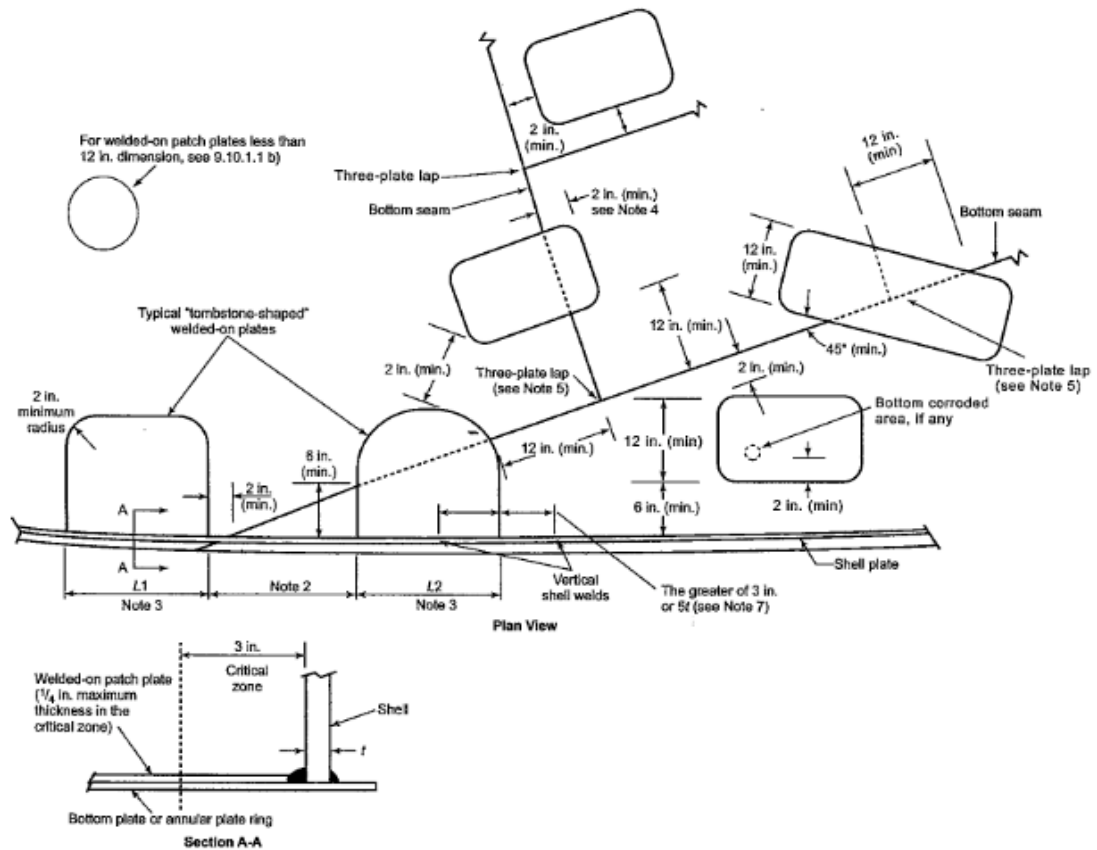


Figure 9.13—Typical Welded-on Patch Plates on Tank Bottom Plates

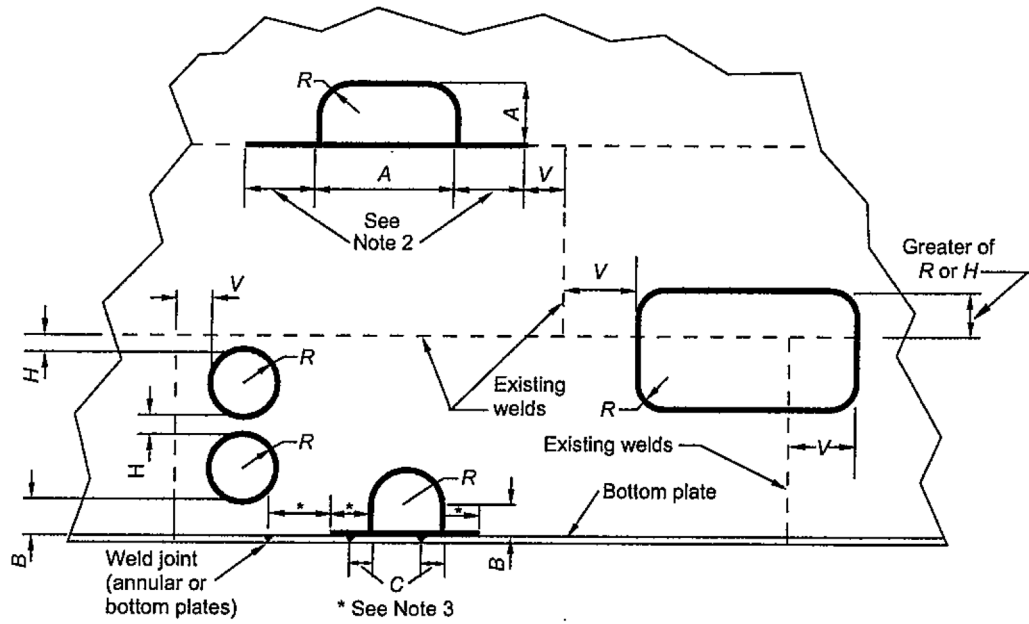
REFERENCE: FIGURE FROM API 653 MANUAL

- NOTE 1 DIMENSIONS GIVEN ARE FROM TOE OF FILET WELDS OR TO CENTERLINE OF BUTT-WELD AND ALSO APPLY TO NEW-TO-EXISTING WELDS.
- NOTE 2 MINIMUM DISTANCE BETWEEN TWO WELDED-ON PATCH PLATES IN THE CRITICAL ZONE SHALL BE ONE HALF OF THE LESSER OF $\angle 1$ OR $\angle 2$.
- NOTE 3 THE MAXIMUM DIMENSION ALONG THE SHELL FOR WELDED-ON PATCH PLATES IN THE CRITICAL ZONE IS 24 IN.
- NOTE 4 WHEN THE EDGE OF A WELD-ON PATCH PLATE IS APPROXIMATELY PARALLEL TO A BOTTOM SEAM, THE EDGE SHALL BE HELD AT LEAST 2 IN. FROM WELD SEAM.
- NOTE 5 PATCHES OVER THREE-PLATE LAPS SHALL EXTEND A MINIMUM OF 12 IN. IN ALL DIRECTIONS ALONG ALL LAPS BEYOND THE THREE-PLATE LAP.
- NOTE 6 THESE RULES APPLY TO BUILT-WELDED BOTTOMS, WHERE APPLICABLE.
- NOTE 7 APPLIES TO SHELLS OF UNKNOWN TOUGHNESS

1

FLOOR PLATE WELDING DETAIL

N.T.S




Minimum Weld Spacing Between Edges (Toes) of Welds for Thickness of Replacement Shell Plate, t , (inches)		
Dimension	$t \leq 0.5$ in.	$t > 0.5$ in.
R	6 in.	Greater of 6 in. or $6t$
B	6 in.	Greater of 10 in. or $8t$
H	3 in.	Greater of 10 in. or $8t$
V	6 in.	Greater of 10 in. or $8t$
A	12 in.	Greater of 12 in. or $12t$
C	Greater of 3 in. or $5t$	

- NOTE 1 All weld intersections shall be at approximately 90°.
- NOTE 2 Prior to welding new vertical joints, cut existing horizontal weld for a minimum of 12 in. beyond the new vertical joints. Weld the horizontal joint last.
- NOTE 3 Prior to welding new vertical joints, cut existing shell-to-bottom weld for a minimum of 12 in. beyond the new vertical joints. The cut shall extend past or stop short of existing bottom plate welds by at least 3 in. or $5t$. Weld the shell-to-bottom weld last.

Figure 9.1—Acceptable Details for Replacement of Shell Plate Material

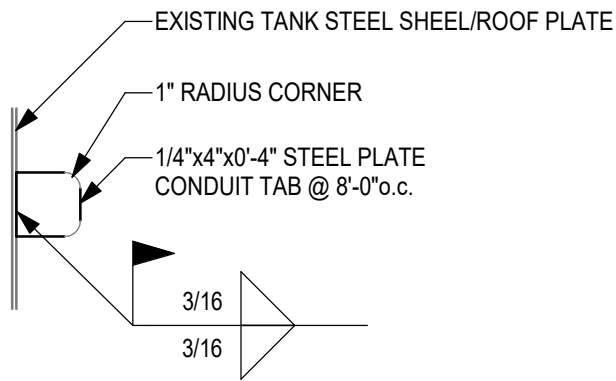
REFERENCE: FIGURE FROM API 653 MANUAL

1 **WALL PLATE WELDING DETAIL**
N.T.S

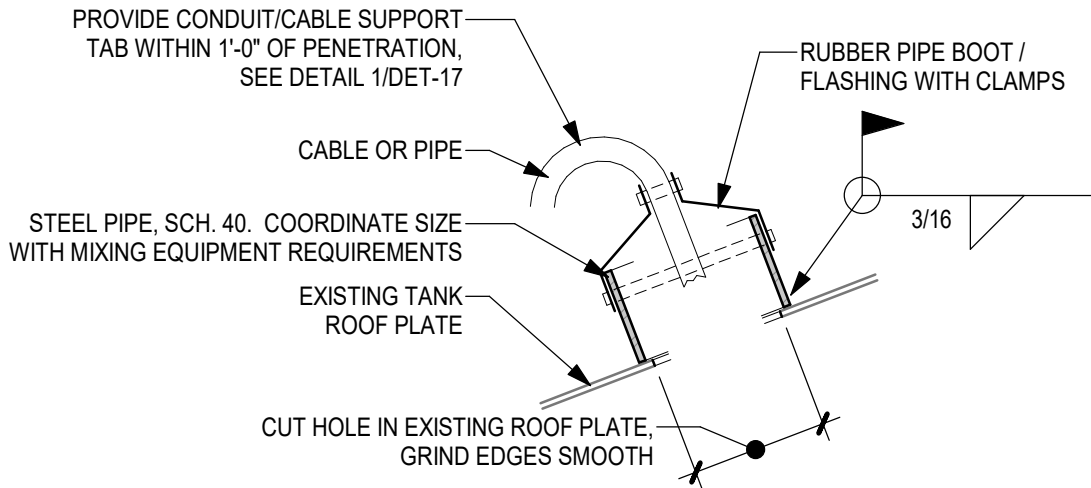
 <p>www.wendelcompanies.com</p>	<p>ERIE COUNTY WATER AUTHORITY</p> <p>07-TYPICAL DETAILS</p> <p>CONTRACT NUMBER: W-34</p>	<p>Proj. No.: 239843</p>
	<p>WELDING DETAILS</p>	<p>Date: DEC. 2021</p>
		<p>Ref. DWG.:</p>
		<p>Sheet No.: DET-15</p>

DET-16 DOES NOT APPLY TO CONTRACT W-034A

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1 CONDUIT SUPPORT TAB DETAIL
N.T.S



2 ROOF PENETRATION DETAIL
N.T.S



ERIE COUNTY WATER AUTHORITY
07-TYPICAL DETAILS
 CONTRACT NUMBER: W-34
 CONDUIT DETAILS

Proj. No.: 239843
 Date: DEC. 2021
 Ref. DWG.:
 Sheet No.: **DET-17**