CONTRACT/BID/SPECIFICATIONS

ARLINGTON WASTEWATER TREATMENT PLANT
PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT

CONTRACT 2018-05

TOWN OF Poughkeepsie
ONE OVEROCKER ROAD
POUGHKEEPSIE, NEW YORK

TOWN SUPERVISOR JAY BAISLEY

BOARD MEMBERS JEFFREY D. RENIHAN
BILL CARLOS
JESSICA LOPEZ
MICHAEL CIFONE
MICHAEL WOOLEVER
ANN SHERSHIN

TOWN CLERK FELICIA SALVATORE

TOWN ATTORNEY JAMES NELSON

PREPARED BY:

ENGINEERING DEPARTMENT
TOWN OF Poughkeepsie
ONE OVEROCKER ROAD
POUGHKEEPSIE, NEW YORK 12603

AUGUST 2018
The Town of Poughkeepsie invites sealed bids for construction of the "ARLINGTON WASTEWATER TREATMENT PLANT, PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT, Contract No. 2018-05" as set forth in the Bid Documents prepared by the Town of Poughkeepsie.

The work proposed under this contract will be primarily inside and outside the existing scum wells and also under the Thickener Building and consists mainly of (1) concrete repairs to the primary scum well; installing a pump and a pump base elbow provided by the Owner and providing and installing new guide rails and lifting chain; furnishing and installing new electrical equipment; and furnishing and installing new access doors and (2) modifying the secondary well piping and pump, furnishing and installing a new pump base elbow and pump lifting chain for the existing pump at the secondary scum well and (3) constructing a new pipeline crossover with a new plug valve at the Thickener Building. All work shall comply with the plant manager's (SUEZ) safety standards.

The project is bid as a lump sum for the defined work, and a predetermined and fixed general allowance amount of $50,000.00 for contingencies. The lowest bid will be determined on the basis of the sum of the bid price submitted by a qualified bidder for the project for the work on the bid sheet, plus the pre-determined general allowance amount of $50,000.00 as stated on the bid sheet.

The Bid Documents may be reviewed at and obtained from the Office of the Town Clerk, Town of Poughkeepsie, One Overocker Road, Poughkeepsie, NY 12603 after August 21, 2018 and will also be available simultaneously on the Town's website. Any addenda will be similarly available. Pursuant to the provisions of General Municipal Law of the State of New York (GML) Section 102, persons desiring to take a copy of the Bid Documents may obtain them, subject to a deposit to guarantee their safe return, in the amount of $500 for each set, payable to the Town of Poughkeepsie by certified check or money order. Such deposit shall be refunded or partially refunded pursuant to the provisions of GML Section 102. There is no charge for the Bid Documents downloaded from the Town's website.

There will be an optional site visit for bidders on September 12, 2018 at 1:00 pm. Bidders shall meet at the conference room in the Administrative Building located at 78 Sand Dock Road. SUEZ personnel will brief all bidders on plant safety rules and conduct the plant visit. Bidders are hereby put on notice that hard hats, safety glasses, hearing protection and proper shoes are required and will NOT be provided by SUEZ or the Town of Poughkeepsie. Bidders shall note that this optional visit is in fact the only scheduled opportunity to make the field measurements required for the bid preparation. Any other site visit, if permitted, shall be at the convenience of the SUEZ plant manager.

Bidders are cautioned that the paint and primer on the steel, pipes and walls may contain lead. The lead containing paint products will not be removed by the Owner, and the contractor shall take all necessary precautions and implement all necessary measures to assure worker health and safety and to comply with OSHA, NIOSH, EPA and State rules, regulations, or laws for any and all paint disturbance.

Sealed Bids will be received by the Town Clerk, Town of Poughkeepsie, One Overocker Road, Poughkeepsie, NY 12603 until 11 a.m. (local time) on September 25, 2018 at which time they will be publicly opened and read aloud. A bid shall be made upon and in accordance with the form of proposal included in the Bid Documents and the bid shall be
submitted in a sealed envelope marked "ARLINGTON WASTEWATER TREATMENT PLANT, PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT, Contract No. 2018-05 Bid Proposal".

Each bid shall be accompanied by an acceptable form of Bid Guarantee (a Certified Check of the bidder drawn payable to the Town of Poughkeepsie or a Bid Bond in favor of the Town of Poughkeepsie from a recognized insurance carrier) in the amount of five percent (5%) of the amount bid as a guarantee that if the Bid is accepted, the Bidder will enter into a contract with the Town of Poughkeepsie under the terms of the Bid Documents.

The Town of Poughkeepsie (the Town) reserves the right to reject any or all Bids and to waive any formality or technicality in any Bid in the interest of the Town.

Bidders are required to execute the non-collusion bidding certificate pursuant to GML Section 103-d that is included in the Bid Documents.

Bidders are also required to comply with the provisions of Section 291-299 of the Executive Law of the State of New York.

The Town of Poughkeepsie hereby notifies all Bidders that it will affirmatively insure that in regard to any agreement entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration of an award.

BY ORDER OF THE TOWN BOARD, DATED AUGUST 15, 2018

THE TOWN OF POUGHKEEPSIE IS AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER
DIVISION 100 ............................................................................................... Instructions to Bidders
   Section 1  Information for Bidders
   Section 2  Summary Description of Work
   Section 3  Photos
   Section 4  Contact Information

DIVISION 200 ............................................................................................... Bid Proposal
   Section 1  Bid Form
   Section 2  Bid Sheet
   Section 3  Certification of Non-Collusion
   Section 4  Bid Bond

DIVISION 300 ............................................................................................... Sample Contract
   Section 1  Sample Contract Agreement
   Section 2  Performance Bond Form
   Section 3  Labor and Material Payment Bond Form

DIVISION 400............................................................................................... General Conditions

DIVISION 500............................................................................................... Special Conditions
   Section 1  Usual and Customary Town Notes
   Section 2  Special Town Notes
   Section 3  Prevailing Wage Rates

DIVISION 600 ............................................................................................... Technical Specifications
PROPOSAL FOR
TOWN OF POUGHKEEPSIE

ARLINGTON WASTEWATER TREATMENT PLANT
PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT
CONTRACT NO. 2018-05

DIVISION 100
INSTRUCTIONS TO BIDDERS

PREPARED BY:
ENGINEERING DEPARTMENT
TOWN OF POUGHKEEPSIE
ONE OVEROCKER ROAD
POUGHKEEPSIE, NEW YORK 12603

AUGUST 2018
Division 100, Section 1

INFORMATION FOR BIDDERS

1. Location and Description of Project

   a. Project Location:
      (1) The work proposed is located at the Arlington Wastewater Treatment Plant, owned by the Town of Poughkeepsie, and located at 78 Sand Dock Road in the Town of Poughkeepsie, Dutchess County, New York.
      (2) The work area will be primarily at the primary and secondary scum wells and in the tunnel at the Thickener Building.

   b. This contract consists mainly of the following work, as shown on the plans and described in Division 100, Sections 2 and 3 and the specifications:
      (1) Concrete and concrete repairs; providing and installing pumping equipment, and installing salvaged pumping equipment; providing and installing piping, valves and related work; electric work, controls and luminaire; and Bilco doors.
      (2) Also included are shop drawings, layout, cutting, drilling, welding, painting and all related work as necessary for a complete project and fully functional scum pumping system.
      (3) All work shall comply with the plant manager’s (SUEZ) safety standards and OSHA regulations.

   c. Hazardous materials.
      (1) No asbestos containing materials have been identified within the work areas.
      (2) Bidders are cautioned that the paint and primer on the steel, pipes and walls may contain lead. The contractor shall take all necessary precautions and implement all necessary measures to assure worker health and safety and to comply with OSHA, NIOSH, EPA and State rules, regulations, or laws for any and all paint disturbance.

   d. Work Area Use and Access:
      (1) The contractor shall cordon off the outdoor work areas to minimize the chance of unauthorized access to the open pits.
 Temporary covers shall be used as needed.

(2) The contractor shall coordinate his work with the work of any other contractors working in the area.

2. **Addenda and Interpretations**

   No interpretation of the meaning of the specifications or other bid documents will be made orally to any prospective bidder. Every request for such interpretation shall be made in writing, either by postal mail or email, addressed to Peter Hobday at the Town Engineering Department (see Division 100, Section III for the contact information). In order to be given consideration, such request must be received at least ten working days prior to the date fixed for the opening of bids. Any and all interpretations and any supplemental instructions will be in the form of written addenda to the specifications or other bid documents and will be issued not later than three calendar days prior to the date fixed for the opening of bids. Addenda will be sent by e-mail with receipt acknowledgement requested to those prospective bidders who registered with the Town Clerk, at the respective address furnished for such purposes. All other bidders are cautioned to regularly check the town’s website for any addenda. Failure of any bidder to receive any such addendum shall not relieve such bidder from any obligation under his/her bid as submitted. All addenda issued shall become part of the bid documents and the contract documents and the Bidder shall be bound by such addenda, whether or not received by the Bidder.

3. **Obligation of Bidder**

   At the time of the opening of bids each bidder will be presumed to have read and to have become thoroughly familiar with the bid documents (including all addenda, if issued). The failure or omission of any bidder to examine any form, instrument or document shall in no way relieve any bidder from any obligation with respect to his bid.

   Bidders are cautioned to carefully read and consider the insurance requirements detailed in Article 16, **Insurance Requirements** below.

4. **Conditions of Work**

   Each bidder must inform himself fully of the conditions relating to the work required under this project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all materials and labor necessary to carry out the provisions of the Contract
Documents and to complete the work of the contract for the consideration set forth in his bid.

Attendance at a pre-bid meeting is not required. However, any contractor desiring to gain access to the site at any other time shall make his own arrangements with the operator of the Arlington WWTP (see Division 100, Section 3 for the contact information) and such visit shall be at the convenience of the operator of the Arlington WWTP.

5. **Sales Tax**

The Town of Poughkeepsie is an exempt organization under the Tax Laws and is exempt from payment of Sales and Compensating Use Taxes of the State of New York and cities and counties of the State for all materials which are to be incorporated into the construction, pursuant to the provisions of the contract. Such taxes are not to be included in the bid. However, this is not to be construed by bidders as relieving them from any obligation to pay a sales tax on applicable items pursuant to terms of the present Sales Tax Law.

6. **Preparation of Bid**

Each bid must be prepared on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten, in both figures and words, and the Certifications included with the bid form must be fully completed and executed and submitted simultaneously with the bid.

The date and time of the bid opening and project name are stated in the ADVERTISEMENT FOR BIDS.

1) If mailed, the sealed envelope containing the bid shall be sent in a wrapper or another envelope addressed to the Town Clerk, Town of Poughkeepsie, One Overocker Road, Poughkeepsie, New York 12603; and

2) Whether mailed or delivered in person, the bid shall be submitted in a sealed envelope bearing on the outside the name of the bidder, his address, and the name of the project for which the bid is submitted. The project name is stated in the ADVERTISEMENT FOR BIDS.

3) The envelope shall also state the bid opening date as given in the ADVERTISEMENT FOR BIDS.

A bid must be submitted only on the designated form, all blank spaces of which must be filled in, in ink, in both words and figures with the total sum for which the bid is made. In case of a discrepancy, the word description will govern.
The complete form shall be without erasures, interlineations, or alterations.

No oral, telegraphic or telephonic bid or bid modifications will be considered.

The signature(s) on the bid and all other bid documents must be in ink and in longhand. An officer or a principal of a corporation or a partnership signing for the bidder shall print or type the legal name of the person, partnership, or corporation on the line provided and place its signature in the appropriate space. All other information required shall be typed or printed on the lines provided.

The Certification of Non-Collusion by Bidders included in Division 200 shall be considered to be a part of the bid and no bid will be considered unless it remains attached to the bid and bears the signature of the bidder or their authorized agent.

Prior to submitting its bid, the bidder shall verify that he has received all addenda issued. The bidder shall acknowledge receipt of all addenda on the bid form. Failure of the bidder to receive all addenda or interpretations shall not relieve the bidder from any obligation under the bid as submitted.

7. **Bid Security**

Each bid shall be accompanied by an acceptable form of Bid Guarantee (a Certified Check of the bidder drawn payable to the Town of Poughkeepsie or a Bid Bond on the form of bid bond attached hereto in favor of the Town of Poughkeepsie from a recognized insurance carrier) in the amount of five percent (5%) of the amount bid as a guarantee that if the bid is accepted, the bidder will enter into a contract with the Town of Poughkeepsie under the terms of the Bid Documents. Such bid security will be returned to all except the three lowest bidders within ten (10) days after the opening of bids. The Town will hold the low bidder’s bid security, and the remaining two bidders bid security will be returned promptly after the Town and the lowest bidder have executed a contract, or, if no agreement has been made within thirty (30) days after the date of the opening of bids, upon demand of the bidder at any time thereafter, so long as the bidder has not been notified of the acceptance of his bid.

8. **Receipt and Opening of Bids**

As stated in the ADVERTISEMENT FOR BIDS, the Town of Poughkeepsie (the Town or Owner), invites bids on the form attached hereto, all blanks of which
must be completely filled in. Bids will be received by the Town at the office of the Town Clerk until the time and date given in the ADVERTISEMENT FOR BIDS and then at said Town Clerk’s office publicly opened and read aloud.

The Town may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 45 days after the actual date of the opening thereof.

9. **Qualifications of Bidder**

The Town may make such investigations as deemed necessary to determine the ability of the bidder and all of their proposed subcontractors to perform the work, and for this purpose each of the three lowest bidders shall furnish to the Town all such information and data both for themself and for all their proposed subcontractors per Division 500, Section 2, Article 1. The Town reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder and their proposed subcontractors fails to satisfy the Town that such bidder and their proposed subcontractors are properly qualified to carry out the obligations of the Contract Documents and to deliver the items specified.

10. **Bid Comparison**

Bids will be compared on the basis of the lowest grand total sum of the prices which have been submitted by a qualified bidder for the project lump sum work on the bid sheet, plus any allowances and contingencies included on the bid sheet, plus unit price extensions for the items, if any, for which a unit price for the contract quantity is included on the bid sheet, plus the add alternates, if any, included on the bid sheet that the Town chooses.

In the event there is a discrepancy between any figures written in words and written numerically, the price written in words shall govern, including the price extension using the price as written in words.

To aid the Owner in understanding the bid, the Bidder may provide and include with their bid, manufacturer’s information, including drawings, catalog cut sheets and technical information, etc. as needed, to describe the proposed products and their functions.
If applicable, the bid shall further be accompanied by a statement of exceptions taken to any of the specification requirements and any part of the Schedule of Work provided in Division 100, Section 3. Conditional bids will not be accepted. The Owner reserves the right to reject as non-responsive any bid that the Owner determines does not satisfactorily meet the Schedule of Work requirements provided in Division 100, Section 3.

The Town reserves the right to waive any irregularities or informalities, or to reject any or all bids.

11. **Method of Award - Lowest Qualified Bidder**

   It is the Town’s intention to award the contract based on the lowest grand total sum as described in paragraph 10 above, except that the Town reserves the right to reject all bids.

   The Town will issue the Notice of Award to the successful bidder within 10 working days after the bid opening.

   The Town shall be entitled to receive as liquidated damages the value (certified check cash value or bid bond face value) of the Bid Security deposited with the bid if the successful bidder fails to or refuses to execute and deliver the Contract and Bonds and Insurance Certificates required within ten (10) working days after the date of the Notice of Award. Also in such case, the Town at its option may attempt to award the contract to another bidder or advertise for new bids.

12. **Contract Quantities**

   a. For a contract with itemized work items:
      i. The Town reserves the right to delete any item, or to increase or decrease any quantity in the contract, as it deems to be in the best interest of the Town.
      ii. Changes to the contract items or quantities will be made with a Change Order to adjust both the contract quantity and the contract price.

   b. For a contract without itemized work items and structured as a lump sum:
      i. The Base Bid includes work and quantities for which field measurements will not be made, and the contract work will be paid as one lump sum for all identified work.
      ii. The Contractor shall submit a detailed schedule of values for his
bid, including as applicable quantity estimates. If significant changes in the quantities stated in the schedule of values are found during construction, the contractor shall provide his bid estimate worksheets to substantiate the schedule of values quantities and field measurements to substantiate the actual quantities. Then a Change Order to adjust the contract price may be negotiated between the Town and the contractor.

c. For all contracts, a Change Order will be prepared to adjust the final contract payment amount for credit to the Owner for any unused allowance monies.

13. **Performance Bond and Labor and Material Payment Bond**

Simultaneously with the executed contract, the Contractor to whom the bid is awarded shall furnish a Performance Bond and a Labor and Material Payment Bond on the forms included in the Bid Documents, or such form as may be acceptable to the Attorney to the Town. Each bond shall be in an amount equal to the full value (100%) of the amount of the contract. If acceptable to the Attorney to the Town, a binder may be submitted, and the bond shall be provided within ten (10) days after the date of signing the contract. Each bond shall be executed by the Contractor with a surety company authorized to do business in the State of New York as a surety.

The expense of the bonds shall be borne by the Contractor.

14. **Requirements of NYS Workers' Compensation Board**

Simultaneously with the executed contract, the Contractor to whom the bid is awarded shall furnish proof that they has obtained the required workers' compensation and disability benefits coverage, or that they is not required to provide such coverage.

Such proof shall be in the form of Forms C-105.2 (obtained through the Contractor’s insurance carrier), DB-120.1 (Obtained through NYS statutory disabilities benefits insurance carrier or NYS licensed agent of that carrier), and Form SI-12 (Affidavit Certifying That Compensation Has Been Secured), which are designed to provide necessary proof of coverage when completed by the insurance carrier and/or the Worker's Compensation Board. Form DB-155 (Compliance with DB Law), which may be submitted by self-insured employers under the Disability Benefits Law as acceptable proof that disability benefits coverage has been obtained. Sample forms follow in this section.
Bidders shall note that it is acceptable of employers insured by the State Insurance Fund to submit the Fund's computer generated certificate of insurance as proof of coverage, in place of prescribed Form C-105.2. In addition, the Office of General Services has been authorized by the Board to accept the Fund's form as satisfactory proof of coverage, when entering into contracts with such employers.

Employers who are not required by Law to provide workers' compensation and/or disability benefits coverage must submit Form C-105.21 (Statement That Applicant Does Not Require W.C. or D.B coverage), which when completed by the Workers' Compensation Board is proof that the applicant is not required to carry either type of insurance.
<table>
<thead>
<tr>
<th>1a. Legal Name &amp; Address of Insured (Use street address only)</th>
<th>1b. Business Telephone Number of Insured</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e., a Wrap-Up Policy)</td>
<td>1c. NYS Unemployment Insurance Employer Registration Number of Insured</td>
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<td></td>
<td>1d. Federal Employer Identification Number of Insured or Social Security Number</td>
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<tr>
<td>2. Name and Address of the Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)</td>
<td>3a. Name of Insurance Carrier</td>
</tr>
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<tr>
<td></td>
<td>3b. Policy Number of entity listed in box “1a”</td>
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<td>3c. Policy effective period</td>
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<td></td>
<td>3d. The Proprietor, Partners or Executive Officers are</td>
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<td>☐ included. (Only check box if all partners/officers included)</td>
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<td>☐ all excluded or certain partners/officers excluded.</td>
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This certifies that the insurance carrier indicated above in box “3” insures the business referenced above in box “1a” for workers' compensation under the New York State Workers' Compensation Law. (To use this form, New York (NY) must be listed under Item 3A on the INFORMATION PAGE of the workers' compensation insurance policy). The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed above as the certificate holder in box “2”.

The Insurance Carrier will also notify the above certificate holder within 10 days if a policy is canceled due to nonpayment of premiums or within 30 days if there are reasons other than nonpayment of premiums that cancel the policy or eliminate the insured from the coverage indicated on this Certificate. (These notices may be sent by regular mail.) Otherwise, this Certificate is valid for one year after this form is approved by the insurance carrier or its licensed agent, or until the policy expiration date listed in box “3c”, whichever is earlier.

Please Note: Upon the cancellation of the workers' compensation policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of Workers' Compensation Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Workers' Compensation Law.

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has the coverage as depicted on this form.

Approved by: ____________________________________________
(Print name of authorized representative or licensed agent of insurance carrier)

Approved by: ____________________________________________
(Signature) (Date)

Title: ____________________________________________

Telephone Number of authorized representative or licensed agent of insurance carrier: ____________________________

Please Note: Only insurance carriers and their licensed agents are authorized to issue Form C-105.2. Insurance brokers are NOT authorized to issue it.

C-105.2 (9-97) www.web.state.ny.us
Workers' Compensation Law

Section 57. Restriction on issue of permits and the entering into contracts unless compensation is secured.

1. The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in a hazardous employment defined by this chapter, and notwithstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that compensation for all employees has been secured as provided by this chapter. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any compensation to any such employee if so employed.

2. The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in a hazardous employment defined by this chapter, notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that compensation for all employees has been secured as provided by this chapter.
STATE OF NEW YORK
WORKERS' COMPENSATION BOARD
CERTIFICATE OF INSURANCE COVERAGE UNDER THE NYS DISABILITY BENEFITS LAW

PART 1. To be completed by Disability Benefits Carrier or Licensed Insurance Agent of that Carrier

<table>
<thead>
<tr>
<th>1a. Legal Name and Address of Insured (Use street address only)</th>
<th>1b. Business Telephone Number of Insured</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1c. NYS Unemployment Insurance Employer Registration Number of Insured</td>
</tr>
<tr>
<td></td>
<td>1d. Federal Employer Identification Number of Insured or Social Security Number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Name and Address of the Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)</th>
<th>3a. Name of Insurance Carrier</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3b. Policy Number of entity listed in box &quot;1a&quot;:</td>
</tr>
<tr>
<td></td>
<td>3c. Policy effective period: to</td>
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</tbody>
</table>

4. Policy covers:
   a. [ ] All of the employer's employees eligible under the New York Disability Benefits Law
   b. [ ] Only the following class or classes of the employer's employees:

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has NYS Disability Benefits insurance coverage as described above.

Date Signed ____________________ By ____________________
(Signature of insurance carrier's authorized representative or NYS Licensed Insurance Agent of that insurance carrier)

Telephone Number ____________________ Title ____________________

IMPORTANT: If box "4a" is checked, and this form is signed by the insurance carrier's authorized representative or NYS Licensed Insurance Agent of that carrier, this certificate is COMPLETE. Mail it directly to the certificate holder.

If box "4b" is checked, this certificate is NOT COMPLETE for purposes of Section 220, Subd. 6 of the Disability Benefits Law. It must be mailed for completion to the Workers' Compensation Board, DB Plans Acceptance Unit, 20 Park Street, Albany, New York 12207.

PART 2. To be completed by NYS Workers' Compensation Board (Only if box "4b" of Part 1 has been checked)

State Of New York
Workers' Compensation Board

According to information maintained by the NYS Workers' Compensation Board, the above-named employer has complied with the NYS Disability Benefits Law with respect to all of his/her employees.

Date Signed ____________________ By ____________________
(Signature of NYS Workers' Compensation Board Employee)

Telephone Number ____________________ Title ____________________

Please Note: Only insurance carriers licensed to write NYS disability benefits insurance policies and NYS licensed insurance agents of those insurance carriers are authorized to issue Form DB-120.1. Insurance brokers are NOT authorized to issue this form.

DB-120.1 (5-06)
Additional Instructions for Form DB-120.1

By signing this form, the insurance carrier identified in box "3" on this form is certifying that it is insuring the business referenced in box "1a" for disability benefits under the New York State Disability Benefits Law. The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed as the certificate holder in box "2". This Certificate is valid for the earlier of one year after this form is approved by the insurance carrier or its licensed agent, or the policy expiration date listed in box "3c".

Please Note: Upon the cancellation of the disability benefits policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of NYS Disability Benefits Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Disability Benefits Law.

DISABILITY BENEFITS LAW

§220. Subd. 8

(a) The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in employment as defined in this article, and not withstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits for all employees has been secured as provided by this article. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any disability benefits to any such employee if so employed.

(b) The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in employment as defined in this article, and notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits for all employees has been secured as provided by this article.
STATEMENT THAT APPLICANT DOES NOT REQUIRE WORKERS' COMPENSATION OR DISABILITY BENEFITS COVERAGE

<table>
<thead>
<tr>
<th>APPLICANT'S NAME</th>
<th>APPLICANT'S ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Smith</td>
<td>123 Main Street</td>
</tr>
</tbody>
</table>

The above named applicant, applying for a permit, subject to revocation under Section 17 of the Workers' Compensation Law and Section 220, subd. 8 of the Disability Benefits Law, makes the following statement for the purpose of establishing that he/she does not require coverage under these laws.

1. Location of work: __________
2. Exact work to be performed: __________
3. Number of workers: __________
4. Date work is to be (a) commenced: __________

☐ I have workers' compensation insurance (Certificate attached).
☐ I do not need workers' compensation insurance because status is individual owner or partner with no employees and not a corporation.
☐ I do not need workers' compensation because: __________

☐ I have disability benefits insurance (Certificate attached).
☐ I do not need disability benefits insurance because status is individual owner or partner with no employees and not a corporation.
☐ I do not need disability benefits insurance because: __________

Date Signed: __________
By: __________
(Signature of Applicant)
Telephone No.: __________
Title: __________

To State or Municipal Department, Board, Commission or Office Requiring Certificate of Workers' Compensation Insurance Under Section 87 of the Workers' Compensation Law and Under Section 220, subd. 8 of the Disability Benefits Law.

Based on the foregoing statements made by the above applicant:
☐ The Board has no objections, at this time, to the issuance of the permit requested.
☐ The applicant will be required to have a disability benefits insurance policy effective not later than four (4) weeks after the commencement of work or more employees on such of at least 30 days in any calendar year.

It is understood, however, that the Board reserves the right to request revocation of the permit if, after investigation, it is found that the applicant is required to have workers' compensation and/or disability benefits coverage for the work referred to in the above application.

Date: __________
By: __________
(Title)

Telephone No.: __________
Title: __________

Lochmer No. 3622
607502116
STATE OF NEW YORK
WORKERS' COMPENSATION BOARD

COMPLIANCE WITH DISABILITY BENEFITS LAW
(Pursuant to Section 211, subd. 3 of the Disability Benefits Law)

<table>
<thead>
<tr>
<th>EMPLOYER</th>
<th>EMPLOYER D &amp; L INSURANCE REASON</th>
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<tr>
<td>LOCATION OF OPERATIONS</td>
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<tr>
<th>ADDRESS (HOME OR MAIN OFFICE)</th>
<th>OPERATING TO BE IN OR ABLE TO</th>
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There are on file with the Workers’ Compensation Board, documents indicating that the above named employer has complied with the Disability Benefits Law with respect to all of his or her employees, in the following manner:

☐ By approved self-insurance pursuant to Sec. 211, subd. 3 of the Disability Benefits Law.

☐ By a combination of approved self-insurance pursuant to Sec. 211, subd. 3 of the Disability Benefits Law and insurance with authorized insurance carrier(s).

Date ____________________________ By ____________________________

Title ____________________________

DB-165 (2.00)
Office of the Secretary

I, ______________________________, Secretary to the Workers’ Compensation Board of the State of New York

DO HEREBY CERTIFY, that

__________________________________________

has secured compensation to its employees as a self-insurer in the following manner:

Pursuant to Section 50, subdivision 3 of the Workers’ Compensation Law.

Pursuant to Section 50, subdivisions 3 and 4 of the Workers’ Compensation Law.

(County, city, village, town, school district, fire district or other political subdivision)

Pursuant to Article 5 of the Workers’ Compensation Law. (County Self-Insurance Plan)

The status of self-insurer was effective as of _________________

and such status still remains in full force.

IN WITNESS THEREOF, I have hereunto set my hand and affixed the seal of the Workers’ Compensation Board this ______ day of ______

20____

STATUS CONFIRMED

By ________________

Secretary to the Board

Lodger No. 3622
0075028
15. **Requirements of Sections 291-299**

Sections 291-299 of the Executive Law of the State of New York (Human Rights Law) has to do with human rights, civil rights, discrimination, etc. and responsibilities of employers (contractors) with their employees.

“The contractor will comply with the provisions of Sections 291-299 of the Executive Law and the Civil Rights Law, 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 and the Industrial Commissioner for purposes of investigation to ascertain compliance with these non-discrimination clauses and such sections of the Executive Law and Civil Rights Law...This contract may be forthwith cancelled, terminated or suspended, in whole or in part, by the contracting agency upon the basis of a finding made by the State Commission for Human Rights that the 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, until he satisfies the State Commission for Human Rights that he has established and is carrying out a program in conformity with the provisions of these non-discrimination clauses...”

16. **Insurance Requirements**

Simultaneously with the executed contract, the Contractor to whom the bid is awarded shall furnish satisfactory (as determined by the Attorney to the Town) proof of insurance in the form of an insurance certificate. If acceptable to the Attorney to the Town, an insurance binder may be submitted, and the insurance certificate shall be provided within ten (10) days after the date of signing the contract.

The text below was prepared by the Town Legal Department and shall be used as if inserted in Division 400 General Conditions Article 9.2.

The Contractor shall procure and maintain at its expense during the contract term, including any maintenance and guarantee periods, insurance as hereinafter specified:

1. **Automobile Liability -** Automobile Liability insurance on an occurrence basis covering all owned, non-owned, and hired vehicles with the limits of not less than:

   - Bodily Injury/Property Damage with combined Single Limits of at least $1,000,000 per occurrence
   - No Fault Benefits-Statutory Benefits
2. Commercial General Liability - Comprehensive General Liability insurance on an occurrence basis, with limits of not less than:
   
   Bodily Injury and Property Damage $2,000,000 per occurrence
   $3,000,000 aggregate
   $3,000,000 Products/Completed Operations Aggregate

3. Catastrophe, Excess Liability or Umbrella policies may be used to meet the coverage requirements, provided they do not contain restrictions on or exclusions of coverage required under these specifications.

4. Owners/Contractors' Protective Liability - The Contractor shall provide to the Owner proof of Contractors' Protective Liability for Bodily Injury and Property Damage for all subcontractors with limits equal to those specified above.

5. All risk builders risk insurance coverage for loss or damage to property for buildings and structures owned by the Owner, which are under construction, renovation, remodeling or maintenance under this contract. The Owner must be listed as additional named insured.

6. Liability insurance for blasting commensurate with the nature and scope of the blasting which will be conducted on the project, as determined by the Owner, but the limits shall in no event be less than for the Comprehensive General Liability coverage.

7. Workers' Compensation – Proof of statutorily mandated minimum benefits shall be evidenced by form C-105.2, or a certificate of exemption.

8. The Owner shall be an additional insured on a primary and non-contributory basis on all coverages, including for products and completed operations. In addition to the contractual indemnification provisions, the insurance policies shall include a waiver of subrogation in favor of the Owner.

Prior to cancellation or material change in any policy, a thirty (30) day notice shall be given to the Town Clerk by registered mail, return receipt requested, at the address listed below:

   Felicia Salvatore, Town Clerk
   Town of Poughkeepsie
   1 Overocker Road
Upon receipt of such notice the Owner shall have the option to cancel the Agreement without further expense or liability to the Owner, or to require the Contractor to replace the cancelled insurance policy, or rectify any material change in the policy, so that the insurance coverage required is maintained continuously throughout the term of the Agreement in form and substance acceptable to the Owner. Failure of the Contractor to take out or to maintain, or the taking out or maintenance of any required insurance, shall not relieve the Contractor from any liability under the Contract, nor shall the insurance requirements be construed to conflict with the obligations of the Contractor concerning indemnification.

All property losses shall be made payable to and adjusted with the Owner.

All insurance policies referred to above shall be underwritten by companies authorized to do business in the State of New York and acceptable to the Owner.

In the event that claims in excess of these amounts are filed by reason of any operations under the Agreement, the amount of excess of such claims, or any portion thereof, may be withheld from payment due or to become due the Contractor until such time as the Contractor shall furnish such additional security concerning such claims as may be determined by the Owner.

17. **Labor Safety and Health Regulations**

   The Contractor shall abide by all local, State, and Federal laws and ordinances.

18. **Time for Completion and Liquidated Damages**

   The calendar days allotted for completion of the contract, measured from the date of issuance of the Town's Notice to Proceed to the date to achieve
Final Completion, shall be as stated on the contract (see sample contract form provided). If more time is required due to lead times on equipment or other reason, the Contractor shall apply for a Change Order to reset the contract allowance for a specified number of additional days to achieve Final Completion. The contract states the liquidated damages in the event that work is not completed within the allowed time and any authorized extensions thereof, including both Substantial Completion and Final Completion.
Division 100, Section 2

Description of Work

INTRODUCTION

The notes below include a description of the work and are an integral part of the contract work requirements. The notes also include specific product references and product requirements. The notes also state some shop drawing requirements. The notes below shall be used in conjunction with the site photos, the plan drawings and the specifications. Work required in any one document shall be deemed to be a contract requirement.

It is expected that the contractor is competent and familiar with the type of work required, and no attempt has been made to detail on the plans, describe in words, or provide specifications for all aspects of the project. The contractor shall provide a finished project, complete in every detail, for a fully functioning installation as can be inferred from the information provided in this description, on the plans and in the specifications.

Except where stated otherwise, “or equal” parts, materials or equipment may be provided. Where so required, a shop drawing and catalog cut sheets are required for the Engineer’s review and acceptance of an alternate.

All work area and worker protection shall be in accordance with OSHA requirements, in particular regarding fall protection into the open pits.

**IMPORTANT**

1. The work at the secondary scum shall be completed before work begins at the primary scum well.
2. The pipe work on the secondary sludge line in the tunnel leading to the Thickener Building shall be completed simultaneously with the work at the secondary scum well.
3. All work at the secondary scum well, from the time that the scum well is first locked out and tagged out for demolition until the time that the scum well is returned to operation, shall be completed within 1 (one) calendar day maximum period.
4. The contractor shall verify that the existing pump can be adapted to a Gould’s pump base elbow before the pump is disconnected. If a new pump is required, the contractor shall provide the needed pump and the cost thereof shall be paid with a change order drawn against the contract allowance amount.

**IMPORTANT**

1. All work at the primary scum well, from the time that the scum well is first locked out and tagged out for demolition until the time that the scum well is returned to operation, shall be completed within a single 10 (ten) calendar days maximum period.
2. SUEZ will provide for scum pumping during that 10 day work window. The contractor shall be liable for the costs of scum pumping for all days beyond the 10 calendar days allowed.
3. The sludge line crossover in the tunnel near the Thickener Building shall be completed during the same 10 calendar day window.
4. The contractor shall verify that the pump and pump base elbow provided by SUEZ are suitable for use for the contract. If a new pump or pump base elbow or both are required, the contractor shall provide the needed equipment and the cost thereof shall be paid with a change order drawn against the contract allowance amount.

DISCLAIMER
Except per the IMPORTANT notes above, the contractor shall choose his own sequence of construction to achieve the contract requirements. Some key steps, but not every required step, are listed below, grouped by similar construction but not in an overall construction sequence.

WORK AT THE SECONDARY SCUM WELL

A. DEMOLITION AT THE SECONDARY SCUM WELL
1. Isolate the scum well.
   a. Coordinate with SUEZ about closing off the scum line from the adjacent secondary settling basins before any work begins in the wetwell. Lock out and tag out the scum collection trough.
   b. Coordinate with SUEZ and lock out and tag out the electrical feed to the scum well.
2. Observe all confined space requirements when working in the wetwell. The wetwell is a Class I, Div. 1 atmosphere. A SUEZ permit is required.
3. Remove the existing hard connected pump and piping as needed. Salvage the pump and check valve for reuse in the wetwell.
4. Remove concrete if needed to prepare the wetwell base for the new pump base elbow and guide rails.

B. DEMOLITION AT THE THICKENER BUILDING
1. Lock out and tag out:
   a. All valves in the sludge line from the primary settling basins and the primary scum well, and
   b. The pump in the sludge line from the secondary settling basins, and
   c. The sludge pumps in the Thickener Building.
2. Set a container to collect and hold any scum or sludge that drains from the 4” secondary sludge line in the tunnel when the required pipe section is removed. Dispose of the waste as directed by SUEZ. Clean the pipe ends and flanges and cleanup the work area before any new construction begins.
C. **NEW PIPE AND PUMP CONSTRUCTION AT THE SECONDARY SCUM WELL**

1. In the wetwell:
   a. The contractor shall provide a shop drawing showing all construction and equipment within the wetwell, including both the salvaged pump and check valve and products provided by the contractor.
   b. The contractor shall modify the wetwell as needed to properly support the new pump base elbow.
   c. The contractor shall modify the piping as needed for connecting the salvaged pump and salvaged check valve to the modified existing 4” discharge pipe.
   d. The contractor shall provide and install the pump adaptor, the pump base elbow, the guide rails and the hoisting chain. If needed, a new check valve shall be provided and installed.
   e. The contractor shall connect the new pump base elbow, the salvaged check valve and the modified existing 4” discharge pipe in the wetwell.
   f. The contractor shall attach the hoisting chain support to the wetwell near the top and hang the hoisting chain within easy reach of the wetwell opening.

D. **NEW PIPE CONSTRUCTION IN THE THICKENER BUILDING**

1. Replace the removed 4” pipe section with new 4” DIP sections and a new DI 4x4x4 flanged wye. Use EBAA Iron Series 2000 (to compensate for slight misalignment of the pipe) or Series 1000 ductile iron flange adapters (for well aligned pipe), or equal, on the plain pipe ends. Use ASTM 307 bolts when connecting to a cast iron flange and be sure to not crack the cast iron flange.
2. Construct a new DI 4” flanged plug valve with an operating nut (Pratt Ballcentric or equal, submit a shop drawing for an “or equal” product for acceptance by the Engineer) connected to the 4x4x4 wye.
3. Close the valve and add a temporary blind flange on the valve flange.
4. Return the secondary scum well to service.

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**WORK AT THE PRIMARY SCUM WELL**

A. **DEMOLITION AT THE PRIMARY SCUM WELL**

1. Construct a substantial temporary barrier around the construction site to prevent unauthorized access to the open scum well. Provide protection against fall hazard into the scum well during non-working hours. Remove the aluminum cover plate from the wetwell and remove the aluminum cover plates from the valve pit and give all plates to SUEZ.
2. Observe all confined space requirements when working in the wetwell or in the valve pit. The wetwell is a Class I, Div. 1 atmosphere.
3. Prepare the valve pit.
   A. Isolate the valve pit.
      i. Lock out and tag out the primary settling basins sludge drain valves.
      ii. Tag out the valve in the line that leaves the scum well and runs east to the Thickener Building. The valve stem operator is in the lawn between the scum well and the Thickener Building (see plan). The valve shall be closed. Leave open the valve in the sludge line from primary settling basins 3 and 4 to the Thickener Building.
      iii. Contact SUEZ and lock out and tag out the electrical feed to the valve pit.
   B. Remove all electrical conduit and wiring inside the valve pit from the existing electric stand to the junction box, leaving the junction box in the valve pit in place. Leave sufficient wire leads to connect to new wiring to the new electrical stand. Dispose of all removed electrical components.
   C. Remove and dispose of the angle irons that frame the top of the opening.
   D. Do not damage the 6” influent pipe to the wetwell and do not damage the 4” line stubs and flanges remaining in the valve pit.
   E. Remove the wye and tee and construct a permanent blind flange on the 4” line entering the valve pit and a temporary blind flange to keep out debris on the 4” line leaving the valve pit. Remove the valve and the check valve and piping beyond into the wetwell.
   F. Clean the walls and bottom and remove the wash water before removing any concrete.
   G. Remove loose and deteriorated concrete on top of the valve pit walls and on the vertical valve pit walls to sound concrete. Remove all other surface contamination to bare concrete to provide a suitable base for patching and painting.
   H. Perform a final cleaning of the walls and bottom and remove the wash water before refinishing the walls.

4. Prepare the wetwell.
   A. Perform an initial cleaning of the walls and bottom and remove the wash water.
   B. Remove and dispose of the steel beams and wall connections and angle irons that frame the top of the opening.
   C. Do not damage the 6” influent pipe.
   D. Remove and dispose of the existing strainer basket, frame, ladder rungs and pipe and fittings, including the 4” pipe thru the wall to the valve pit.
   E. Perform an intermediate cleaning of the walls and bottom and remove the wash water before removing any concrete.
   F. Remove existing concrete fill on top of wetwell base slab as needed to prepare for the new pump base elbow.
   G. Remove loose and deteriorated concrete on top of wetwell walls and on vertical wetwell walls to sound concrete. Remove all other surface contamination to bare concrete to provide a suitable base for patching and painting.
   H. Perform a final cleaning of the walls and bottom and remove the wash water before refinishing the walls.
5. Remove and dispose of the electrical stand. The stand may be saw or abrasive
disc cut (do not flame cut) flush with the concrete. Grind smooth the exposed
steel cuts and paint the steel (see PAINTING NOTES).

B. DEMOLITION AT THE THICKENER BUILDING
1. Lock out and tag out as needed:
   a. Valves in the sludge line from the primary settling basins and the primary
      scum well, and
   b. The sludge pumps in the Thickener Building.
2. Set a container to collect and hold any scum or sludge that drains from the 6”
   primary sludge line in the tunnel when the required pipe section is removed.
   Dispose of the waste as directed by SUEZ. Clean the pipe ends and flanges and
   cleanup the work area before any new construction begins.

C. CONCRETE REPAIR AND CONSTRUCTION AT THE PRIMARY SCUM WELL
1. Concrete and mortar for the wall repairs shall be mixed on site using
   commercially available packaged mixes that contain reinforcing fibers to reduce
   shrinkage cracks. Quikrete Qmax Pro is the preferred product. Other products
   may be accepted upon specific approval by the Engineer. Do not add acrylic
   bonding agent to mix.
2. All rebars shall be grade 60. Rebars shall be saw or abrasive disc cut and cold
   bent. All rebars shall be approved by the Engineer before concrete is placed.
3. Use Larsen Weld-Crete® concrete bonding agent. Weld-Crete® can be "painted
   on" in a single application 1 hour to 10 days prior to concrete placement. Other
   products may be accepted upon specific approval by the Engineer.
4. Cool fresh concrete mix as necessary in hot weather. Use ice water if needed to
   control temperature of freshly mixed concrete.
5. Protect fresh concrete from drying conditions for minimum 72 hours after
   placing and finishing is complete.
6. Restore the tops of walls of valve pit and wet well. Replace minimum 1”, and
   depth as needed, of missing and deteriorated concrete on the tops of walls
   using concrete mix and provide new rebars as needed. Repairs less than 1”
   depth shall be made with fiber reinforced patching mortar and do not require
   additional rebars. Sides of walls shall be steel trowel finished; tops of walls shall
   be float finished.
7. The tops of the walls shall be square and level, ready to accept the mounting
   flange for the floor access door frames. The contractor shall make all
   modifications necessary for proper fit of the floor access door frames. The tops
   of walls shall all be constructed to the same elevation as the top of wall of the
   adjacent primary settling basin. Construct a fillet of mortar on the wall of the
   primary settling basin to properly support the floor access door flange.
8. Seal any leaks in the wetwell and the valve pit and around the pipes and
   conduits with hydraulic cement.
9. Patch and skim coat the walls of the wetwell and the valve pit, including patch
   all fastener holes in concrete walls. Make a uniform, hard, smooth surface
   ready for painting. Paint concrete surfaces in accordance with Specification
   099600 High Performance Coatings.
10. Construct new concrete fill if needed in the wetwell to receive the new pump mounting plate.
12. Construct new electric stand bases and Unistrut uprights.
13. Encase electric conduits in concrete as needed.

D. NEW PIPE AND PUMP CONSTRUCTION AT THE PRIMARY SCUM WELL
1. In the valve pit:
a. Construct.
   a. Construct new pipe supports at the plug valve and check valve so that the fittings only support the adjacent fittings and pipes at the fitting flanges. Maintain minimum 1” clearance between the new check valve and the new plug valve and the existing 6” scum pipe below.
   b. Construct new 4” piping and bends, new check valve and new plug valve to connect from the wetwell to the flange of the 4” outlet pipe in the valve pit.
2. In the wetwell:
   NOTE: the pump and pump base elbow will be provided by SUEZ. It is a Goulds WS5034D4 pump.
   NOTE: the guide rails and hoisting chain shall be provided by the Contractor.

The contractor shall provide a shop drawing showing all construction and equipment within the wetwell, including both the products provided by SUEZ and the products provided by the contractor.
   a. The contractor shall modify the wetwell as needed to properly support the new pump base elbow.
   b. The contractor shall install the pump adaptor, the pump base elbow, the guide rails and the hoisting chain/rope.
   c. The contractor shall construct the connection from the pump discharge to the 4” pipe into the valve pit.
   d. The contractor shall attach the hoisting chain support to the wetwell near the top and hang the hoisting chain within easy reach of the door opening.

E. NEW PIPE CONSTRUCTION IN THE THICKENER BUILDING
1. In the tunnel just before the Thickener Building, construct a new crossover pipe between the 6” sludge line from the primary clarifiers and the new plug valve on the wye in the 4” sludge line from the secondary clarifiers.
2. Replace the removed 6” pipe section with new 6” DIP sections and a new DI 6x6x4 flanged wye. Use EBAA Iron Series 2000 (to compensate for slight misalignment of the pipe) or Series 1000 ductile iron flange adaptors (for well aligned pipe), or equal, on the plain pipe ends. Use ASTM 307 bolts when connecting to a cast iron flange and be sure to not crack the cast iron flange.
3. Construct the crossover pipe run with new DI 4” flanged bends as needed (the conceptual drawing shows a 45° elbow and a 90° elbow), and 4” plain end DIP
sections connected with EBAA Iron Series 2000 (to compensate for slight misalignment of the pipe) or Series 1000 ductile iron flange adaptors (for well aligned pipe), or equal, on the plain pipe ends. Use ASTM 307 bolts when connecting to a cast iron flange and be sure to not crack the cast iron flange.

4. Return the primary scum well to service.

5. Finish paint all new pipe and fittings and touch up paint on existing pipes; see PAINTING NOTES.

F. **NEW ELECTRICAL CONSTRUCTION (ELECTRIC SUPPORT STAND, BACKBOARD AND EQUIPMENT)**

The contractor shall submit shop drawings showing the electrical construction. Comply with the following requirements:

1. The contractor shall submit a shop drawing showing the electrical support stand construction.
   a. Include cut sheets as appropriate for all materials.
   b. The electrical support stand shall be constructed from 0.108 inch galvanized steel or 12 ga. Type 304 stainless steel channel measuring 1⅝” X 1⅝” or larger as needed, as made by Unistrut or equal. The support stand uprights shall be placed in unreinforced concrete footings.
   c. All fasteners and hardware shall be galvanized steel or Type 304 SS.

2. The contractor shall submit a shop drawing showing the backboard construction (if a backboard is proposed). Comply with the following requirements for the backboard:
   a. The backboard shall be constructed from ¾” plywood, pressure treated for outdoor exposure. The ¾” thick sides shall be protected with a cap securely fastened in place and caulked to protect the end grain of the plywood against weather exposure. All fasteners and hardware used in constructing the backboard shall listed as suitable for use with the pressure treated wood.
   b. The backboard shall be primer painted and painted with two coats of premium exterior latex paint in a neutral color. SUEZ will choose the color from a color chip card of the manufacturer’s standard paint colors.
   c. The backboard shall be attached to the electrical support with galvanized steel or SS 304 hardware or other hardware listed as suitable for use with both the pressure treated wood backboard and the electrical stand material.
   d. All fasteners attached to the backboard shall be listed as suitable for use with the pressure treated wood. Chrome plated steel, plain steel, brass, or aluminum fasteners are not acceptable.

3. The contractor shall submit a shop drawing showing the electrical equipment construction. Comply with the following requirements for the electrical equipment:
   a. Include cut sheets as appropriate for materials.
   b. The wiring shall be watertight.
   c. All components mounted on the electric stand or the backboard shall be rated for the expected sun exposure and temperature range and all weather conditions.
d. Conduits and fittings:
   i. Construct galvanized RMC from the junction box in the valve pit thru the west wall and to the new control panel.
   ii. Construct galvanized RMC and fittings for new electrical equipment mounted on the electric stand or backboard.
   iii. Construct galvanized RMC to the new light pole concrete base.

e. For the electrical enclosure:
   i. The shop drawing shall show the control enclosure and the equipment inside the box and on the cover.
   ii. The enclosure shall be stainless steel NEMA 4x construction.
   iii. The enclosure shall be placed so that the top edge is no more than 66” above ground level and so that the bottom edge is minimum 24” above ground level.
   iv. The enclosure shall house:
      (a) An externally operated main disconnect switch and internally mounted fuses; the switch handle shall accept the standard lockout devices used at the plant.
      (i) Alternatively, a remote main disconnect switch and fuses mounted on the control stand or backboard in a NEMA 4X enclosure may be used. The switch handle shall accept the standard lockout devices used at the plant.
      The enclosure back and its mounting hardware shall be protected against corrosion from the pressure treated plywood backboard.
      (b) An isolating switch and fuses for the 120 VAC transformer, and the transformer.
      (c) The breaker or fuses for the pump, a 480 VAC soft-start motor starter, and a panel cover mounted on/off switch; the switch handle shall accept the standard lockout device used at the plant.
      (d) The circuit breaker for the light. The contractor shall coordinate with SUEZ and verify that a 277 VAC luminaire shall be provided.
      (e) The GFCI circuit breaker for the 120 VAC convenience receptacle outlet.
      (f) The enclosure shall include spare fuse holders for two each of every fuse used, and the spare fuses.
      (g) All equipment mounted inside the control cabinet shall be rated for the expected temperature range inside the enclosed box mounted outdoors in the open and exposed to the sun and hot and cold ambient air conditions, and uncontrolled humidity.

f. For the convenience outlet:
   i. The junction box shall be securely mounted to the electrical backboard or stand minimum 36” and maximum 48” above ground level measured to the center of the box.
ii. The convenience outlet shall be fitted with a NEMA 4 cover that provides protection from rain while in use. The cover may be cast aluminum or polycarbonate.

iii. The convenience outlet shall be a heavy duty (with a strap across the back) 20 A, 120 VAC duplex receptacle outlet.

iv. The convenience outlet shall be protected with a 20 amp 120 VAC circuit breaker with integral GFCI protection. A duplex receptacle outlet with integral GFCI shall not be used, and will be rejected.

g. For the pump:
   i. Show the electric feed from the electrical enclosure into the wetwell to a junction box. Hardwire the pump to the junction box.
   ii. The control panel cover shall have a waterproof switch for the pump. An on/off function only is required. The switch location shall be as close to the southeast corner of the wetwell as practical.

h. For the luminaire:
   i. Show the concrete base and reinforcing steel cage.
   ii. Show the electrical conduit, the electrical grounding rod, and the pole anchor bolts.
   iii. Show the light pole and conduit connector, and the light arm and luminaire attachment.
   iv. Show the luminaire. The luminaire shall match the other luminaires on the site, and shall be [https://www.mcmaster.com/#14775k35](https://www.mcmaster.com/#14775k35). The contractor shall coordinate with SUEZ and verify that a 277 VAC luminaire shall be provided.
   v. The light pole shall be similar in size, color, style and height as the other light poles on the site. An arm shall be provided to position the luminaire nearly centered over the wetwell and shining down into the wetwell. It is not necessary to provide a direct light into the valve pit.
   vi. A waterproof switch shall be mounted in the control panel cover.
   vii. An on/off function only is required.

G. PRIMARY SCUM WELL SITE OVERALL LAYOUT DETAILED SHOP DRAWING

1. The contractor shall submit a shop drawing to scale, for acceptance, that shall show the proposed layout of the doors; the electrical support stand; the light pole base, pole and luminaire; and the conduit runs.

2. Comply with the following general requirements.
   a. The electrical support stand shall be placed on the south side of the wetwell and shall not interfere with the door operation.
   b. The light pole base shall be placed on the west side of the wetwell. The luminaire support arm shall extend over the wetwell so that the luminaire output is directed to the liquid in the wetwell. The arm and luminaire shall not interfere with the pump hoisting operation.
   c. The scum well doors shall be custom size floor access products with the hinges placed on the east-west axis of each panel. Double panel doors are required over each opening.
H. OTHER NEW CONSTRUCTION AT THE PRIMARY SCUM WELL

1. Construct all electrical equipment per accepted shop drawings, including the area light.
2. Construct new door mounting frames and fasten new doors in place over the valve pit and the wetwell.
3. Remove all access barriers. Perform a general cleanup of the construction site and access ways. Restore the lawn areas.

PAINTING NOTES

1. For all concrete surfaces, the preferred coatings are Tnemec painting products per Specification 099600 High Performance Coatings. For all other substrates, the preferred coatings are Rust Oleum and related companies painting products.

2. All iron or steel parts, except galvanized or stainless steel, shall be painted.

3. Clean old pipes and unpainted new pipes and fittings and other steel per SSPC-SP-3, Power Tool Cleaning, as possible, and prime and paint.
   a. Lightly Rusted Metal shall be defined as iron or steel cleaned in accordance with SSPC-SP 3, "Power Tool Cleaning".
   b. Heavily Rusted Metal shall be defined as iron or steel from which all loose rust, scale and delamination have been removed by chipping and wire brushing by hand in accordance with SSPC-SP 2, "Hand Tool Cleaning" but that cannot be fully cleaned in accordance with SSPC-SP 3, "Power Tool Cleaning" because the areas are not readily accessible to power tools. Tightly adhering surface rust only shall be acceptable.
      i. Heavily rusted iron or steel that cannot be completely cleaned shall be painted with Rust-Oleum V2100 System rust reformer spray, then coated with Rust-Oleum 7400 Heavy Rust Inhibitive Primer.
   c. Rust-Oleum 7400 Heavy Rust Inhibitive Primer shall be applied to areas spot treated with Rust-Oleum V2100 System rust reformer and all other cleaned steel surfaces, then coated with Rust-Oleum High Performance V7400 alkyd or 9400 urethane paint. Alternative finish paint is Steel Tech polyester urethane.

4. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C). Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

5. Apply paint that matches the colors and color codes used at the plant.
   a. The influent scum pipe (bottommost pipe) in the primary valve pit and wetwell shall be painted black.
   b. All other pipes, fittings and devices in the primary valve pit and wetwell and the crossover under the Thickener Building shall be painted brown.
Photo 2: Inside Primary Valve Pit
Division 100, Section 4

CONTACT INFORMATION

Steve Segna
SUEZ Project Manager
Wastewater Treatment Plant
78 Sand Dock Road
Poughkeepsie, New York 12603

Steve.Segna@suez-na.com

(845) 463-3016

Sean Crimmins, Assistant Town Engineer
Poughkeepsie Town Hall
1 Overocker Road
Poughkeepsie, New York 12603

scrimmins@townofpoughkeepsie-ny.gov

(845) 790-4748
PROPOSAL FOR
TOWN OF POUGHKEEPSIE

ARLINGTON WASTEWATER TREATMENT PLANT
PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT

CONTRACT NO. 2018-05

DIVISION 200

BID PROPOSAL

PREPARED BY:
ENGINEERING DEPARTMENT
TOWN OF POUGHKEEPSIE
ONE OVEROCKER ROAD
POUGHKEEPSIE, NEW YORK 12603

AUGUST 2018
Division 200, Section 1

BID FORM

To: The Town Board of the Town of Poughkeepsie.

In compliance with your Advertisement for Bids, published in the
_______________________________________________ dated ________________,
or made elsewhere (please state) __________________ ________________________,
the undersigned ____________________________________________ proposes 1 to 5:

1. To furnish all the equipment, and incidentals, and to furnish labor and do all the
work required, to construct, furnish, and complete the "ARLINGTON WASTEWATER
TREATMENT PLANT, PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT
Contract No. 2018-05" and associated work in accordance with the prices so named in this bid in a workerlike manner, in accordance with the plans and specifications, all of which are a part of the bid and are hereto annexed.

2. To substantially complete the work as specified within ninety (90) calendar days
from the date of the Notice to Proceed to be issued by the Town.

3. To comply with the Davis-Bacon Act and other federal labor standards or
provisions and to pay New York State prevailing wage rates applicable to this
contract.

4. To furnish the Town within five (5) calendar days from the date of the request, if
identified as the apparent low bidder and if requested by the Town, statements of
qualifications for the Bidder and all proposed Subcontractors.

5. To enter into a contract within ten (10) calendar days from the date of the Notice
of Award for this bid, and within fifteen (15) calendar days from the date of
acceptance of this bid to furnish, with suitable surety to be approved by the
Attorney to the Town, performance and labor and material payment bonds, the
amount of each of the bonds to be the full amount of the bid as it appears in this
proposal. If the undersigned fails to perform any of the promises made herein, the
Bid Security will be paid to the Town of Poughkeepsie as liquidated damages
for such default; otherwise the Bid Security will be returned to the undersigned.

And the undersigned ________________________________ ________, states 6 and 7:

6. In compliance with the Division 100 Section 1 Instructions to Bidders, the
undersigned declares that he/she has examined the site of the work and
informed himself/herself fully in regard to all conditions pertaining to the place
where the work is to be done. He/she has examined the plans and specifications
for the work and the contract documents relating thereto, has read all addenda
furnished prior to the opening of bids, and has satisfied himself/herself relative to the work to be performed.

7. In compliance with the Division 100 Section 1 Instructions to Bidders, the undersigned has provided a statement of exceptions taken to any of the specification requirements or any part of the scope of work defined in Division 100 Section 2. The undersigned recognizes that conditional bids will not be accepted.

ADDENDA:
Receipt of the following addenda (if any) is hereby acknowledged:

<table>
<thead>
<tr>
<th>DATE</th>
<th>SIGNATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDENDUM NO. 1</td>
<td>_______________  ________________</td>
</tr>
<tr>
<td>ADDENDUM NO. 2</td>
<td>_______________  ________________</td>
</tr>
</tbody>
</table>

Accordingly, the bidder proposes to perform the work required for the Base Bid in accordance with the Contract Documents for the sum of:

__________________________________________ $________________________

(in writing) (and figures)

Dated: ________________________________, 2018

SIGN BID HERE __________________________________________

Authorized Signature

________________________________________

Print Name  Title

Legal Company Name _______________________________________

Address ________________________________________________

City, State, Zip __________________________________________

Telephone No. __________________________________________

Federal I.D. # __________________________________________

- END OF SECTION-
**ARLINGTON WASTEWATER TREATMENT PLANT**

**PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT**

**CONTRACT # 2018-05**  
**DIVISION 200, SECTION 2: BID SHEET**

<table>
<thead>
<tr>
<th>Item No./Description</th>
<th>Estimated Quantity</th>
<th>Unit</th>
<th>Unit Price Written</th>
<th>Price Extension Written</th>
<th>Price Extension In Figures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Mobilization (including furnishing, and the charges and premiums for, all bonds and all certificates of insurance);</td>
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<tr>
<td>1.2 Repairs to primary scum well, modifications to primary and secondary scum wells, pumps and pump base bend elbows and hoisting rails work, piping revisions to sludge lines, electrical work, access cover doors, and all related project work;</td>
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<td></td>
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</tr>
<tr>
<td>1.3 Complete work area cleanup and restoration, proper disposal of demolition and construction debris, closeout documentation &amp; demobilization.</td>
<td>1</td>
<td>Lump Sum</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

General Contingency Allowance  

Note: Allowance will only be used upon approval by Engineer. Any unused allowance amount will be credited to the Owner with a change order with the final payment request.  

|$50,000.00$
### ARLINGTON WASTEWATER TREATMENT PLANT

**PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT**

**CONTRACT # 2018-05**

**DIVISION 200, SECTION 2: BID SHEET**

<table>
<thead>
<tr>
<th>Contract 2018-05 Base Bid GRAND TOTAL</th>
<th>Written Amount</th>
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</table>

<table>
<thead>
<tr>
<th>Contract 2018-05 Base Bid GRAND TOTAL</th>
<th>Amount in Figures</th>
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<tbody>
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</tr>
</tbody>
</table>

Note: each price shall include all labor, equipment, materials, supervision and all incidentals required of the work item.
CERTIFICATION OF NON-COLLUSION BY BIDDER

The undersigned represents that pursuant to Sections 103-a and 103-b of the General Municipal Law of the State of New York, no person referred to in the attached proposal who is the bidder or who is or was a member, partner, director or officer of the bidding firm or entity under this proposal has refused to sign a waiver of immunity or to answer any relevant questions relating to any transaction or contract with the State of New York, any political subdivision thereof, or any public authority, during the period of five years prior to the date hereof. The undersigned agrees that any contract awarded as a result of this bid may be canceled without penalty upon the grounds set forth in Sections 103-a and 103-b of the said General Municipal Law of the State of New York. The names and addresses of all persons and parties interested in the foregoing bid are as follows:

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

By submission of this bid, the 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 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.
A bid shall not be considered for award nor shall any award be made where 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 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 political subdivision, public department, agency or official thereof 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 being 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.

Any bid hereafter made to any political subdivision of the State or any public department, agency or official thereof by a corporate bidder for work or services performed or to be performed or goods sold or to be sold, where competitive bidding is required by statute, rule, regulation, or local law, and where such bid contains the certification referred to in subdivision one of this section, shall be deemed to have been authorized by the board of directors of the bidder, and such authorization shall be deemed to include the signing and submission of the bid and the inclusion therein of the certificate as to non-collusion as the act and deed of the corporation.

Signed

__________________________________________________________

Printed Name ______________________________________________________

- END OF SECTION-
Division 200, Section 4

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that

* _______________________________________________________________ as Principal; and

** _______________________________________________________________ as Surety, are hereby

held and firmly bound unto the Town Board, Town of Poughkeepsie, New York in

the amount

of: ____________________________________________ Dollars $________________________

for the payment whereof Principal and Surety bind ourselves, our heirs, executors,
administrators, successors and assigns, jointly and severally, firmly by these presents.

Signed this _________________________ day of ______________________________ 20____.

WHEREAS, the condition of the above obligation is such that, whereas the Principal
has submitted to the Town Board a certain bid, attached hereto and hereby made
a part hereof, to enter into a contract in writing for the ARLINGTON WASTEWATER
TREATMENT PLANT PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT
Contract No. 2018-04 for the Town of Poughkeepsie, New York, as shown and
specified.

NOW THEREFORE, this obligation shall remain in effect and not terminate unless:
(a) If said Bid shall be rejected, or in the alternate
(b) If said Bid shall be accepted and the Principal shall execute and deliver a
       contract in the Form of an Agreement attached hereto (properly completed
       in accordance with said Bid) and shall in all respects perform the agreement
       created by the acceptance of said Bid.

Otherwise, the same shall remain in force and effect, it being expressly understood
and agreed that the liability of the Surety for any and all claims hereunder shall, in
no event, exceed the amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of
said Surety and its bond shall in no way be impaired or affected by any extension
of the time within which the Principal may accept such bid; and said Surety does
hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands
and seals, and such of them as are Corporations have caused their Corporate seals
to be hereto affixed and these presents to be signed by their proper officers, the
day and year first set forth above.
*Insert Bidder's Name

**Insert Surety's Name

Signed, sealed and delivered in the presence of

(Corporate seal of Contractor if a corporation)

Contractor

By

By

By

(Corporate seal of Surety)

Attest

(Title of Officer)
STATE OF NEW YORK } } ss:
COUNTY OF ____________________________

On the __________________ day of ________________________________, before me, the undersigned, a Notary Public in and for said State, personally appeared

__________________________________________________________________________

personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

NOTARY PUBLIC
PROPOSAL FOR

TOWN OF POUGHKEEPSIE

ARLINGTON WASTEWATER TREATMENT PLANT
PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT

Contract No. 2018-05

DIVISION 300

SAMPLE CONTRACT

PREPARED BY:

ENGINEERING DEPARTMENT
TOWN OF POUGHKEEPSIE
ONE OVEROCKER ROAD
POUGHKEEPSIE, NEW YORK 12603

AUGUST 2018
Division 300, Section 1

SAMPLE CONTRACT AGREEMENT

TOWN BOARD

TOWN OF POUGHKEEPSIE, NEW YORK

THIS AGREEMENT, made and executed this ______________ day of ____________ in the year Two Thousand and Eighteen, by and between the Town Board,

Town of Poughkeepsie and ________________________________
Contractor,

WITNESSETH: in consideration of the mutual agreements herein contained the parties hereto have agreed and hereby agree with each other, the Town, its successors and assigns, and the Contractor, and his/her successors and assigns, as follows:

The Town Board, Town of Poughkeepsie, New York agrees to pay and the Contractor agrees to accept (unless modified pursuant to the terms set forth in the General Conditions attached hereto) a total, final and fixed Contract Price of:

_______________________________________________($__________________)

for the "ARLINGTON WASTEWATER TREATMENT PLANT PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT Contract No. 2018-05".

Included in this Contract are all labor, supervision, machinery, equipment, facilities, tools, transportation, supplies, materials, insurance, permits, certificates, tests, guarantees, protection of equipment and property and life during construction, and all other things whether or not explicitly shown or mentioned, necessary and proper for or incidental to the completion of a worker like job, complete in every respect and detail, left ready and in perfect condition for the Owner's use, as called for in the specifications and special conditions and on the plans.

The Contractor acknowledges that a delay in the delivery of the items specified may result in additional expenses to the Town and agrees, in the event he/she fails to deliver all the items specified within the time period for Substantial Completion, as specified hereafter, to reimburse the Town in the form of liquidated damages in the amount of $500 per calendar day unless said project time period is extended pursuant to an approved change order. And the Contractor further acknowledges that a delay in the delivery of the items specified may result in additional expenses to the Town and agrees, in the event he/she fails to deliver all the items specified on or before the date
set for Final Completion, as specified hereafter, to reimburse the Town in the form of liquidated damages in the amount of $1000 per calendar day unless said project time period is extended pursuant to an approved change order.

The Contractor, by placing his/her signature on this Contract, hereby certifies that he/she has read and is aware, cognizant, and knowledgeable of the contents of all bid documents and the contract documents and he/she agrees to abide by and be bound by their contents and by all applicable federal, State and local laws, ordinances and statutes.

The Contractor agrees to defend, indemnify and hold harmless the Owner for any actions arising from injuries to the Contractor's employees, even if caused in whole or in part by Owner's negligence.

The Contractor agrees to Substantially Complete all work as described and specified within sixty (60) calendar days from the starting date specified in the Town's Notice to Proceed, and to Finally Complete the work by the date set for Final Completion by the Engineer in the Certificate for Substantial Completion, unless each completion date is extended pursuant to an approved change order.

(Corporate Seal if applicable)

________________________________________
(Corporation/Partnership/Individual) name printed

________________________________________
(Officer's/Partner's/Individual's) signature

________________________________________
(Officer's/Partner's/Individual's) name printed

STATE of ____________________________

ss:

COUNTY of ____________________________

On this __________ day of ________________________, 2018,

before me personally came ________________________________
to me known and known to me to be the person described in and who executed the foregoing instrument, and he/she duly acknowledged that he/she executed the same.
Notary Public, County

No.____________ Term Expires________________

Town Board, Town of Poughkeepsie (Owner)

Attest By: ____________________________________________

Signature ____________________________________________________________________________

Printed Name __________________________________________________________________________

Title (printed) __________________________________________________________________________

Date __________________________________________________________________________________

STATE of ___________________________________________) ss:

COUNTY of __________________________________________)

On this __________________ day of ____________________________, 2018,
before me personally came ________________________________, to me known and known to me to be the person described in and who executed
the foregoing instrument, and he/she duly acknowledged that he/she executed the same.

____________________________________________________________________________________

Notary Public, County

No.____________ Term Expires________________

- END OF SECTION-
Division 300, Section 2

PERFORMANCE BOND FORM

KNOW ALL PERSONS BY THESE PRESENTS: that

___________________________________________________  
(Contractor)  (Address)
as Principal, hereinafter called Contractor, and

___________________________________________________  
(Surety)  (Address)
as Surety, hereinafter called Surety, are held and firmly bound unto the Town Board,  
Town of Poughkeepsie, New York, as Obligee, hereinafter called Owner, in the amount of

_____________________________________________ Dollars ($ _______________)

for the payment whereof Contractor and Surety bind themselves, their heirs, executors,  
administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, CONTRACTOR has by written agreement dated ____________________,  
20____, entered into a Contract with Owner for the "ARLINGTON WASTEWATER  
TREATMENT PLANT PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT  
Contract No. 2018-05" in accordance with plans and specifications which Contract is  
by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if the  
Contractor shall promptly and faithfully perform said Contract and agreements of said  
Contract during the original term thereof, and any extensions thereof which may be  
granted by the Owner, with or without notice to the Surety and during the one year  
guaranty period, and if he shall satisfy all claims and demands incurred under such  
Contract, and shall fully indemnify and hold harmless the Owner from all costs and  
damages which the Owner may suffer by reason of failure to do so, and shall reimburse  
and repay the Owner all outlay and expense which the Owner may incur in making good  
any default, then this obligation shall be null and void; otherwise it shall remain in full  
force and effect.

Whenever Contractor shall be, and declared by Owner to be in default under the  
Contract, the Owner having performed Owner's obligations thereunder, the Surety shall  
promptly remedy the default by (1) Completing the Contract in accordance with its terms  
and conditions, or (2) Obtaining a bid or bids for submission to the Owner for completing  
the Contract in accordance with its terms and conditions, and upon determination by the  
Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract  
between such bidder and Owner, and make available as work progresses (even though
there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person, corporation or entity other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

IN WITNESS WHEREOF, this instrument is executed in _____________ counterparts, each one of which shall be deemed an original, this _____________ day of __________, 20____.

(Corporate Seal if applicable)

__________________________
(Officer's/Partner's/Individual's) signature

__________________________
(Officer's/Partner's/Individual's) name printed

__________________________
(Corporation/Partnership/Individual) name printed (Principal)

(Corporate Seal if applicable)

__________________________
(Officer's/Partner's/Individual's) signature

__________________________
(Officer's/Partner's/Individual's) name printed

__________________________
(Corporation/Partnership/Individual) name printed (Surety)
NOTE: Date of Bond must not be prior to date of Contract. If Contractor is a Partnership all partners should execute the bond.

Surety Companies executing Bonds must be authorized to do business in New York State and be approved by the Owner's attorney. All bonds shall be in a form acceptable in all respects to the Owner's attorney and shall be approved by the Owner's attorney.
Division 300, Section 3

LABOR AND MATERIAL PAYMENT BOND FORM

DATE BOND EXECUTED

PRINCIPAL

SURETY

PENAL SUM OF BOND  
(EXPRESS IN WORDS AND FIGURES)

ARLINGTON WASTEWATER TREATMENT PLANT PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT

Contract No. 2018-05

KNOW ALL PERSONS BY THESE PRESENTS, that we, the Principal and Surety above named, are held and firmly bound unto the Town of Poughkeepsie, hereafter called the Town, in the penal sum of the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors and assigns jointly and severally firmly by these presents.

WHEREAS, the Principal entered into a certain contract with the Town numbered and dated as shown above and hereto attached;

NOW THEREFORE THE CONDITION OF THIS OBLIGATION is such that, if the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the contract, and any and all duly authorized modifications of said contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, then this obligation to be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

(a) A claimant is defined as having direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the contract.

(b) The above named Principal and Surety hereby jointly and severally agree with the Town that every claimant as herein defined, who has not been paid in full, in
accordance with the terms of the contract, before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Town shall not be liable for the payment of any costs or expenses of any such suit.

(c) No suit or action shall be commenced hereunder by any claimant:

1. Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the Town, or the Surety above named, within one hundred eighty (180) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was performed. Such notice shall be served by mailing the same, registered or certified mail, return receipt requested, postage prepaid, in an envelope addressed to the Principal or Surety, at any place where an office is regularly maintained by them for the transaction of business, and to the Town addressed to the Town Clerk, Town of Poughkeepsie, One Overocker Road, Poughkeepsie, NY 12603 or served in any manner in which legal process may be served in the State of New York.

2. Other than in a state court of component jurisdiction held in and for the Town of Poughkeepsie or in the United States District Court Southern District of New York and not elsewhere.

WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals on the date indicated above, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

<table>
<thead>
<tr>
<th>Presence of:</th>
<th>WITNESS</th>
<th>INDIVIDUAL/ PRINCIPAL</th>
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<tbody>
<tr>
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</tr>
</tbody>
</table>
CERTIFICATE AS TO CORPORATE PRINCIPAL

I, ________________________________, certify that I am
the ______________________________ secretary of the corporation named as principal
in the within bond; that ________________________________ who signed the
said bond on behalf of the principal, was then the ______________________________
of said corporation; that I know his signature, and his signature thereto is genuine; and
that said bond was duly signed, sealed, and attested for and in behalf of said
corporation of its governing body.

_________________________________________________ (Corporate Seal)

- END OF SECTION -
PROPOSAL FOR
TOWN OF POUGHKEEPSIE

ARLINGTON WASTEWATER TREATMENT PLANT
PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT

CONTRACT NO. 2018-05

DIVISION 400
GENERAL CONDITIONS

PREPARED BY:
ENGINEERING DEPARTMENT
TOWN OF POUGHKEEPSIE
ONE OVEROCKER ROAD
POUGHKEEPSIE, NEW YORK 12603

AUGUST 2018
GENERAL CONDITIONS

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ARTICLE 2: ROLES AND RESPONSIBILITIES
2.1 The Contractor
2.2 The Owner
2.3 Engineer’s Authority

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3.1 Conflicting Plans and Specifications
3.2 Shop Drawings and Product Data
3.3 Materials
3.4 Royalties and Patents

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4.2 Claim for Damages by Contractor
4.3 Disputes
4.4 Coordination of Separate Contractors
4.5 Contractor’s Supervision
4.6 Permits and Compliance
4.7 Boundaries
4.8 Refuse and Debris
4.9 Subcontractors and Supplies
4.10 Contractors Work Requirements

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5.2 Payment for Change Orders

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6.1 Time of Commencement and Completion
6.2 Extension of Time
6.3 Liquidated Damages Upon Failure to Complete
6.4 Termination for Cause
6.5 Termination of Contractor’s Employment for the Convenience of the Owner
6.6 Contractor’s Default
6.7 Suspension of Work

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7.2 Contractor's Obligation to Correct Defective Work
7.3 Progress Reports
7.4 Inspection Prior to Acceptance

ARTICLE 8: PAYMENTS
8.1 Payment
8.2 Progress Payments
8.3 Substantial Completion
8.4 Final Payment
8.5 Acceptance of Final Payment
8.6 Contract Quantities
8.7 Maintenance and Guarantee
8.8 No Estoppel

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9.1 Contract Security
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10.2 Service of Notices
10.3 Labor Standards
10.4 Record-Keeping Requirement
10.5 Non-Assignment Clause
10.6 Wage and Hours Provisions
10.7 Non-Discrimination Requirements
10.8 Archaeological Salvage
ARTICLE 1: DEFINITIONS

1.1 WORDS AND EXPRESSIONS

The following words and expressions, or pronouns used in their stead, shall, wherever they appear in this Contract, be construed as follows, unless a different meaning is clear from the context.

* "Act of Nature" shall mean an act, event, happening, or occurrence, and disaster and effect due to natural causes and inevitable accident, or disaster; a natural and inevitable necessity which implies entire exclusion of all human agency which operates without interference or aid from man and which results from natural causes and is in no sense attributable to human agency.

* "Addendum" or "Addenda" shall mean the additional contract provisions issued in writing by the Engineer prior to the receipt of bids.

* "Certificate of Completion" shall mean a letter or notice signed by the Owner after the Engineer has determined that no further work is to be done.

* "Certificate of Substantial Completion" shall mean a letter or notice signed by the Engineer when the work or a designated portion thereof is sufficiently complete that the Owner may occupy or use the work for the use for which it is intended. The Certificate shall also include a date for final completion of all contract work.

* "Change Order" shall mean the fully executed written order to the Contractor authorizing an addition, deletion or revision in the work within the general scope of the contract documents, or authorizing an adjustment in the contract price or contract time.

* "Change Order" shall mean a written order to the Contractor executed by the Owner and the Engineer after execution of this Contract, directing a change in the work and may include a change in the Contract Price or the time for the Contractor's performance, or any combination thereof:

* "Contract" or "Contract Documents" shall mean each of the various parts of the contract listed below, both as a whole and severally.

* Except for titles, sub-titles, headings, running headlines, tables of contents and indices (all of which are printed herein merely for convenience) the following, except for such portions thereof as may be specifically excluded, shall be deemed to be part of this contract:

  1. Contract Agreement
  2. Performance Bond
  3. General Conditions for Contract
4. Special Conditions for Contract
5. Detail Specifications
6. Drawings
7. All Addenda
8. All provisions required by law to be inserted in this contract whether actually inserted or not
9. Change Orders

"Contractor" shall mean the person, partnership, firm or corporation with whom the Owner has executed the Contract Agreement.

"Contract Work" shall mean everything expressly or implicitly required to be furnished and done by the Contractor by any one or more parts of the Contract defined herein, except extra work as defined herein.

"Engineer" shall mean the consulting engineer for the Town as designated and duly appointed by the Town, directed or assigned by them to this Contract, with the powers and duties as stated in the contract documents.

"Extra Work" shall mean work other than that required either expressly or implicitly by the contract in its present form. It may include work in areas designated on the plans as areas of future work, or in areas within the contract limits or adjacent thereto. Extra work shall be authorized by a change order.

"Final Acceptance" shall mean acceptance of the work by the Owner as evidenced by his signature upon the Certificate of Final Completion. Such acceptance shall be deemed to have taken place only if and when such signature is affixed to said Certificate of Final Completion.

"Inspector" shall mean an authorized representative of the Owner assigned to make any and all necessary inspections of the work performed and materials furnished by the Contractor.

"Owner" shall mean the party of the first part hereto, the Town, the Supervisor, or any other person designated by them to act on their behalf.

"Plans" shall mean only those drawings specifically entitled as such and listed in the Specifications or in any addendum.

"Project" shall mean the entire improvement to which this contract relates.

"Site" shall mean the area upon or in which the Contractor’s operations are carried on, and such other areas adjacent thereto as may be designated as such by the Engineer.
* "Specifications" shall mean all of the directions, requirements, and standards of performance applying to the work as hereinafter detailed and designated as such.

* "Subcontractor" shall mean any person, firm or corporation, other than employees of the Contractor, who or which contracts with the Contractor to furnish, or actually furnishes, labor, materials or labor and equipment at the site.

* "Surety" shall mean any person, firm or corporation that has executed as surety, and bond or bonds required to be executed by the Contractor as they relate to the provisions of the Contract.

* "Town Attorney" (owner's attorney) shall mean the attorney for the Town Board, Town of Poughkeepsie, New York as designated and duly appointed by that Board, directed or assigned by them to this contract, with the powers and duties established by the Town Board.

* "The Work" shall mean everything expressly or implicitly required to be furnished and done by the Contractor under the contract and shall include both contract work and extra work.

* Whenever they refer to the work or its performance, the words "directed", "required", "permitted", "ordered", "designated", "prescribed", and words of like import are used, they shall imply the direction, requirement, permission, order, designation or prescription of the Engineer and "approved", "acceptable", "satisfactory", "in the judgment of", and words of like import, shall mean approved by, or acceptable to, or satisfactory to, in the judgment of the Engineer.

**ARTICLE 2: ROLES AND RESPONSIBILITIES**

**2.1 THE CONTRACTOR**

The Contractor shall supervise, direct and perform the work in accordance with the true intent and meaning of the contract documents. Unless otherwise expressly provided, the work must be performed in accordance with the best modern practice, with materials and workmanship of the highest quality, all as determined by, and entirely to the satisfaction of, the Engineer. The Contractor shall be responsible for the entire work until completed and accepted by the Owner.

Unless otherwise expressly provided, the means and methods of construction shall be such as the Contractor may choose, subject, however, to the approval of the Engineer. Such approval, or the Engineer's failure to exercise his right to reject, shall not create a cause of action for damages.
The Contractor shall assume all risks and responsibility and shall complete the work in whatever material and under whatever conditions he may encounter or create, without extra cost to the Owner.

No plea of ignorance or misunderstanding of conditions that exist or that may hereafter exist, or of conditions or difficulties that may be encountered in the execution of the work under this contract, as a result of failure to make the necessary examinations and investigations, will be accepted as an excuse for any failure or omission on the part of a Contractor to fulfill in every detail all of the requirements of the contract documents, or will be accepted as a basis for any claims whatsoever for extra compensation or an extension of time.

The Contractor is put on notice that the Owner does not guarantee that all pipes, ducts, utilities and other underground structures are shown on the plans, and that the information given is intended only as a guide to the Contractor. The Contractor shall not claim damages and shall not be entitled to payment because of any omission or faulty location on the plans of any pipes, ducts, utilities or other underground structures. The Contractor shall call 811 as required by law before performing any ground disturbance on the site.

The Contractor shall do all work and pay all costs of cutting, protecting, supporting, maintaining, relocating and restoring all surface, subsurface or overhead structures, and all other property, including pipes, conduits, ducts, tubes, chambers, and appurtenances, public or private, in the vicinity of the work (except such which by law, franchise, permit contract, consent or agreement the owner thereof is required to protect, support, maintain, relocate or restore), repairing the same if damaged and restoring to their original conditions all areas disturbed. He shall not claim or be entitled to any damages for delay or otherwise by reason of such required work, and he hereby assumes all risks in connection therewith.

2.2 **THE OWNER**

The Owner, in addition to those matters expressly made subject to its determination, direction or approval in this contract, shall have the power:

1. To determine finally any and all questions in relation to this contract and its performance, which determination shall be final and conclusive upon the Contractor;

2. To modify or change this contract so as to require the performance of extra work, or the omission of contract work, or both, whenever it deems it in the public interest to do so;
(3) To suspend the whole or any part of the work or terminate the entire project whenever, in its judgment, such suspension or termination is required

(a) in the interest of the Owner generally, or

(b) to coordinate the work of the various Contractors engaged in this project, or

(c) to expedite the completion of the entire project even though the completion of this particular Contract may be thereby delayed, without compensation to the Contractor for such suspension other than extending the time for the completion of the work, as much as it may have been, in the opinion of the Engineer, delayed by such suspension;

(4) If before the final completion of all the work contemplated herein, it shall be deemed necessary by the Owner to take over, use, occupy or operate any part of the completed or partly completed work, the Owner shall have the right to do so and the Contractor will not, in any way, interfere with or object to the use, occupation or operation of such work by the Owner after receipt of notice in writing from the Board Director that such or part thereof will be used by the Owner on and after the date specified in such notice.

2.3 ENGINEER'S AUTHORITY

(1) The Engineer, in addition to those matters elsewhere herein expressly made subject to his determination, direction or approval, shall have the power, subject to review by the Owner:

(a) To inspect the performance of the work;

(b) To determine the amount, kind, quality, sequence, and location of the work to be paid for hereunder;

(c) To determine all questions in relation to the work, to interpret the drawings, specifications, and addenda;

(d) To make minor changes in the work as he deems necessary, provided such changes do not result in a net increase in the cost to the Owner or to the Contractor of the work to be done under the contract;

(e) To amplify the plans, add explanatory information and furnish additional specifications and drawings consistent with the intent of the contract documents.
(f) To determine how the work of this contract shall be coordinated with the work of other Contractors engaged simultaneously on this project, including the power to suspend any part of the work.

(2) The foregoing enumeration shall not imply any limitation upon the power of the Engineer, for it is the intent of this contract that all of the work shall be subject to his determination and approval, except where the determination or approval of someone other than the Engineer is expressly called for herein. All orders of the Engineer requiring the Contractor to perform work as contract work shall be promptly obeyed by the Contractor.

(3) The Engineer will not be responsible for the construction means, controls, techniques, sequences, procedures or construction safety.

(4) The Engineer shall promptly make decisions relating to interpretation of the plans and specifications.

ARTICLE 3: INTERPRETATION OF CONTRACT DOCUMENTS

3.1 CONFLICTING PLANS AND SPECIFICATIONS

The plans and specifications are intended to complement each other and any detail or item shown on one, but not the other, shall be assumed to be shown on both and shall be binding as if called for by all. While the plans and specifications are assumed to be complete in all major items and details, it is also assumed that the Contractor is competent and expert in his field; therefore, no effort has been made to show or to specify each and every detail or item required for a complete installation.

In the case of conflicting information within the plans and specifications as to the type of materials or workmanship to be provided, the Contractor shall accept the decision of the Engineer as to which was intended or which is in the best interest of the Owner.

In the event that any provision in any of the following parts of this Contract conflicts with any provision in any other of the following parts, the provision in the part first enumerated below shall govern over any other part which follows numerically, except as may be otherwise specifically stated. Said parts are the following:

1. Addenda
2. Special Conditions for Contract
3. General Conditions for Contract
4. Detail Specifications
5. Contract Drawings
The Contractor shall verify field conditions, including measurements and other conditions, before the start of construction. Any errors, inconsistencies or omissions shall be brought to the Engineer's attention for resolution.

3.2 **SHOP DRAWINGS**  (Shop drawings shall be submitted per Specification 013300. Any specific requirements in that specification shall supercede the general conditions below.)

Where the nature of the work of the Contract makes it necessary, or where so required by the Engineer, the Contractor shall submit scale and full size shop drawings of the work for review by the Engineer. The shop drawings shall be complete in every detail and show any and all other necessary information in accordance with usual trade practice as particularly required for any special purposes.

The Contractor shall thoroughly check all shop drawings of the various trades for measurements, sizes of members, materials and details to make sure that they conform to the intent of the plans and specifications and for any and all other contract requirements. Drawings found to be inaccurate or otherwise in error shall be made correct. Shop drawings prepared by or under the direction of the Contractor shall be checked for accuracy and contract requirements by the Contractor before being forwarded to the Engineer. Shop drawings not so checked and noted will be returned to the Contractor without being examined by the Engineer. All measurements shall be verified at the building and/or structures.

Shop drawings shall be either catalog cuts or drawings showing construction details. The details required will vary but should include dimensions, sizes, type of material, finish, fabrication notes, special care or handling requirements, supplier or vendor name, contract, item number, name of company supplying drawing, date, revision and other information to identify and evaluate the item described.

The Engineer shall promptly review submitted shop drawings as an aid to the Contractor but review of drawings by the Engineer shall not relieve the Contractor of his responsibility for the proper performance of the work without additional cost to the Owner, whether or not the work was installed in accordance with drawings reviewed by the Engineer. Shop drawings will be reviewed for design and general arrangement only.

3.3 **MATERIALS**

All materials, equipment, and articles (products) which are specified by brand name (i.e., manufacturer's or supplier's name or trade name and catalog or model number or name) shall be deemed to have the words "or equal" inserted in each instance. The intent is not to limit competition but to establish a standard of quality which the Engineer
has determined is necessary. The Engineer may establish criteria for product approval and shall determine whether a proposed alternate product is to be approved.

The Contractor may use any product equal to that named in the contract documents provided 1) that the Contractor has given timely notice of his intent (in accordance with the submittal and scheduling requirements of this contract) and 2) that the Engineer approves the proposed alternate.

Where optional materials or methods are specified, or where "or equal" submissions are approved, the Contractor shall make all adjustments necessary to accommodate the option he selects. Items offered by some manufacturers or suppliers may require changes in the contract plans or drawings. The Contractor shall bear the cost and expense of preparing and providing detailed drawings showing all changes, if any, from details shown in the contract documents, for structures, pipes, seals, controls or other devices required to insure a complete, satisfactory and operating installation. Such detailed drawings shall be subject to the Engineer's approval as to conformance with the over-all project requirements.

The Contractor shall have the burden of proving at his own cost and expense, to the satisfaction of the Engineer, that the proposed product is equal to that named in the contract documents. The Contractor shall supply the product named 1) if the Engineer determines that the Contractor's proposed product is not equal to the product named in the contract documents or 2) if the Contractor fails to comply with the provisions of this article. The Contractor shall have and make no claim for the extension of time or for damages because 1) the Engineer requires a reasonable period of time to consider a product proposed by the Contractor or 2) because the Engineer does not approve the Contractor's proposed product.

The Contractor shall supply the product named 1) if the Engineer determines that the Contractor's proposed product is not equal to the product named in the contract documents or 2) if the Contractor fails to comply with the provisions of this article. The Contractor shall have and make no claim for the extension of time or for damages because 1) the Engineer requires a reasonable period of time to consider a product proposed by the Contractor or 2) because the Engineer does not approve the Contractor's proposed product.

All materials, equipment and articles (products) incorporated into the permanent work, which will become the property of the Owner, shall be new unless specifically stated or shown otherwise in the contract documents. The word "new" shall not operate to exclude recycled raw materials used in the manufacture of previously unused, i.e. new, materials, equipment and articles (products) for this contract, provided that such items comply with all other contract requirements.
3.4 ROYALTIES AND PATENTS

The Contractor shall pay all royalties and license fees and include the cost thereof in his bid. He shall defend all suits or claims for infringement of any patent rights and shall save harmless the Owner from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer is specified and the Contractor properly acquires all royalties and license fees at no additional cost to the Owner.

ARTICLE 4: PERFORMANCE OF THE CONTRACT

4.1 RESPONSIBILITY FOR DAMAGE

The Contractor shall faithfully perform and complete all of the work required by the Contract, and has full responsibility for the following risks:

(1) Loss or damage, direct or indirect, to the work including the building or structure in which the work is being performed, or any other construction in progress whether being performed by any other Contractor or the Owner, or to any plant, equipment, tools, materials or property furnished, used, installed or received by the Engineer under this contract or any other contract. The Contractor shall bear all such risk of loss or damage, until all of the work covered by the Contract has been finally accepted. In the event of such loss or damage, the Contractor shall forthwith repair, replace, and make good any such loss or damage at the direction of the Engineer without additional cost to the Owner.

(2) Injury to persons (including death resulting there from), or damage to property caused by an occurrence arising out of the performance of this Contract for which the Contractor may be legally liable under the laws of torts.

(3) The Contractor shall not be responsible for damages resulting from willful acts of Owner's employees or from negligence resulting solely from acts or omissions of the Owner, its officers or employees. Nothing herein shall vest in third parties any right of action beyond such as may legally exist irrespective of this article.

(4) The Contractor shall indemnify and save harmless the Owner, its officers, employees and agents, from suits, actions, damages, and costs of every name and description relating to the performance of this Contract during its prosecution and until the acceptance thereof, and the Owner may retain such moneys from the amount due the Contractor as may be necessary to satisfy any claim for damages recovered against the Owner. The Contractor's obligations under this paragraph shall not be deemed
waived by the failure of the Owner to retain the whole or any party of such moneys due the Contractor, nor shall such obligation be deemed limited or discharged by the enumeration or procurement of any insurance for liability for damages imposed by law upon the Contractor, Subcontractor or the Owner.

(5) The Contractor shall provide written notice to the Engineer within three (3) business days of any loss, damage or injury arising out of the Contractor's performance of the Contract.

(6) No claim whatsoever shall be made by the Contractor against any officer, agent, or employee of the Town, for, on account of, or by reason of anything done, or omitted to be done, in connection with this contract.

4.2 CLAIM FOR DAMAGES BY CONTRACTOR

If the Contractor shall claim compensation for any damage sustained, other than for extra or disputed work by reason of any act or omission of the Owner, its agents or of any persons, he shall, within five (5) days after sustaining such damage, make and deliver to the Engineer a written statement of the nature of the damage sustained and of the basis of the claim against the Owner. If on or before the fifteenth of the month succeeding that in which any damage is alleged to have been sustained, the Contractor shall fail to make and deliver to the Engineer an itemized, verified statement of the details and amount of such damages claimed, it is hereby stipulated that all claims for such compensation shall be forfeited and invalidated and the Contractor shall not be entitled to payment on account of such claims.

4.3 DISPUTES

The Contractor specifically agrees to submit in writing, in the first instance, any dispute relating to the performance of this Contract to the Engineer, who shall reduce his decision to writing and furnish a copy thereof to the Contractor. The Contractor must request such decision in writing no more than fifteen days after he knew or ought to have known of the facts which are the basis of the dispute.

The decision of the Engineer shall be final and conclusive unless within twenty days from the date of receipt of such copy the Contractor serves upon the Board a written appeal. Upon appeal, the decision of the Board or its duly authorized representative shall be final and conclusive unless the decision is fraudulent or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith or is not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of his appeal.

Pending final determination of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Contract, including the work being disputed, in
accordance with the Engineer's decision. Nothing in this Contract shall be construed as making final the decision of any administrative official upon a question of law.

4.4 COORDINATION OF SEPARATE CONTRACTORS

The Owner may award other contracts related to the work. In that event, the Contractor shall coordinate his work with the work of other Contractors in such manner as the Owner may direct. Each Contractor shall control and coordinate the work of his Subcontractors, if any. The Owner shall approve or require the modification of the work schedules of all Contractors to the end that the project may be progressed as expeditiously as the case permits.

If any part of the work depends for proper execution or results upon the work of any other Contractor, the Contractor shall inspect and promptly report in writing to the Engineer any defects in such work. The Contractor's failure to inspect and report shall constitute an acceptance of the other Contractor's work as fit and proper for the reception of the work of this contract.

The Owner shall issue appropriate directions and take such other measures to coordinate and progress the work as may be reserved to the Owner in the contract, and which an ordinarily reasonable project owner in similar circumstances would be expected to take. However, the Owner shall not be liable for mere errors in judgments as to the best course of action to adopt among the alternatives available in any given instance.

The award of more than one contract for the project requires sequential or otherwise interrelated Contractor operations, and may involve inherent delays in the progress of any individual Contractor's work. Accordingly, the Owner cannot guarantee the unimpeded operations of any Contractor. The Contractor shall bear the risk of all ordinary delays caused by the presence or operations of other Contractors engaged upon the project, and ordinary delays attendant upon any Owner approved construction schedule.

The Owner shall not be liable for ordinary delays in any case nor for extraordinary delays which occur by reason of any Contractor's failure to comply with directions of the Owner, or because of the neglect, failure of inability of any Contractor to perform his work efficiently, or the failure of a supplier to supply or a Subcontractor to perform.

Any claim for extraordinary delay caused by an allegedly unreasonable or arbitrary act, or failure to act, by the Owner in the exercise of its responsibility for supervision and coordination of the work, shall be waived, released, and discharged unless the Contractor whose work is impeded or delayed thereby, shall give notice in writing to the Town Board as promptly as possible and in sufficient time to permit the Town Board to investigate and formulate appropriate instructions.
The neglect or refusal of a Contractor to comply with directions issued by the Owner pursuant to its responsibility for supervision of the work shall constitute a failure to progress the work diligently in accordance with Contract requirements and shall justify withholding payments otherwise due, or termination of the Contract.

The Contractor shall indemnify the Owner for damages recovered against the Owner by another Contractor to the extent that any such claim or judgment is the proximate result of the Contractor's failure to progress the work in accordance with Contract requirements.

4.5 CONTRACTOR'S SUPERVISION

The Contractor shall designate, in writing, a competent supervisor for the work to represent the Contractor at the site at all times with authority to act for him and who can communicate effectively with the Owner's representative. All directions given the Contractor's representative shall be as binding as if given to the Contractor. The work may be suspended by the Engineer in whole or in part, if the Contractor has no such representative on site. The representative shall keep on site copies of the plans and specifications and shall have full authority to supply material and labor as required.

Should the Engineer deem any employees of the Contractor incompetent or negligent, or otherwise not qualified by reason of experience, or for any cause unfit for their duty, the Contractor shall dismiss them and they shall not again be employed on the work.

4.6 PERMITS AND COMPLIANCE

The Contractor shall obtain, maintain and pay for all other permits and licenses legally required and shall give all notices, pay all fees and comply with all laws, rules and regulations applicable to the work at no additional cost to the Owner.

4.7 BOUNDARIES

The Contractor and all Subcontractors shall confine their equipment, apparatus, and the storage of materials and supplies of his workmen to limits indicated by law, ordinance, permits or directions of the Engineer. The Contractor shall be responsible for setting all grades, elevations and horizontal and vertical alignment required to layout all work called for on the plans and drawings.

4.8 REFUSE AND DEBRIS

The Contractor shall at all times keep the refuse and debris at the job site to a minimum, and at the completion of the contract shall remove all debris, waste and rubbish, tools, equipment, surplus supplies and materials, temporary structures, etc, and leave all areas "broom" or "rake" clean. The interiors of buildings shall be cleaned as stated in the Specifications and General Conditions.
4.9 **SUBCONTRACTORS AND SUPPLIERS**

Before any part of the Contract shall be sublet or material purchased, the Contractor shall submit to the Engineer in writing the name of each proposed Subcontractor and supplier and obtain the Engineer's written consent to such Subcontractor and supplier. The names shall be submitted in ample time to permit acceptance or rejection of each proposed Subcontractor and supplier by the Engineer without causing delay in the work of the Project.

The Contractor's use of Subcontractors and suppliers shall not diminish the Contractor's obligations to complete the work in accordance with the Contract. The Contractor shall control and coordinate the work of his Subcontractors.

The Contractor shall be responsible for informing his Subcontractors and suppliers of all the terms, conditions and requirements of the contract documents.

In making payment to his Subcontractors, the Contractor shall comply with the provisions of New York State General Municipal Law § 106.b. Nothing contained in this Contract shall create any contractual relationship between any Subcontractor and the Owner.

4.10 **CONTRACTOR'S WORK REQUIREMENTS**

The Contractor shall do all the work and furnish at his own cost and expense, all labor, supervision, machinery, equipment, facilities, tools, transportation, supplies, materials, insurance, permits, certificates, tests, guarantees, protection of equipment and property and life during construction, and all other things whether or not explicitly shown or mentioned, necessary and proper for or incidental to the completion of a workmanlike job, complete in every respect and detail, left ready and in perfect condition for the Owner's use.

All work performed under this contract shall be according to the highest standards of the trades involved, and shall conform to the requirements of any utilities, and any and all Federal, State and local laws, codes, ordinances and statues as may be in effect at the time of bidding.

This shall not be construed as relieving the Contractor from complying with any of the requirements of the plans and specifications which may be in excess of the requirements mentioned herein.
ARTICLE 5: CHANGE IN THE WORK

5.1 PROCEDURE

One or more changes to the work within the general scope of this Contract may be ordered by Change Order. No written or oral instructions shall be construed as directing a change in the work unless in the form of a change order signed by the Owner and the Contractor. All change order work shall be executed in conformity with the terms and conditions of the contract documents unless otherwise provided in the change order.

The change order shall describe or enumerate the work to be performed or other changes that alter, add to or deduct from the contract work. The change order shall adjust the contract quantities and sum accordingly, and if applicable, state any change in the time for completion of the contract. If the Contractor disagrees with any element of the change order, he shall indicate his disagreement in writing on the face of the change order and nevertheless promptly proceed in accordance with the change order. If the Contractor disputes any item of the change order, he shall comply with Article 4.3.

If the Contractor is directed to perform work for which he believes he is entitled to a change order, he shall give the Engineer prompt written notice and await instructions before proceeding to execute such work. The Engineer may order the Contractor to execute the work as contract work. If the Contractor disputes this decision, he shall give notice pursuant to the dispute provisions of Article 4.3.

If the Contractor encounters a situation or work for which he believes he is entitled to a change order, he shall give the Engineer or inspector notice by telephone or in person within one business day and shall await instructions before proceeding.

The execution of a Change Order by the Contractor shall constitute conclusive evidence of the Contractor's agreement to the ordered changes in the work, this Contract as thus amended, the Contract Price and the time for performance by the Contractor. The Contractor, by executing the Change Order, waives and forever releases any claim against the Owner for additional time or compensation for matters relating to or arising out of or resulting from the work included within or affected by the executed Change Order.

The Contractor shall notify and obtain the consent and approval of the Contractor's surety with reference to all Change Orders if such notice, consent or approvals are required by the Owner, the Engineer, and the Contractor's surety or by law. The Contractor's execution of the Change Order shall constitute the Contractor's warranty to the Owner that the surety has been notified of, and consents to, such Change Order and the surety shall be conclusively deemed to have been notified of such Change Order and to have expressly consented thereto.
5.2 **CHANGE IN CONTRACT PRICE**

Any change in the Contract Price resulting from a Change Order shall be determined by one of the following methods:

1. By mutual agreement between the Owner and the Contractor as evidenced by the change in the Contract Price as set forth in the Change Order; or

2. By mutual agreement between the Owner and the Contractor as evidenced by the change in the Contract Price, together with any conditions or requirements relating thereto, being initialed by both parties and the Contractor's execution of the Change Order; or

3. If the extent or cost of the work is not determinable until after the change in the work is performed, the change order shall specify the method for determining the cost and extent of the change in the work when completed.

5.3 **VALUE OF CHANGE ORDER**

The value of a change order shall be determined by one of the following methods.

1. By lump sum or unit prices negotiated or established based on estimated cost plus fifteen percent (15%) as compensation for all other items of profit and cost or expense, including administration, overhead, superintendent, materials used in temporary structures and allowances made by the Contractor to the Subcontractors.

2. If no unit prices are set forth and if the parties cannot agree upon a lump sum, then by the sum of (a) and (b) below.
   
   (a) The actual and reasonable net cost in money to the Contractor of the materials and of the wages of applied labor required for such extra work (including net premium for workers' compensation insurance, contributions pursuant to the State Unemployment Insurance Law, and withholding taxes pursuant to the Federal Social Security Act), plus fifteen percent (15%) as compensation for all other items of profit and cost or expense, including administration, overhead, superintendent, materials used in temporary structures and allowances made by the Contractor to the Subcontractors.

   (b) The actual and reasonable net cost in money to the Contractor of any equipment rental (based upon actual rental receipts or the Kelly Blue Book as applicable), plus fifteen percent (15%) as compensation for all other items of profit and cost or expense, including fuel usage.
(c) The Contractor shall, upon request, furnish satisfactory proof of all labor performed, materials furnished and equipment used in the performance of extra work.

**ARTICLE 6: TIME OF COMMENCEMENT, COMPLETION AND TERMINATION FOR CAUSE**

**6.1 TIME OF COMMENCEMENT AND COMPLETION**

1. The Contractor must commence work on the day specified therefore in a Notice to Proceed signed by the Owner. Since TIME IS OF THE ESSENCE in this Contract, the Contractor shall thereafter prosecute the work diligently, using such means and methods of construction as will assure its full completion in accordance with the requirements of the Contract Documents not later than the specified date therefore, or on the date to which the time for completion may be extended.

2. Unless the date for completion is extended pursuant to the provisions of Section 6.2 below, the Contractor shall complete the work within the time allotted as stated in the Contract Agreement. The Engineer shall be the sole judge as to whether the work hereunder has been completed within the time stipulated.

**6.2 EXTENSION OF TIME**

The Contractor is put on notice that no extension beyond the date of completion fixed by the terms of the contract shall be effective unless consented to in writing by the Engineer. An application by the Contractor for extension of time must be in writing, setting forth in detail the reasons and causes of delay and the date upon which each such cause of delay began and ended, and must be submitted to the Engineer within five (5) days after the start of the alleged delay. If the Engineer should determine that the delay was not due to any act or omission on the part of the Contractor or was due to causes beyond the control of the Contractor, the Contractor shall be entitled to an extension of time equal to the number of days actually delayed if such extension shall be required. If, however, the Engineer should determine that the delay was caused directly or indirectly by the act or conduct of the Contractor or any of his Subcontractors or suppliers, the Engineer may refuse to grant an extension of time and direct the Contractor to re-arrange his progress schedule so as to complete the work within the time set forth in the contract.

If the Owner deems it advisable and expedient to have the Contractor complete and finish the work after the expiration of the contract date of completion, and in order that the Owner's fiscal officer may be permitted to make payment to the Contractor for work performed beyond the completion date, the Owner will grant an extension of time.
necessary to complete the work, conditional upon the assessment and deduction of
liquidated damages from the moneys which may become due hereunder.

In the event of delay for cause, the Contractor's sole remedy shall be the extension of
time granted as hereinabove provided, and the Contractor shall have no right to, or
cause of, action for damages or additional costs resulting from any such delay.

Time necessary for review by the Engineer of shop drawings and delays incurred by
normal seasonal and weather conditions should be anticipated and are neither
compensatory nor eligible for extensions of time.

6.3 LIQUIDATED DAMAGES UPON FAILURE TO COMPLETE IN TIME

The Contractor is put on notice that **TIME IS OF THE ESSENCE** in this Contract and
that there will be, on the part of the Town, considerable monetary damage in the event
the Contractor should fail to complete the work within the time fixed for completion in the
Notice to Proceed or within the time to which such completion may have been
extended. However, it is impossible to determine with reasonable accuracy the precise
amount of damage to the Town upon the Contractor's failure to complete the project as
specified herein.

The amount stated in the Contract Agreement is hereby stipulated as the liquidated
damages for each and every calendar day that the time consumed in completing the
work exceeds the time allowed therefore. The amount stated shall in no event be
considered as a penalty or otherwise than as the liquidated and adjusted damages of
the Owner because of the said delay.

The stated sum per day for each day shall be deducted and retained out of the monies
which may become due hereunder.

If the Owner reasonably believes that final completion will be inexcusably delayed, the
Owner shall be entitled, but not required, to withhold from any amounts otherwise due
to the Contractor an amount then believed by the Owner to be adequate to recover
liquidated damages applicable to such delays. If and when the Contractor overcomes
the delay in achieving final completion, or any part thereof, for which the Owner has
withheld payment, the Owner shall promptly release to the Contractor those funds
withheld, but no longer applicable as liquidated damages.

Additionally, if the Contractor fails to achieve final completion within 30 days after the
date of Substantial Completion, the Contractor shall pay the Owner the amount stated in
the Contract Agreement as the liquidated damages for each and every calendar day of
unexcused delay in achieving final completion beyond 30 days after the date of
Substantial Completion. Any sums due and payable hereunder by the Contractor shall
be payable, not as a penalty, but as liquidated damages representing an estimate of
delay damages likely to be sustained by the Owner, as estimated at or before the time
of executing the Contract.
6.4 TERMINATION FOR CAUSE

If in the judgment of the Owner, the Contractor fails or refuses to prosecute the work in accordance with the Contract, or is failing to complete the work within the time provided by the Contract, the Owner may terminate the Contract by written notice. In such event, the Owner shall order the surety to complete the work. If the surety fails or refuses to complete the work in accordance with the contract provisions, including time of completion, the Owner may take over the work and prosecute it to completion by contract publicly let or otherwise, and may take possession of and utilize in completing the work, such of the Contractor’s plant, materials, equipment, tools and supplies as may be on the site of the work. Whether or not the right to terminate is exercised, the Contractor and his surety shall be liable for any damage to the Owner resulting from his failure or refusal to complete the work in accordance with the Contract or his failure to complete the work within the time provided by the Contract.

If the Owner terminates the Contract, damages shall consist of liquidated damages, if any, until the work is physically completed, plus any increased costs occasioned the Owner in completing the work.

If the Owner does not terminate the Contract, the damages shall consist of liquidated damages, if any, until the work is physically completed.

The Contract shall not be so terminated nor the Contractor charged with resulting damage if:

(1) The delay in the completion of the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, acts of the public enemy, acts of the Board in either its sovereign or contractual capacity, acts of another Contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather, or delays of Subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and such Subcontractors or suppliers, and

(2) The Contractor shall notify the Engineer in writing of the causes of delay within fifteen (15) days from when the Contractor knew or ought to have known of any such delay.

The Engineer will ascertain the facts and the extent of the delay and extend the time for completing the work when, in his judgment, the findings of fact justify such an extension, and his findings of fact shall be final and conclusive.

If after notice of termination of the Contract, it is determined for any reason that the Contractor was not in default or that the delay was excusable, the rights and obligations
of the parties shall be the same as if the notice of termination had been issued pursuant to the termination for convenience clause.

The rights and remedies of the Owner provided in this clause are in addition to any other rights and remedies provided by law or under this Contract; provided that damages for delay incurred by the Contractor shall be as specified in this Article, Section 6.3.

**6.5 TERMINATION OF CONTRACTOR'S EMPLOYMENT FOR THE CONVENIENCE OF THE OWNER**

The Owner may terminate this Contract whenever in its judgment the public interest so requires by delivering to the Contractor a notice of termination specifying the extent to which performance of work under the Contract is terminated and the date upon which such termination becomes effective. Upon receipt of the notice of termination, the Contractor shall act promptly to minimize the expenses resulting from such termination. The Owner shall pay the Contractor the sum of:

1. the costs actually incurred up to the effective date of such termination, plus

2. the cost of settling and paying claims arising out of the termination of work under subcontracts or orders exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the Subcontractor prior to the effective date of the notice of termination of work under this Contract, which amounts shall be included in the cost on account of which payment is made under (1) above.

3. the rate of profit and overhead on (1) and (2) as prescribed by this Contract for change orders, provided, however, that if it appears that the Contractor would have sustained a loss on the entire Contract had it been competed, no profit shall be included or allowed under this paragraph (3) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss.

In no event shall the Contractor's compensation exceed the total Contract amount.

The detailed estimate or amount of progress payments made to the Contractor prior to the day termination was effective shall not be conclusive evidence of costs incurred, but progress payments shall be offset against any payment which the Owner makes to the Contractor as a result of such termination.
6.6 **CONTRACTOR'S DEFAULT**

The Contractor shall be declared in default if any of the following occur:

1. if the Contractor fails to begin work when notified to do so by the Owner, or
2. if the Contractor becomes insolvent, or
3. if a petition of bankruptcy is filed by or against the Contractor, or
4. if the work to be done under this contract shall be abandoned, or
5. if this contract or any part thereof shall be subcontracted without the consent of the Owner being first obtained in writing, or
6. if this contract or any right, moneys or claim thereunder shall be assigned by the Contractor otherwise than as herein specified, or
7. if, at any time, the Engineer shall be of the opinion that the conditions herein specified as to the rate of progress are not fulfilled, or
8. that the work or any part thereof is unnecessarily or unreasonably delayed, or
9. that the Contractor is not or has not been executing the contract in good faith, or
10. that the Contractor is violating any of the provisions of this contract;

The Owner, without prejudice to any other rights or remedy of said Owner, shall have the right to declare the Contractor in default and so notify the Contractor by a written notice, setting forth the ground or grounds upon which such default is declared and that the Contractor shall discontinue the work, either as to a portion of the same or the whole thereof. Upon receipt of the notice, the Contractor shall immediately discontinue all further operations on the work or such portion thereof, leaving untouched all plant, materials, equipment, tools and supplies.

6.7 **SUSPENSION OF WORK**

The Engineer may order the Contractor, in writing, to suspend, delay, or interrupt performance of all or any part of the work for a reasonable period of time as he, in his sole discretion, may determine. The order shall contain the reason or reasons for issuance which may include but shall not be limited to the following: latent field conditions, substantial program revisions, civil unrest, acts of nature, failure to have a supervisor on site.

Upon receipt of a suspension order, the Contractor shall, as soon as practicable, cease performance of the work as ordered and take immediate affirmative measures to protect such work from loss or damage.
The Contractor is put on notice that a suspension, interruption or delay of the performance of the work pursuant to this article shall not increase the cost to the Owner for performance of the work of this Contract.

A suspension order issued by the Engineer pursuant to this article shall have a duration not to exceed thirty (30) calendar days. If the Contractor is not directed to resume performance of the work affected by said suspension order prior to the expiration of thirty (30) calendar days, the Contract shall be automatically terminated for the convenience of the Owner and the Contractor shall be reimbursed in accordance with the payment schedule.

6.7 TERMINATION BY THE CONTRACTOR

If the Owner repeatedly fails to perform its material obligations to the Contractor for a period of thirty (30) days after receiving written notice from the Contractor of its intent to terminate hereunder, the Contractor may terminate performance under this Contract by written notice to the Owner and the Engineer. In such event, the Contractor shall be entitled to recover from the Owner as though the Owner had terminated the Contractor's performance under this Contract for convenience pursuant to Section 6.5 above.

ARTICLE 7: INSPECTION AND ACCEPTANCE

7.1 INSPECTION

The Engineer or the Owner’s representative will inspect and test the work at reasonable times at the site, unless the Engineer determines to make an inspection or test at the place of production, manufacture or shipment. Such inspection or test shall be conclusive as to whether the material and workmanship inspected or tested conforms to the requirements of the Contract. Such inspection or test shall not relieve the Contractor of responsibility for damages to or loss of the material prior to acceptance, nor in any way affect the continuing rights of the Engineer to reject the completed work.

7.2 CONTRACTOR’S OBLIGATION TO CORRECT DEFECTIVE WORK

The Contractor shall, without charge, promptly correct any work which the Engineer finds does not conform to the contract documents, unless in the public interest the Owner consents to accept such work with an appropriate adjustment in the Contract sum. The Contractor shall promptly remove rejected material from the premises.

If the Contractor does not promptly correct rejected work including the work of other Contractors destroyed or damaged by removal, replacement, or correction, the Owner may:

(1) correct such work and charge the cost thereof to the Contractor; or
(2) terminate the Contract in accordance with the section on termination in the General Conditions.

The Contractor shall furnish promptly and without additional charge all facilities, labor and material reasonably needed to perform in a safe and convenient manner such inspections and tests as the Engineer requires.

The Contractor shall promptly correct work rejected by the Engineer or failing to conform to the requirements of the contract documents, whether observed before or after substantial completion and whether or not fabricated, installed or completed. The Contractor shall bear costs of correcting such rejected work, including additional testing and inspections and compensation for the Engineer's services and expenses made necessary thereby.

7.3 PROGRESS REPORTS

The Contractor shall keep the Engineer informed of the progress of his work and particularly when he intends to cover work not yet inspected or tested. When the work is not progressed continuously, except for weekends and holidays, the Contractor shall notify the Engineer again each time before resuming work. Twenty-four hours notice shall be given. All inspection and tests by the Engineer shall be performed in a manner not to unreasonably delay the work. The Contractor shall be charged with any additional cost of inspection when the work is not ready for inspection by the Engineer at the time stated by the Contractor or agreed to by the Engineer and Contractor.

7.4 INSPECTION PRIOR TO ACCEPTANCE

Should the Engineer determine at any time before acceptance of the entire work to examine work already completed by removing, uncovering or testing the same, the Contractor shall, on request, promptly furnish all necessary facilities, labor and materials to conduct such inspection, examination or test. If such work is found to be defective or nonconforming in any material respect, the Contractor shall defray all the expenses of such examination and satisfactory reconstruction. If the work is found to meet the requirements of the contract documents, the Owner shall compensate the Contractor for the additional services involved in such examination and reconstruction and if completion of the work has been delayed thereby, he shall, in addition, grant the Contractor a suitable extension of time. If the Contractor covers his work prior to allowing inspections and tests by the Engineer, the Contractor shall promptly uncover and make ready all such areas for inspections and tests, and the Contractor shall be liable for and charged with any and all additional associated costs.

No previous inspection or certificates of payment or final payment shall relieve the Contractor from the obligation to perform the work in accordance with the Contract Documents. In the event that the Contractor has in any way failed to comply with the
Contract Documents, the final payment shall not act to relieve the Contractor of his responsibility to comply with the Contract Documents.

**ARTICLE 8: PAYMENTS** *(see also Specification 012900 whose provisions override conflicting requirements in these General Conditions)*

**8.1 PAYMENT**

For the Contractor’s complete performance of the work, the Owner will pay, and the Contractor agrees to accept, subject to the terms and conditions hereof, the total of the lump sum prices and the unit prices at which this Contract was awarded, plus the amount required to be paid for any extra work ordered by the Engineer under Article 5, less credit for any work omitted pursuant to Article 5, and less liquidated changes and any other charge backs permitted in this contract.

**8.2 PROGRESS PAYMENTS**

(1) The Owner will make monthly progress payments on account of this Contract, on or after the first (1st) of each month, whenever the monthly estimate of the Contractor, as approved by the Engineer, shows that the fair value of the work completed during the previous month exceeds one thousand dollars ($1,000.00).

(2) Payment will be in an amount equal to ninety-five percent (95%) of the value of the work completed less the aggregate of all previous payments.

(3) Payment requests shall be made on a form approved by the Engineer and shall be submitted by the first business day of the month in which payment is scheduled to be made. Payment requests shall be approved, changed or rejected by the Engineer at least three (3) days prior to the date upon which payment is scheduled to be made.

(4) When submitting payment requests, Contractor shall certify with each request that all Subcontractors, suppliers and laborers have been paid in full (less 5% retainage) up to the date of the request. No payments will be made by the Owner without this certification. Delays in payment due to disagreement between the Engineer and Contractor about a quantity shall be borne by the Contractor. It is also the burden of the Contractor to obtain agreement from the Engineer or to be satisfied with his estimate.

(5) All materials and work covered by progress payments shall become the property of the Owner; however, such payments made to the Contractor
shall not be construed as acceptance by the Owner of any work or materials not in accordance with the Plans and Specifications.

(6) No payment to the Contractor, nor utilization of the Project for any purpose by the Owner, nor any other act or omission by the Owner shall be interpreted or construed as an acceptance of any work of the Contractor that is not strictly in compliance with this Contract.

(7) The Owner shall have the right to refuse to make payment and, if necessary, may demand the return of a portion or the entire amount previously paid to the Contractor due to:

(a) The quality of a portion, or all, of the Contractor's work not being in accordance with the requirements of this Contract;

(b) The quantity of the Contractor's work not being as represented in the Contractor's Payment Request, or otherwise;

(c) The Contractor's rate of progress being such that, in the Owner's opinion, substantial or final completion, or both, may be inexcusably delayed;

(d) The Contractor's failure to use Contract funds, previously paid the Contractor by the Owner, to pay Contractor's project-related obligations including, but not limited to, payments to subcontractors, laborers and material and equipment suppliers;

(e) Claims made, or likely to be made against the Owner or its property;

(f) Loss caused by the Contractor;

(g) The Contractor's failure or refusal to perform any of its obligations to the Owner.

(8) In the event that the Owner makes written demand upon the Contractor for amount previously paid by the Owner as contemplated in this paragraph, the Contractor shall promptly comply with such demand;

(9) Payments by the Owner shall be made pursuant to the provisions of General Municipal Law Section 106-b, including interest payments as required by that section.

8.3 SUBSTANTIAL COMPLETION

(1) When the work or major portions thereof are substantially completed, the Contractor may submit a request for payment of the remaining amount of
the contract amount. Upon receipt of such request for payment, the Engineer shall make an inspection and identify all work that is incomplete or otherwise not ready for final acceptance. The Owner shall approve and promptly pay the remaining amount of the contract balance less two times the value of any remaining items to be completed (as identified in the Engineer's Certificate of Substantial Completion) and an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. The Certificate of Substantial Completion may also assign responsibilities for security, maintenance, damage to the work, insurance, etc. The Certificate shall fix the time within which the Contractor shall complete all items listed as being incomplete or otherwise not ready for final acceptance.

(2) As the remaining items of work (as identified in the Engineer's Certificate of Substantial Completion) are satisfactorily completed or corrected, the Contractor may prepare a request for payment, but not more often than monthly, for any such work. The Owner shall pay as in Section 8.2 above.

8.4 FINAL PAYMENT

(1) Within thirty (30) days after receiving written notice from the Contractor of completion of all of the work, and submission of satisfactory evidence of having repaired any and all damage resulting therefrom to public or privately owned properties but not a part of the work under this contract, the Engineer will cause a final inspection to be made for approval of all the work done under this contract. If such inspection confirms that the Project is complete in full accordance with this Contract, the Engineer will recommend to the Owner, with a copy to the Contractor, that the Contractor has performed all of his obligations under the Contract and that no further work is to be done. Upon receipt of the Engineer's recommendation of completion of all contract work, the Contractor may make a request for final payment per paragraph 8.4(2) below.

(2) The Contractor's request for final payment shall include all of the following submittals:
   (a) Affidavits and certificates of payment for labor, material and equipment
   (b) Affidavits and certificates of payment for labor, material and equipment
   (c) AIA forms (or similar) G706 Contractor's Affidavit of Payment of Debts and Claims, G706A Contractors Affidavit of Release of Liens, and G707 Consent of Surety to Final Payment.
   (d) Verified statements obtained by the Contractor from its subcontractors pursuant to Labor Law 220-a (1), attesting that the subcontractors have received and reviewed the schedule of wages and supplements, which statements shall also contain information on the amounts due and owing for wages and supplements from
the Contractor, and also from subcontractors, all in accordance with
the provisions of Labor Law section 220-a (2).

(3) As a further condition precedent to receiving final payment, the Contractor
shall furnish to the Owner, all product warranties, operating manuals,
instruction manuals and other record documents, drawings and things
customarily required of the Contractor, or expressly required herein, as a
part of or prior to Project closeout.

(4) Not later than thirty (30) days after receipt of the Engineer's
recommendation for approval of the Contractor's request for Final
Payment, the Owner will pay the Contractor the entire sum so found due
there under. The Contractor is put on notice that, all prior payment having
been based on estimates made solely to enable the Contractor to
prosecute the work advantageously, the final payment will be subject to
such corrections as may be found necessary to bring the total payments
into agreement with the contract price, adjusted per change order(s) if
applicable.

(5) After final acceptance of the work under this Contract and the Owner's
payment of the final request for payment, the Engineer will recommend
that the Owner can issue a Certificate of Completion to the Contractor for
the work done under this Contract.

8.5 ACCEPTANCE OF FINAL PAYMENT

The acceptance by the Contractor or by anyone claiming by or through him of the final
payment shall operate as and shall be a release to the Owner and every officer and
agent thereof, from any and all claims and all liability to the Contractor for any thing
done or furnished in connection with this work or project and for any act or neglect of
the Owner or of any others relating to or affecting the work. No payment, however, final
or otherwise shall operate to release the Contractor or his sureties from any obligations
under this contract or the performance bond.

8.6 CONTRACT QUANTITIES

The quantities actually required to complete the contract work may be less or more than
estimated, and, if so, no action for damages or for loss of profits shall accrue to the
Contractor by reason thereof. For unit price contracts, a change order may be prepared
to bring the actual and estimated quantities and values into agreement.

8.7 MAINTENANCE AND GUARANTEE

The Contractor shall remedy all defects, paying the cost of any damage to other work
resulting there from, which shall appear within a period of one year from the date of
completion as evidenced by the Owner's Certificate of Completion. The Contractor
shall, for this period, indemnify and hold harmless the Owner, its officers, and agents
from any injury done to property or persons as direct or alleged result of imperfections in his work or any other claims, actions or proceedings and the Contractor shall immediately assume and take charge of the defense of such action or suits in like manner and to all intents and purposes as if said actions and suits had been brought directly against the Contractor.

The performance bond shall remain in full force and effect through the guarantee period unless a separate maintenance bond is provided.

If the Contractor shall fail to repair, replace, rebuild or restore such defective or damaged work promptly after receiving notice given by the Engineer not later than ten (10) days subsequent to the expiration of the one year period, the Owner shall have the right to have the work done by others and to deduct the cost thereof from the amount retained hereunder. The balance, if any, shall be returned to the Contractor at the end of the one year guarantee period without interest. If the amount so retained be insufficient to cover the cost of such work, the Contractor shall be liable to pay such deficiency on demand by the Owner.

8.8 NO ESTOPPEL

The Owner or any department, officer, agent, or employee thereof, shall not be bound, precluded, or estopped by any acceptance, return certificate or payment made or given under or in connection with this Contract by the Owner, at any time, either before or after final completion and acceptance of the work and payment therefore:

(1) showing the true and correct classification amount, quality or character of the work done and materials furnished by the Contractor or any other person under this agreement, or from showing at any time that any such acceptance, return certificate or payment is untrue, incorrect, or improperly made in any particular, or that the work or any part thereof does not in fact conform to the requirements of the contract documents, or

(2) from demanding and recovering from the Contractor any overpayment made to him or such damages as it may sustain by reason of his failure to comply with the requirements of the contract documents, or

(3) both 1 and 2 above.

ARTICLE 9: BONDS AND INSURANCE

9.1 CONTRACT SECURITY

If at any time the Owner shall have become dissatisfied with any surety or sureties then upon the performance bond or if for any other reason such bond shall cease to be adequate security for the Owner, the Contractor shall, within five (5) days after notice
from the Owner's attorney to do so, substitute an acceptable bond in such form and amount and signed by such other surety as may be satisfactory to the Owner's attorney. The premiums on all bonds shall be paid by the Contractor. No further payments shall be deemed due nor shall be made until the new surety shall have been qualified.

9.2 INSURANCE

A. See Division 100 Section 1 Information for Bidders for the article tilted Insurance Requirements, which replaces this Article 9.2 as if inserted here.

ARTICLE 10: MISCELLANEOUS PROVISIONS

10.1 COMPLIANCE WITH CODES AND LAWS

All work performed under this contract shall be according to the highest standards of the trades involved, and shall conform to the requirements of any utilities, and any and all federal, State and local laws, codes, ordinances and statutes as may be in effect at the time of bid opening.

This shall not be construed as relieving the Contractor from complying with any of the requirements of the plans and specifications which may be in excess of the requirements mentioned herein.

The organization or arrangement of the plans and specifications shall not operate to define or establish the work to be performed by any trade or subcontractor.

10.2 SERVICE OF NOTICES

The Contractor's business address specified in his bid shall be designated as the place where all notices, directions or other communications to the Contractor may be delivered, or to which they may be mailed. Actual delivery of any such notice, direction or communication to the aforesaid place, or depositing it in a postpaid wrapper addressed thereto in any post-office box regularly maintained by the United States Postal Service, shall be conclusively deemed to be sufficient service thereof upon the Contractor as of the date of such delivery or deposit.

Such address may be changed at any time by an instrument in writing executed and acknowledged by the Contractor and delivered to and receipted for in writing by the Engineer.

Nothing herein contained shall, however, be deemed to preclude or render inoperative the service of any notice, direction or other communication upon the Contractor personally, or, if the Contractor be a corporation, upon any officer or director thereof.
10.3 **LABOR STANDARDS**

The Contractor and its Subcontractors shall comply with all local, State and federal rules, including, but not limited to the Occupational Safety and Health Act of 1970, the Contract Work Hours and Safety Standards Act, and the New York State Labor Law with respect to hours of work, posting of notices, deductions in wages, and apprenticeship training programs.

The Contractor and Subcontractors, if any, shall keep the following information records on the site of this public works project:

a. Record of hours worked by each workman, laborer and mechanic on each day.

b. Schedule of occupation or occupations at which each workman, laborer, and mechanic on the project is employed during each work day and week.

c. Schedule of hourly wage rates paid to each workman, laborer, and mechanic for each occupation.

d. Schedule of hours that each piece of major equipment is being actually operated each day.

e. Preference in employment shall be shown to residents of the State of New York who have been residents for a least six (6) consecutive months immediately prior to the commencement of their employment. Each person so employed in the construction of public works shall furnish satisfactory proof of residence in accordance with the rule adopted by the Industrial Commissioner, and each Contractor and Subcontractor shall keep a list of his employees, stating whether they are residents of the State of New York, native born citizens or naturalized, and, in case of naturalization, the date thereof, and the name of the court in which granted.

f. Payment of wages earned by employees upon public works shall be as covered by Section 220 and 220-D of the Labor Law.

g. Insurance against accident for all persons employed shall be as provided by the Workers Compensation Laws of the State of New York.

h. The Contractor shall comply with all requirements of the State Labor Law applicable to contracts on behalf of a municipality for the construction, alteration or repair of any public building or public work, including particularly, but without limitation of the foregoing, the provisions relating to hours and wages, discrimination on account of race or color and preference in employment to citizens of the State of New York.

i. The Contractor shall indemnify and save harmless the Town from any claim alleging a violation of the labor laws of the State of New York, including but not limited to the Contractor's obligation to pay prevailing wage.

j. Article 8, Section 220 of the Labor Law, as amended by Chapter 750 of the Laws of 1956, provides, among other things, that it shall be the duty of the fiscal officer to make a determination of the schedule of employed on public work projects. The amount for supplements listed on the enclosed schedule (see Appendix A) does not necessarily include all types of prevailing supplements in the locality, and a future determination of the Industrial Commissioner may require the Contractor to provide additional supplements.
The Contract shall make provision for disability benefits, workers compensation, unemployment insurance and social security, as required by law.

10.4 RECORD-KEEPING REQUIREMENT

The Contractor shall establish and maintain complete and accurate books, records, payroll records, documents, accounts and other evidence directly pertinent to performance under this contract for a period of six (6) years following final payment or the termination of this contract, whichever is later, and any extensions thereto. The Engineer or any other person or entity authorized to conduct an examination, as well as the agency or agencies involved in this contract, shall have access to such books, records, documents, accounts and other evidential material during the contract term, extensions thereof and said six (6) year period thereafter for the purposes of inspection, auditing and copying. "Termination of this contract", as used in this clause, shall mean the later of completion of the work of the contract or the end date of the term stated in the contract.

10.5 NON-ASSIGNMENT CLAUSE

This contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, subcontracted or otherwise disposed of without the previous consent, in writing, of the Owner and any attempts to assign the contract without the Owner's written consent are null and void. The Contractor may assign its rights to receive payment with the Owner's prior written consent.

10.6 WAGE AND HOURS PROVISIONS

Neither Contractor's employees nor the employees of its Subcontractors may be required or permitted to work more than the number of hours or days, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its Subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law.

10.7 NONDISCRIMINATION REQUIREMENTS

The Contractor shall not discriminate against any employee or applicant for employment because of race, creed, color, sex or national origin. The Contractor shall take affirmative action to insure that all employees are employed, and that employees are treated equally during employment, without regard to their race, creed, color, sex or national origin.
10.8 ARCHAEOLOGICAL SALVAGE

Whenever during the course of construction, historical objects are encountered, such objects shall not be moved or destroyed. Work shall be stopped and re-scheduled to avoid disturbing such areas and the Engineer shall be notified immediately. The Engineer will then contact Louise Basa, Technical Services, New York State Department of Environmental Conservation at 518-457-3811, who will issue instructional procedures which will govern continuation of work in the affected area.
PROPOSAL FOR
TOWN OF POUGHKEEPSIE

ARLINGTON WASTEWATER TREATMENT PLANT
PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT

CONTRACT NO. 2018-05

DIVISION 500
SPECIAL CONDITIONS

PREPARED BY:
ENGINEERING DEPARTMENT
TOWN OF POUGHKEEPSIE
ONE OVEROCKER ROAD
POUGHKEEPSIE, NEW YORK 12603

AUGUST 2018
Division 500, Section 1

USUAL AND CUSTOMARY TOWN NOTES
AND PARTIAL LISTING OF PROJECT REQUIREMENTS
ALL COVERED ELSEWHERE

1. Location - (see Advertisement for Bids and Div. 100, Section 1)

   The Arlington Wastewater Treatment Plant is located at 78 Sand Dock Road on a parcel adjacent to the Dutchess County Resource Recovery facility. The project site is the entire parcel, and includes portions operated by SUEZ and portions operated by the Town of Poughkeepsie Sewer Department.

2. Preconstruction Conference – (see Spec 013000, Part 1, 1.5.B and Div. 500, Section 2)

   Upon issuance of the "Notice to Proceed", the Contractor, the Town Engineer and the SUEZ Plant Manager shall meet to discuss the work.

3. Shop Drawings – (see Div. 100 Section 2 Description of Work, General Conditions Article 3.2 and the Technical Specifications)

   Shop drawings or manufacturer’s cut sheets shall be provided for all products and processes utilized in the work. Specific requirements in Div. 100 Section 2 and in any Technical Specification shall supercede the General Conditions requirements in case of a conflict.

4. Inspections – (see Div. 400, Article 2, para. 2.3)

   The Town Engineer will be inspecting the work.

5. Work – (see Div. 100 Sections 2 and 3)

   It is the intent of this contract that the work shall include all construction as described in Division 100 Sections 2 and 3, as shown on the plans, and as included in the specifications, including all related work that can be reasonably inferred to be required to accomplish the work as described.
6. Staging Area – (see Spec 015000)

No contractor's yard and staging area has been designated, either on the site or on nearby properties. No use of the site for staging is guaranteed, but the Contractor may make independent arrangements with the SUEZ Plant Manager regarding any use of portions of the site operated by SUEZ, and the Contractor may make independent arrangements with the Town of Poughkeepsie Sewer Superintendent regarding any use of portions of the site operated by the Town of Poughkeepsie Sewer Department.

7. Town Permits – (See Div. 500, Section 2)

A Town of Poughkeepsie Building Permit is not required for this contract since the scope of work is repairs.

8. Sanitary facilities – (see Spec 015000)

The showers and changing rooms in the Administrative Building are reserved for SUEZ personnel only. However, as a courtesy to the Contractor, SUEZ may allow limited use of the restrooms in the building. Otherwise, the Contractor shall provide change room, washing facilities and sanitary facilities for his staff and his project workers and all subcontractors.

End of Section
1. Qualifications of Bidder

a. The law requires that contracts for public work in the State of New York be awarded to the lowest responsible bidder as will best promote the public interest. In order to assist the Owner in determining whether the bidder meets this standard, the Owner may require that the three lowest bidders shall submit a statement of qualifications that contains the following:

(1) a statement as to any competitively bid project on which the bidder submitted the low bid but was not awarded a contract, within the previous five years.

(2) a certified financial statement showing assets (including a list of equipment owned by the bidder), liabilities and net worth.

(3) a list of the officers and principals of the bidder, and a list of all subsidiary or affiliated companies in which the bidder's principals have any financial interest.

(4) a list of the number of full time personnel of the bidder and a description of the construction experience of the bidder's principals and supervisory personnel.

(5) a statement as to any projects which the bidder or its predecessors failed to complete or any litigation in which the bidder has been involved within the previous three fiscal years.
(6) a list and description of all contracts completed by the bidder within the previous three fiscal years, including a list of project names, references and telephone numbers,

(7) a list and description of the status of all uncompleted contracts of the bidder.

(8) statements of the bidder's net total billings and average backlogs of uncompleted work on outstanding contracts for each of the previous three fiscal years.

(9) description of experience with projects of comparable size, complexity and cost within the last five years.

(10) disclosure of convictions for violations of any prevailing wage or employment regulations, OSHA requirements, unemployment insurance tax provisions, workers' compensation regulations, or any federal, state or municipal environmental or health laws, codes, rules or regulations.

(11) demonstration of ability and capacity to perform substantial portion of the project with its own forces; identification of all work to be subcontracted, and a list of all proposed subcontractors.

b. Any of the above information (items 1 to 11 inclusive) may also be requested by the Owner with respect to proposed subcontractors.

2. Permits
   a. The Town will not require a building permit since the scope of work for this project is repairs.

   b. Plant Operator permits - The Contractor shall apply to the SUEZ Plant Manager for permits issued daily as needed by the Plant Operator. These include:
a. Spray painting.

b. Confined space.

3. **Contract Administration**

The Contractor shall request complete final contract forms from the Town Engineering Department, complete them and the blank bond forms and return everything to the Supervisor for signature. Note that the date on the bonds shall not be earlier than the date of the Supervisor's signature. Bond Binders may be used until the actual bonds are issued after the Contract is signed by the Supervisor.

One original contract shall be given to the Town Clerk, and a copy shall be given to the Engineer.

The Town will issue a Notice to Proceed upon confirmation from the Attorney to the Town that the contract has been executed all required bonds and insurance certificates have been received. A copy of the Notice to Proceed shall be given to the Engineer.

Upon receipt of the Notice to Proceed, the Contractor shall request to schedule the pre-construction conference. At the meeting, the Contractor will be furnished four sets of plans, specifications and all addenda at no charge. The Contractor may purchase additional plans, specifications, and addenda at the cost to the Town for such materials.

Progress and final payments shall be made in accordance with Division 400 General Conditions Article 8 and Division 600 Section 012900. The applications shall be made on originals of AIA forms, or originals of equivalent forms. All other supporting documentation shall also be on originals of AIA forms or originals of equivalent forms. Applications made on photocopies of copyrighted forms will not be processed.

The Contractor shall not proceed with any work under the contract agreement for which work the Contractor is contemplating claiming
reimbursement, until the Contractor has received both the Executed Contract and a Notice to Proceed from the Town.

4. **Payment for stored or partially installed materials**

   a. The contractor may include as part of a progress payment request an amount to be paid for materials delivered to the site and stored but not installed, or only partially installed and not operational.

   b. If the materials are an integral part of the work identified in a line item on the approved Schedule of Values, and not easily segregated from the work in the line item, the Owner will pay 90% of the value of the stored materials based on a copy of the invoice, for materials that are properly stored on site.

   c. If the material is a single item of equipment or similarly uniquely identified on the approved Schedule of Values, the Owner will pay the greater of 40% of the line item in the approved Schedule of Values, or 90% of the value of the material based on a copy of the invoice, for material that is properly stored on site or partially installed but not operational.

   d. In all cases, the contractor shall provide a release of lien for payment from the materials suppliers as a condition for receiving payment for material stored on site but not incorporated into the work or partially installed but not operational.

   End of Section
1. **Prevailing Wage Rates**
   
a. Attached on the following pages is the Prevailing Wage Rate Schedule for this project.
   
b. Any changes to the Schedule will be issued to prospective bidders by Addenda.
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 2018 through June 2019. 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.state.ny.us. 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: ________________________________________________
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 “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

Contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records. 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 original payrolls or transcripts must be maintained for a period of at least (5) years, by the Department of Jurisdiction (Contracting Agency), from the project's date of completion. 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, by 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, 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.
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:

[ ] (01) General Construction
[ ] (02) Heating/Ventilation
[ ] (03) Electrical
[ ] (04) Plumbing
[ ] (05) Other: _________________________

Approximate Starting Date: ______/_____/_______

Approximate Completion Date: ______/_____/_______

Phone: (518) 457-5589 Fax: (518) 485-1870
W. Averell Harriman State Office Campus, Bldg. 12, Room 130, Albany, NY 12240

www.labor.state.ny.us. PW 16 PWAsk@labor.state.ny.us
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’ concerns with regard to 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.**

**NOTE:** This change does not affect the Department’s ability to request and receive the entire social security number from employers during the course of its public work / prevailing wage investigations.
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 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.
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.

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.state.ny.us.
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 such as
  o unemployment benefits, if unemployed through no fault of your own, able to work, and otherwise qualified
  o workers’ compensation benefits for on-the-job injuries
  o payment for wages earned, minimum wage, and overtime (under certain conditions)
  o prevailing wages on public work projects
  o the provisions of the National Labor Relations Act and
  o 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 required by New York State and Federal Law.

Penalties for paying 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, 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 1(866)435-1499 or send an email to dol.misclassified@labor.state.ny.us. All complaints of fraud and violations are taken seriously and you can remain anonymous.

Employer Name:
WORKER NOTIFICATION

(Labor Law §220, paragraph a of subdivision 3-a)

Effective February 24, 2008

This provision is an addition to the existing prevailing 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 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 particular job classification. The required notification will be provided with each wage schedule, may be downloaded from our website www.labor.state.ny.us or made available upon request by contacting the Bureau of Public Work at 518-457-5589.

* In the event that the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.
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.*

<table>
<thead>
<tr>
<th>Location</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albany</td>
<td>(518) 457-2744</td>
</tr>
<tr>
<td>Binghamton</td>
<td>(607) 721-8005</td>
</tr>
<tr>
<td>Buffalo</td>
<td>(716) 847-7159</td>
</tr>
<tr>
<td>Garden City</td>
<td>(516) 228-3915</td>
</tr>
<tr>
<td>New York City</td>
<td>(212) 932-2419</td>
</tr>
<tr>
<td>Newburgh</td>
<td>(845) 568-5156</td>
</tr>
<tr>
<td>Patchogue</td>
<td>(631) 687-4882</td>
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<tr>
<td>Rochester</td>
<td>(585) 258-4505</td>
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<tr>
<td>Syracuse</td>
<td>(315) 428-4056</td>
</tr>
<tr>
<td>Utica</td>
<td>(315) 793-2314</td>
</tr>
<tr>
<td>White Plains</td>
<td>(914) 997-9507</td>
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</tbody>
</table>

* 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: 

PW 101 (4.15)
OSHA 10-hour Construction Safety and Health Course – S1537-A

Effective July 18, 2008

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, section 220-h. It requires that on all public work projects of at least $250,000.00, all laborers, workers and mechanics working on the site, be certified as having successfully completed the OSHA 10-hour construction safety and health course. It further requires that the advertised bids and contracts for every public work contract of at least $250,000.00, contain a provision of this requirement.

NOTE: The OSHA 10 Legislation only applies to workers on a public work project that are required, under Article 8, to receive the prevailing wage.
Where to find OSHA 10-hour Construction Course

1. NYS Department of Labor website for scheduled outreach training at:
   www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ONSITE_CONSULTATION.shtml

2. OSHA Training Institute Education Centers:

   Rochester Institute of Technology OSHA Education Center
   Rochester, NY
   Donna Winter
   Fax (585) 475-6292
   e-mail: dlwtpo@rit.edu
   (866) 385-7470 Ext. 2919
   www.rit.edu/~outreach/course.php3?CourseID=54

   Atlantic OSHA Training Center
   UMDNJ – School of Public Health
   Piscataway, NJ
   Janet Crooks
   Fax (732) 235-9460
   e-mail: crooksje@umdnj.edu
   (732) 235-9455
   https://ophp.umdnj.edu/wconnect/ShowSchedule.awp?~~GROUP~AOTCON~10~

   Atlantic OSHA Training Center
   University at Buffalo
   Buffalo, New York
   Joe Syracuse
   Fax (716) 829-2806
   e-mail:mailto:japs@buffalo.edu
   (716) 829-2125
   http://www.smbs.buffalo.edu/CENTERS/trc/schedule_OSHA.php

   Keene State College
   Manchester, NH
   Leslie Singleton
   e-mail: lsingleton@keene.edu
   (800) 449-6742
   www.keene.edu/courses/print/courses_osha.cfm

3. List of trainers and training schedules for OSHA outreach training at:
   www.OutreachTrainers.org
Chapter 282 of the Laws of 2007, codified as Labor Law 220-h took effect on July 18, 2008. The statute provides as follows:

The advertised specifications for every contract for public work of $250,000.00 or more 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 of 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 518-485-5696.
WICKS Reform 2008

(For all contracts advertised or solicited for bid on or after 7/1/08)

- Raises the threshold for public work projects subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work. The total project's threshold would increase from $50,000 to: $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 work 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 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.

- Reduces from 15 to 7 days the period in which contractors must pay subcontractors.
IMPORTANT INFORMATION
Regarding Use of Form PW30.1
(Previously 30R)
“Employer Registration for Use of 4 Day / 10 Hour Work Schedule”

To use the ‘4 Day / 10 Hour Work Schedule’:

There MUST be a Dispensation of Hours (PW30) in place on the project

AND

You MUST register your intent to work 4 / 10 hour days, by completing the PW30.1 Form.

REMEMBER...

The ‘4 Day / 10 Hour Work Schedule’ applies ONLY to Job Classifications and Counties listed on the PW30.1 Form.

Do not write in any additional Classifications or Counties.

(Please note: For each Job Classification check the individual wage schedule for specific details regarding their 4/10 hour day posting.)
Instructions for Completing Form PW30.1
(Previously 30R)
"Employer Registration for Use of 4 Day / 10 Hour Work Schedule"

Before completing Form PW30.1 check to be sure …

- There is a Dispensation of Hours in place on the project.
- The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.
- The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

Instructions (Type or Print legibly):

Contractor Information:
- Enter the Legal Name of the business, FEIN, Street Address, City, State, Zip Code; the Company's Phone and Fax numbers; and the Company's email address (if applicable)
- Enter the Name of a Contact Person for the Company along with their Phone and Fax numbers, and the personal email address (if applicable)

Project Information:
- Enter the Prevailing Rate Case number (PRC#) assigned to this project
- Enter the Project Name / Type (i.e. Smithtown CSD – Replacement of HS Roof)
- Enter the Exact Location of Project (i.e. Smithtown HS, 143 County Route #2, Smithtown, NY; Bldgs. 1 & 2)
- If you are a Subcontractor, enter the name of the Prime Contractor for which you work
- On the Checklist of Job Classifications -
  - Go to pages 2 and 3 of the form
  - Place a checkmark in the box to the right of the Job Classification you are choosing
  - Mark all Job Classifications that apply
    ***Do not write in any additional Classifications or Counties.***

Requestor Information:
- Enter the name of the person submitting the registration, their title with the company, and the date the registration is filled out

Return Completed Form:
- **Mail** the completed PW30.1 form to: NYSDOL Bureau of Public Work, SOBC – Bldg.12 – Rm.130, Albany, NY 12240  -OR- 
- **Fax** the completed PW30.1 form to: NYSDOL Bureau of Public Work at (518)485-1870
Employer Registration for Use of 4 Day / 10 Hour Work Schedule

Before completing this form, make sure that:

- There is a Dispensation of Hours in place on the project.
- The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.
- The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

Please type or print the requested information and then mail or fax to the address above.

Contractor Information

Company Name: ___________________________ FEIN: ____________
Address: ____________________________
City: __________________ State: ________ Zip Code: _______
Phone No: __________ Fax No: __________ Email: ________________
Contact Person: ____________________________
Phone No: __________ Fax No: __________ Email: ________________

Project Information

Project PRC#: ____________________________ Project Name/Type: ____________________________

Exact Location of Project: ____________________________ County: ____________________________

(If you are Subcontractor)
Prime Contractor Name: ___________________________

Job Classification(s) to Work 4/10 Schedule:  (Choose all that apply on Job Classification Checklist - Pages 3-8)
*** Do not write in any additional Classifications or Counties***

Requestor Information

Name: ____________________________
Title: ____________________________ Date: ____________________________
Please use the list below with the number assigned to each county as a reference to the corresponding numbers listed in the following pages under Entire Counties & Partial Counties.

1. Albany County
2. Allegany County
3. Bronx County
4. Broome County
5. Cattaraugus County
6. Cayuga County
7. Chautauqua County
8. Chemung County
9. Chenango County
10. Clinton County
11. Columbia County
12. Cortland County
13. Delaware County
14. Dutchess County
15. Erie County
16. Essex County
17. Franklin County
18. Fulton County
19. Genesee County
20. Greene County
21. Hamilton County
22. Herkimer County
23. Jefferson County
24. Kings County (Brooklyn)
25. Lewis County
26. Livingston County
27. Madison County
28. Monroe County
29. Montgomery County
30. Nassau County
31. New York County (Manhattan)
32. Niagara County
33. Oneida County
34. Onondaga County
35. Ontario County
36. Orange County
37. Orleans County
38. Oswego County
39. Otsego County
40. Putnam County
41. Queens County
42. Rensselaer County
43. Richmond County (Staten Island)
44. Rockland County
45. Saint Lawrence County
46. Saratoga County
47. Schenectady County
48. Schoharie County
49. Schuyler County
50. Seneca County
51. Steuben County
52. Suffolk County
53. Sullivan County
54. Tioga County
55. Tompkins County
56. Ulster County
57. Warren County
58. Washington County
59. Wayne County
60. Westchester County
61. Wyoming County
62. Yates County
### Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

*** Do not write in any additional Classifications or Counties***

<table>
<thead>
<tr>
<th>Job Classification</th>
<th>Tag #</th>
<th>Entire Counties</th>
<th>Partial Counties</th>
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<td>276B-All</td>
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<td>2, 5</td>
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<td>276B-Cat</td>
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</tbody>
</table>
# Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

*** Do not write in any additional Classifications or Counties***

<table>
<thead>
<tr>
<th>Job Classification</th>
<th>Tag #</th>
<th>Entire Counties</th>
<th>Partial Counties</th>
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</table>
## Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

*** Do not write in any additional Classifications or Counties***

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<thead>
<tr>
<th>Job Classification</th>
<th>Tag #</th>
<th>Entire Counties</th>
<th>Partial Counties</th>
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<td>19, 26, 28, 35, 50, 59, 61, 62</td>
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<tr>
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<td>3B-Bing-Z2</td>
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<td>3B-Z3R</td>
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<td>3TF-Z3R</td>
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<td>5</td>
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<tr>
<td>Mason – Tile Setter</td>
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<tr>
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<tr>
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<td>3TS-Z3</td>
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<td>Mason – Tile Setter Residential</td>
<td>3TS-Z3R</td>
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<td>Mason – Building/Heavy &amp; Highway</td>
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<td>3, 24, 30, 31, 41, 43, 52</td>
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<td>137H/H</td>
<td>40, 60</td>
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<tr>
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<td>1456-LS</td>
<td>1, 3, 10, 11, 14, 16, 17, 18, 20, 21, 24, 29, 30, 31, 36, 40, 41, 42, 43, 44, 46, 47, 48, 52, 53, 56, 57, 58, 59, 60</td>
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<td>28, 59, 62</td>
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## Job Classification Checklist

(Place a checkmark by all classifications that will be using the 4/10 schedule)

*** Do not write in any additional Classifications or Counties***

<table>
<thead>
<tr>
<th>Job Classification</th>
<th>Tag #</th>
<th>Entire Counties</th>
<th>Partial Counties</th>
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<td>4, 9, 54</td>
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<td>Painter 178 E</td>
<td>8, 49</td>
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<tr>
<td>Painter 178 I</td>
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<td></td>
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<tr>
<td>Painter 178 O</td>
<td>13, 39</td>
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<td>Painter 31</td>
<td>6, 22, 27, 33, 34, 50</td>
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<td>25, 35, 38</td>
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<tr>
<td>Painter 38.O</td>
<td>38</td>
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<tr>
<td>Painter 38.W</td>
<td>23, 45</td>
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<td>25</td>
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<td>Painter 4-Buf,Nia,Olean</td>
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<td>5, 7, 26, 51</td>
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<td>Painter 4-Jamestown</td>
<td>4-Jamestown</td>
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<td>5, 7</td>
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<tr>
<td>Sheetmetal Worker 46</td>
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<tr>
<td>Sheetmetal Worker 46r</td>
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<tr>
<td>Teamsters – Heavy &amp; Highway 294h/h</td>
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<td>57</td>
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<tr>
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<td>456</td>
<td>40, 60</td>
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</tbody>
</table>
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 that 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.state.ny.us) for current wage rate information.

Apprentice Training Ratios

The following are the allowable ratios of registered Apprentices to Journey-workers.

For example, the ratio 1:1.1:1.3 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.
<table>
<thead>
<tr>
<th>Title (Trade)</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boilermaker (Construction)</td>
<td>1:1:1:4</td>
</tr>
<tr>
<td>Boilermaker (Shop)</td>
<td>1:1:1:3</td>
</tr>
<tr>
<td>Carpenter (Bldg., H&amp;H, Pile Driver/Dockbuilder)</td>
<td>1:1:1:4</td>
</tr>
<tr>
<td>Carpenter (Residential)</td>
<td>1:1:1:3</td>
</tr>
<tr>
<td>Electrical (Outside) Lineman</td>
<td>1:1:1:2</td>
</tr>
<tr>
<td>Electrician (Inside)</td>
<td>1:1:1:3</td>
</tr>
<tr>
<td>Elevator/Escalator Construction &amp; Modernizer</td>
<td>1:1:1:2</td>
</tr>
<tr>
<td>Glazier</td>
<td>1:1:1:3</td>
</tr>
<tr>
<td>Insulation &amp; Asbestos Worker</td>
<td>1:1:1:3</td>
</tr>
<tr>
<td>Iron Worker</td>
<td>1:1:1:4</td>
</tr>
<tr>
<td>Laborer</td>
<td>1:1:1:3</td>
</tr>
<tr>
<td>Mason</td>
<td>1:1:1:4</td>
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<tr>
<td>Millwright</td>
<td>1:1:1:4</td>
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<td>Op Engineer</td>
<td>1:1:1:5</td>
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<tr>
<td>Painter</td>
<td>1:1:1:3</td>
</tr>
<tr>
<td>Plumber &amp; Steamfitter</td>
<td>1:1:1:3</td>
</tr>
<tr>
<td>Roofer</td>
<td>1:1:1:2</td>
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<tr>
<td>Sheet Metal Worker</td>
<td>1:1:1:3</td>
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<tr>
<td>Sprinkler Fitter</td>
<td>1:1:1:2</td>
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</table>

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:

<table>
<thead>
<tr>
<th>Bureau of Public Work - Location</th>
<th>Telephone #</th>
<th>FAX #</th>
</tr>
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<tbody>
<tr>
<td>Bureau of Public Work - Buffalo</td>
<td>716-847-7159</td>
<td>716-847-7650</td>
</tr>
<tr>
<td>Bureau of Public Work - Garden City</td>
<td>516-228-3915</td>
<td>516-794-3518</td>
</tr>
<tr>
<td>Bureau of Public Work - Newburgh</td>
<td>845-568-5287</td>
<td>845-568-5332</td>
</tr>
<tr>
<td>Bureau of Public Work - New York City</td>
<td>212-932-2419</td>
<td>212-775-3579</td>
</tr>
<tr>
<td>Bureau of Public Work - Patchogue</td>
<td>631-687-4882</td>
<td>631-687-4902</td>
</tr>
<tr>
<td>Bureau of Public Work - Rochester</td>
<td>585-258-4505</td>
<td>585-258-4708</td>
</tr>
<tr>
<td>Bureau of Public Work - Syracuse</td>
<td>315-428-4056</td>
<td>315-428-4671</td>
</tr>
<tr>
<td>Bureau of Public Work - Utica</td>
<td>315-793-2314</td>
<td>315-793-2514</td>
</tr>
<tr>
<td>Bureau of Public Work - White Plains</td>
<td>914-997-9507</td>
<td>914-997-9523</td>
</tr>
<tr>
<td>Bureau of Public Work - Central Office</td>
<td>518-457-5589</td>
<td>518-485-1870</td>
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</tbody>
</table>
### Boilermaker

#### JOB DESCRIPTION
Boilermaker

#### ENTIRE COUNTIES
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

#### WAGES

<table>
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<tr>
<th></th>
<th>Per Hour:</th>
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<tbody>
<tr>
<td></td>
<td>07/01/2018</td>
<td>01/01/2019</td>
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<tr>
<td>Boilermaker</td>
<td>$57.17</td>
<td>$59.17</td>
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<tr>
<td>Repairs &amp; Renovations</td>
<td>$57.17</td>
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#### SUPPLEMENTAL BENEFITS

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<tr>
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<td>07/01/2018</td>
<td>01/01/2019</td>
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</tr>
<tr>
<td>Boilermaker</td>
<td>32% of hourly</td>
<td>32% of hourly</td>
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</tr>
<tr>
<td>Repair &amp; Renovations</td>
<td>Wage Paid</td>
<td>Wage Paid</td>
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<tr>
<td></td>
<td>+ $25.32</td>
<td>+ $25.35</td>
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**NOTE:** "Hourly Wage Paid" shall include any and all premium(s) pay.

Repairs & Renovation Includes replacement of parts and repairs & renovation of existing unit.

#### OVERTIME PAY

See (D, O) on OVERTIME PAGE

Repairs & Renovation see (B,E,Q)

#### HOLIDAY

Paid: See (8, 16, 23, 24) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 12, 15, 16, 22, 23, 24, 25) on HOLIDAY PAGE

**NOTE:** *Employee must work in pay week to receive Holiday Pay.

**Employee gets 4 times the hourly wage rate for working Labor Day.*

### REGISTERED APPRENTICES

Wage per hour:

(1/2) Year Terms at the following percentage of Boilermaker's Wage

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
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</thead>
<tbody>
<tr>
<td>%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
<td>90%</td>
<td>95%</td>
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Supplemental Benefits Per Hour:

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<th>01/01/2019</th>
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<tbody>
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<td>Apprentice(s)</td>
<td>32% of Hourly</td>
<td>32% of Hourly</td>
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<tr>
<td></td>
<td>Wage Paid</td>
<td>Wage Paid</td>
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<tr>
<td></td>
<td>Amount Below</td>
<td>Amount Below</td>
</tr>
<tr>
<td>1st Term</td>
<td>$19.37</td>
<td>$19.38</td>
</tr>
<tr>
<td>2nd Term</td>
<td>20.22</td>
<td>20.24</td>
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<tr>
<td>3rd Term</td>
<td>21.06</td>
<td>21.08</td>
</tr>
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<td>4th Term</td>
<td>21.92</td>
<td>21.94</td>
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<td>5th Term</td>
<td>22.77</td>
<td>22.79</td>
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<td>6th Term</td>
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<tr>
<td>7th Term</td>
<td>24.46</td>
<td>24.49</td>
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</table>

**NOTE:** "Hourly Wage Paid" shall include any and all premium(s)

---

### Carpenter

#### JOB DESCRIPTION
Carpenter

#### ENTIRE COUNTIES
Dutchess

#### PARTIAL COUNTIES

---
Orange: The territory west demarcated by a line drawn from the Bear Mountain Bridge continuing east to the Bear Mountain Circle. The territory south demarcated by a line continuing north on 9W to the town of Cornwall where County Road 107 (also known as Quaker Rd) crosses under 9W to the centerline of Route 32. The territories south and east heading 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**

Per hour: 07/01/2018

<table>
<thead>
<tr>
<th>Craft</th>
<th>Rate</th>
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<tbody>
<tr>
<td>Carpet/Resilient Floor Coverer</td>
<td>$31.57</td>
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**Includes Handling & Installation of Artificial Turf and Similar Turf Indoors/Outdoors.**

**Supplemental Benefits**

Per hour: $29.12

**Overtime Pay**

See (B, E, Q) on OVERTIME PAGE

**Holiday**

Paid: See (18, 19) on HOLIDAY PAGE

Paid for 1st & 2nd yr.

Apprentices: See (5, 6, 11, 13, 16, 18, 19, 25)

Overtime: See (5, 6, 11, 13, 16, 18, 19, 25) on HOLIDAY PAGE.

**Registered Apprentices**

Wages per hour - (1) year terms:

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<th>Wage per hour</th>
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<td>2nd</td>
<td>$17.98</td>
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<td>3rd</td>
<td>$20.97</td>
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<td>4th</td>
<td>$23.97</td>
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</table>

Supplemental Benefits per hour - All apprentice terms:

$18.67

**Carpenter**

**Job Description** Carpenter

**District** 8

**Entire Counties**

Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

**Wages**

Per Hour: 07/01/2018

Marine Construction:

<table>
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<tr>
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<td>Marine Diver</td>
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<tr>
<td>Marine Tender</td>
<td>48.24</td>
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**Supplemental Benefits**

Per Hour:

Journeyman $50.62

**Overtime Pay**

See (B, E, E2, Q) on OVERTIME PAGE

**Holiday**

Paid: See (18, 19) on HOLIDAY PAGE

Overtime: See (5, 6, 10, 11, 13, 16, 18, 19) on HOLIDAY PAGE

**Registered Apprentices**

Wages per hour:

One (1) year terms.

<table>
<thead>
<tr>
<th>Term</th>
<th>Wage per hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>$21.45</td>
</tr>
<tr>
<td>2nd</td>
<td>26.82</td>
</tr>
<tr>
<td>3rd</td>
<td>34.86</td>
</tr>
<tr>
<td>4th</td>
<td>42.90</td>
</tr>
</tbody>
</table>
Supplemental Benefits
Per Hour:

All terms $ 33.49

Carpenter 08/01/2018

JOB DESCRIPTION Carpenter
DISTRICT 8

ENTIRE COUNTIES Dutchess, Orange

WAGES
Per hour: 07/01/2018

Building: $ 41.85

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman $ 39.66

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
HOLIDAY:
Paid: See (18,19) on HOLIDAY PAGE.
Paid: See (5,6,11,13,16,18,19,25) for 1st & 2nd yr. Apprentices
Overtime: See (5,6,11,13,16,18,19,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES
Wages per hour:

One (1) year terms:

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>$22.49</td>
<td>$26.58</td>
<td>$30.67</td>
<td>$38.85</td>
</tr>
</tbody>
</table>

Supplemental benefits per hour:

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>$27.28</td>
<td>$29.56</td>
<td>$32.34</td>
<td>$36.41</td>
</tr>
</tbody>
</table>

Carpenter - Building / Heavy&Highway 08/01/2018

JOB DESCRIPTION Carpenter - Building / Heavy&Highway
DISTRICT 11

ENTIRE COUNTIES Columbia, Dutchess, Orange, Sullivan, Ulster

WAGES
WAGES:(per hour) 07/01/2018 01/01/2019

Carpenter, Dockbuilder, $ 32.54 plus $ 0.80
Piledriver, Dive Tender, + 4.65* to be allocated
and Diver (Dry)

Diver (Wet) $ 50.00 + 4.65*

* Amount paid on all hours not subject to overtime premium
SHIFT DIFFERENTIAL: When mandated by a Government Agency irregular or off shift can be worked. The Carpenter shall receive an additional fifteen (15) percent of wage plus applicable benefits.

NOTE: Carpenters employed in the removal or abatement of asbestos or any toxic or hazardous material or required to work near asbestos or any toxic or hazardous material and required to wear protective equipment shall receive two (2) hours extra pay per day, plus applicable benefits.

SUPPLEMENTAL BENEFITS
Per hour:
Journeyworker $ 27.16

OVERTIME PAY
BUILDING:
See (B, E, Q) on OVERTIME PAGE.

HEAVY/HIGHWAY:
See (B, E, P, *R, **T, X) on OVERTIME PAGE.
*R applies to Heavy/Highway Overtime Holiday Code 25 with benefits at straight time rate.
**T applies to Heavy/Highway Overtime Holiday Codes 5 & 6 with benefits at straight time rate.

HOLIDAY
BUILDING:
Paid: See (1) on HOLIDAY PAGE.
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE.
Holidays that fall on Saturday will be observed Friday. Holidays that fall on Sunday will be observed Monday.

HEAVY/HIGHWAY:
Paid: See (5, 6, 25) on HOLIDAY PAGE including benefits.
Overtime: See (5, 6, 25) on HOLIDAY PAGE.

REGISTERED APPRENTICES
1 Year terms at the following wage rates.

Indentured after July 1 2016

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
</tr>
</thead>
<tbody>
<tr>
<td>$16.27</td>
<td>$19.52</td>
<td>$21.15</td>
<td>$22.78</td>
<td>$26.03</td>
</tr>
<tr>
<td>+ 2.55*</td>
<td>+ 2.55*</td>
<td>+ 2.55*</td>
<td>+ 2.55*</td>
<td>+ 2.55*</td>
</tr>
</tbody>
</table>

Indentured before July 1 2016

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
</tr>
</thead>
<tbody>
<tr>
<td>$16.27</td>
<td>$19.52</td>
<td>$22.78</td>
<td>$26.03</td>
</tr>
<tr>
<td>+ 2.55*</td>
<td>+ 2.55*</td>
<td>+ 2.55*</td>
<td>+ 2.55*</td>
</tr>
</tbody>
</table>

*Amount paid on all hours not subject to overtime premiums

SUPPLEMENTAL BENEFITS per hour:

All terms $ 16.03

11-279.2B/H&H

Electrician

08/01/2018

JOB DESCRIPTION Electrician

ENTIRE COUNTIES Orange, Putnam, Rockland

PARTIAL COUNTIES Dutchess: Towns of Fishkill, East Fishkill, and Beacon.

WAGES
Per hour:

<table>
<thead>
<tr>
<th>07/01/2018</th>
<th>04/01/2019</th>
<th>04/01/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrician Wireman/Technician</td>
<td>$ 44.00</td>
<td>$ 45.00</td>
</tr>
</tbody>
</table>

SHIFT DIFFERENTIAL: On Public Work in New York State when shift work is mandated either in the job specifications or by the contracting agency, the following rates apply:

Shift worked between 4:30pm & 12:30am $ 51.63 $ 52.80 $ 53.97
Shift worked between 12:30am & 8:30am $ 57.83 $ 59.14 $ 60.46

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (subject to overtime premiums):
- On jobs where employees are required to work from boatswain chairs, swinging scaffolds, etc., forty (40) feet or more above the ground, or under compressed air, using Scottair packs, gas masks or in shafts or tunnels, they shall receive an additional $2.00 per hour above the regular straight time rate.
- Journeyman Wireman when performing welding or cable splicing: $2.00 above the Journeyman Wireman rate of pay.
- Journeyman Wireman required to have a NYS Asbestos Certificate: $2.00 above the Journeyman Wireman rate of pay.
- Journeyman Wireman required to have a CDL: $2.00 above the Journeyman Wireman rate of pay.

SUPPLEMENTAL BENEFITS

Per hour:

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>04/01/2019</th>
<th>04/01/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journeyman</td>
<td>$ 28.60 plus</td>
<td>$ 31.02 plus</td>
<td>$ 32.38 plus</td>
</tr>
<tr>
<td></td>
<td>3% of straight or premium wage</td>
<td>3% of straight or premium wage</td>
<td>3% of straight or premium wage</td>
</tr>
</tbody>
</table>

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 13, 15, 16, 25) on HOLIDAY PAGE

When the holiday falls on a Saturday it is observed the Friday before. When the holiday falls on a Sunday it is observed on the Monday after.

REGISTERED APPRENTICES

Wages:
(1)year terms at the following rates

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/01/2018</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Shift</td>
<td>$12.60</td>
<td>$16.80</td>
<td>$21.00</td>
<td>$25.20</td>
<td>$29.40</td>
<td>$31.50</td>
</tr>
<tr>
<td>2nd Shift</td>
<td>$13.44</td>
<td>$17.92</td>
<td>$22.40</td>
<td>$26.88</td>
<td>$31.36</td>
<td>$33.60</td>
</tr>
<tr>
<td>3rd Shift</td>
<td>$14.40</td>
<td>$19.20</td>
<td>$24.00</td>
<td>$28.80</td>
<td>$33.60</td>
<td>$36.00</td>
</tr>
</tbody>
</table>

04/01/2019

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Shift</td>
<td>$12.90</td>
<td>$17.20</td>
<td>$21.50</td>
<td>$25.80</td>
<td>$30.10</td>
<td>$32.25</td>
</tr>
<tr>
<td>2nd Shift</td>
<td>$13.76</td>
<td>$18.35</td>
<td>$22.93</td>
<td>$27.52</td>
<td>$32.10</td>
<td>$34.40</td>
</tr>
<tr>
<td>3rd Shift</td>
<td>$14.74</td>
<td>$19.66</td>
<td>$24.57</td>
<td>$29.49</td>
<td>$34.40</td>
<td>$36.86</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour:

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st term</td>
<td>$ 14.92 plus 3% of straight or premium wage</td>
</tr>
<tr>
<td>2nd term</td>
<td>$ 16.42 plus 3% of straight or premium wage</td>
</tr>
<tr>
<td>3rd term</td>
<td>$ 18.42 plus 3% of straight or premium wage</td>
</tr>
<tr>
<td>4th term</td>
<td>$ 19.92 plus 3% of straight or premium wage</td>
</tr>
<tr>
<td>5th &amp; 6th term</td>
<td>$ 21.92 plus 3% of straight or premium wage</td>
</tr>
</tbody>
</table>

11-363/1

Electrician

<table>
<thead>
<tr>
<th></th>
<th>08/01/2018</th>
</tr>
</thead>
</table>

JOB DESCRIPTION Electrician

ENTIRE COUNTIES
Sullivan, Ulster

PARTIAL COUNTIES
Delaware: Only in the Townships of Andes, Harpersfield, Kortwright, Stamford, Bovina, Roxbury, Middletown and those portions of Colchester and Hancock south of the East Branch of the Delaware River.
Dutchess: All of the county except for the towns of Fishkill, East Fishkill, and Beacon.
Greene: That portion of the county south of a line following the south limits of the city of Catskill in a Westerly direction from the Hudson River to Highway 23A along 23A to the road following the Little Westkill and continuing along this road to Delaware County.

WAGES
Per hour:

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>04/01/2019</th>
<th>04/01/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrician Wireman/ Technician</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SHIFT DIFFERENTIAL: On Public Work in New York State when shift work is mandated either in the job specifications or by the contracting agency, the following rates apply:

Shift worked between 4:30pm & 12:30am
Electrical/Techincian Projects
under $ 250,000.00 $ 46.93 $ 48.11 $ 49.28
over $ 250,000.00 $ 51.63 $ 52.80 $ 53.97

Shift worked between 12:30am & 8:30am
Electrical/Techincian Projects
under $ 250,000.00 $ 52.57 $ 53.88 $ 55.20
over $ 250,000.00 $ 57.83 $ 59.14 $ 60.46

NOTE ADDITIONAL AMOUNTS PAID FOR THE FOLLOWING WORK LISTED BELOW (subject to overtime premiums):
- On jobs where employees are required to work from boatswain chairs, swinging scaffolds, etc., forty (40) feet or more above the ground, or under compressed air, using Scottair packs, gas masks or in shafts or tunnels, they shall receive an additional $2.00 per hour above the regular straight time rate.
- Journeyman Wireman when performing welding or cable splicing: $2.00 above the Journeyman Wireman rate of pay
- Journeyman Wireman required to have a NYS Asbestos Certificate: $2.00 above the Journeyman Wireman rate of pay
- Journeyman Wireman required to have a CDL: $2.00 above the Journeyman Wireman rate of pay.

SUPPLEMENTAL BENEFITS
Per hour: 07/01/2018 04/01/2019 04/01/2020
Journeyman $ 28.60 plus $ 31.02 plus $ 32.38 plus
3% of straight or premium wage or premium wage or premium wage

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 13, 15, 16, 25) on HOLIDAY PAGE
When the holiday falls on a Saturday it is observed the Friday before. When the holiday falls on a Sunday it is observed on the Monday after.

REGISTERED APPRENTICES
Wages: (6) 1 year terms at the following rates

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/01/18</td>
<td>$12.60</td>
<td>$16.80</td>
<td>$21.00</td>
<td>$25.20</td>
<td>$29.40</td>
<td>$31.50</td>
</tr>
<tr>
<td>2nd Shift</td>
<td>$13.44</td>
<td>$17.92</td>
<td>$22.40</td>
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<td>$19.20</td>
<td>$24.00</td>
<td>$28.80</td>
<td>$33.60</td>
<td>$36.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
</tr>
</thead>
<tbody>
<tr>
<td>04/01/19</td>
<td>$12.90</td>
<td>$17.20</td>
<td>$21.50</td>
<td>$25.80</td>
<td>$30.10</td>
<td>$32.25</td>
</tr>
<tr>
<td>2nd Shift</td>
<td>$13.76</td>
<td>$18.35</td>
<td>$22.93</td>
<td>$27.52</td>
<td>$32.10</td>
<td>$34.40</td>
</tr>
<tr>
<td>3rd Shift</td>
<td>$14.74</td>
<td>$19.66</td>
<td>$24.57</td>
<td>$29.49</td>
<td>$34.40</td>
<td>$36.86</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour: 07/01/2018

1st term $ 14.92 plus 3% of straight or premium wage
2nd term $ 16.42 plus 3% of straight or premium wage
3rd term $ 18.42 plus 3% of straight or premium wage
4th term $ 19.92 plus 3% of straight or premium wage
5th & 6th term $ 21.92 plus 3% of straight or premium wage

Elevator Constructor 08/01/2018

JOB DESCRIPTION Elevator Constructor

ENTIRE COUNTIES
Columbia, Dutchess, Greene, Orange, Putnam, Sullivan, Ulster

PARTIAL COUNTIES
Delaware: Towns of Andes, Bovina, Colchester, Davenport, Delhi, Harpersfield, Hemdon, Kortright, Meredith, Middletown, Roxbury, Hancock & Stamford
Rockland: Only the Township of Stony Point

WAGES
Per Hour

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>01/01/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanic</td>
<td>$ 56.75</td>
<td>$ 58.57</td>
</tr>
<tr>
<td>Helper</td>
<td>70% of Mechanic Wage Rate</td>
<td>70% of Mechanic Wage Rate</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>01/01/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journeyman/Helper</td>
<td>$ 32.645*</td>
<td>$ 33.705*</td>
</tr>
</tbody>
</table>

(*)Plus 6% of regular hourly if less than 5 years of service. Plus 8% of regular hourly rate if more than 5 years of service.

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
Note: When a paid holiday falls on Saturday, it shall be observed on Friday. When a paid holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES
Wages per hour:
0-6 mo* 6-12 mo 2nd yr 3rd yr 4th yr
50 % 55 % 65 % 70 % 80 %

(*)Plus 6% of the hourly rate, no additional supplemental benefits.

Supplemental Benefits per hour worked:

Same as Journeyman/Helper

--

Glazier

JOB DESCRIPTION Glazier

ENTIRE COUNTIES
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES
Per hour: 07/01/2018 11/01/2018

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>11/01/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glazier</td>
<td>$ 54.75</td>
<td>+ additional</td>
</tr>
<tr>
<td>*Scaffolding</td>
<td>55.75</td>
<td>$ 1.25</td>
</tr>
</tbody>
</table>

**Repair & Maintenance $ 28.16

*Scaffolding includes swing scaffold, mechanical equipment, scissor jacks, man lifts, booms & buckets 24’ or more, but not pipe scaffolding.

**Repair & Maintenance- All repair & maintenance work on a particular building, whenever performed, where the total cumulative contract value is under $100,000. All Glass tinting, window film, regardless of material or intended use, and all affixing of decals to windows or glass.

SUPPLEMENTAL BENEFITS
Per hour:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Journeyworker</td>
<td>$ 32.39</td>
</tr>
<tr>
<td>Repair &amp; Maintenance</td>
<td>18.64</td>
</tr>
</tbody>
</table>

OVERTIME PAY
See (C*, D* E2, O) on OVERTIME PAGE. (Premium is applied to the respective base wage only.)
* If an optional 8th hour is required to complete the entire project, the same shall be paid at the regular rate of pay. If a 9th hour is worked, then both hours or more (8th & 9th or more) will be paid at double time rate of pay.

For ‘Repair & Maintenance’ see (B, B2, F, P) on overtime page.

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (4, 6, 16, 25) on HOLIDAY PAGE
For ‘Repair & Maintenance’ see (5, 6, 16, 25)

**REGISTERED APPRENTICES**
Wage per hour:
(1) year terms at the following wage rates:

<table>
<thead>
<tr>
<th>Term</th>
<th>07/01/2018</th>
<th>11/01/2018</th>
<th>TBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st term</td>
<td>$ 18.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd term</td>
<td>26.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd term</td>
<td>32.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th term</td>
<td>43.57</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Supplemental Benefits:
(Per hour)
<table>
<thead>
<tr>
<th>Term</th>
<th>07/01/2018</th>
<th>11/01/2018</th>
<th>TBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st term</td>
<td>$ 15.76</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd term</td>
<td>21.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd term</td>
<td>23.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th term</td>
<td>27.96</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8-1281 (DC9 NYC)

**Insulator - Heat & Frost**

**JOB DESCRIPTION**
Insulator - Heat & Frost

**DISTRICT**
8

**ENTIRE COUNTIES**
Dutchess, Orange, Putnam, Rockland, Westchester

**WAGES**
Per hour: 07/01/2018

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulator</td>
<td>$ 52.65</td>
</tr>
<tr>
<td>Discomfort &amp;</td>
<td>$ 55.59</td>
</tr>
<tr>
<td>Additional Training**</td>
<td>$ 28.17</td>
</tr>
</tbody>
</table>

* Applies on all exclusive Fire Stop Work (When contract is for Fire Stop work only). No apprentices on these contracts only.

**Applies to work requiring; garb or equipment worn against the body not customarily worn by insulators; psychological evaluation; special training, including but not limited to “Yellow Badge” radiation training.

Note: Additional $0.50 per hour for work 30 feet or more above floor or ground level.

**SUPPLEMENTAL BENEFITS**
Per hour:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Journeyworker</td>
<td>$ 32.70</td>
</tr>
<tr>
<td>Discomfort &amp;</td>
<td></td>
</tr>
<tr>
<td>Additional Training</td>
<td>$ 34.62</td>
</tr>
</tbody>
</table>

**FIRE STOP WORK**
Journeyworker $ 16.70

**OVERTIME PAY**
See (B, E, E2, Q, *T) on OVERTIME PAGE

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Note: Last working day preceding Christmas and New Years day, workers shall work no later than 12:00 noon and shall receive 8 hrs pay.

Overtime: See (2, 4, 6, 16, 25) on HOLIDAY PAGE.
*Note: Labor Day triple time if worked.

REGISTERED APPRENTICES
(1) year terms:

Insulator Apprentices:

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>23.27</td>
<td>28.17</td>
<td>37.96</td>
<td>42.87</td>
</tr>
</tbody>
</table>

Discomfort & Additional Training Apprentices:

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>24.65</td>
<td>29.64</td>
<td>40.02</td>
<td>45.22</td>
</tr>
</tbody>
</table>

Supplemental Benefits paid per hour:

Insulator Apprentices:

<table>
<thead>
<tr>
<th></th>
<th>1st term</th>
<th>2nd term</th>
<th>3rd term</th>
<th>4th term</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>13.50</td>
<td>16.70</td>
<td>23.10</td>
<td>26.30</td>
</tr>
</tbody>
</table>

Discomfort & Additional Training Apprentices:

<table>
<thead>
<tr>
<th></th>
<th>1st term</th>
<th>2nd term</th>
<th>3rd term</th>
<th>4th term</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>14.27</td>
<td>17.66</td>
<td>24.44</td>
<td>27.83</td>
</tr>
</tbody>
</table>

JOB DESCRIPTION  
Ironworker  
DUTCHVEN COUNTIES  
Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster  
WAGES  
Per hour:

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>07/01/2019</th>
<th>07/01/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>$ 46.68</td>
<td>$ 2.15</td>
<td>$ 2.15</td>
</tr>
<tr>
<td>Reinforcing*</td>
<td>46.68</td>
<td>2.15</td>
<td>2.15</td>
</tr>
<tr>
<td>Ornamental</td>
<td>46.68</td>
<td>2.15</td>
<td>2.15</td>
</tr>
<tr>
<td>Chain Link Fence</td>
<td>46.68</td>
<td>2.15</td>
<td>2.15</td>
</tr>
</tbody>
</table>

*NOTE: For Reinforcing classification ONLY, Ironworker 4-46Reinf rates apply in Rockland County's southern section (south of Convent Road and east of Blue Hills Road).

On Government Mandated Irregular Work Days or Shift Work, the following wage will be paid:

<table>
<thead>
<tr>
<th></th>
<th>1st Shift</th>
<th>2nd Shift</th>
<th>3rd Shift</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>46.68</td>
<td>59.46</td>
<td>63.71</td>
</tr>
</tbody>
</table>

SUPPLEMENTAL BENEFITS  
Per hour:

Journeyman  $ 38.49

OVERTIME PAY  
See (B1, Q, V) on OVERTIME PAGE  
HOLIDAY  
Paid: See (1) on HOLIDAY PAGE  
Overtime: See (5, 6, 16) on HOLIDAY PAGE  
If a holiday falls on Saturday, it will be observed Friday. If a holiday falls on Sunday, it will be observed Monday.

REGISTERED APPRENTICES  
Wages:

(1) year terms at the following wage:

<table>
<thead>
<tr>
<th></th>
<th>1st yr</th>
<th>2nd yr</th>
<th>3rd yr</th>
<th>4th yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Shift</td>
<td>$23.34</td>
<td>$28.01</td>
<td>$32.68</td>
<td>$37.34</td>
</tr>
</tbody>
</table>
2nd Shift
31.76  37.30  42.84  48.37
3rd Shift
34.57  40.40  46.23  52.05

Supplemental Benefits per hour:

1st year $ 32.80
2nd year  33.93
3rd year  35.07
4th year  36.21

11-417

Laborer - Building
08/01/2018

JOB DESCRIPTION  Laborer - Building
DISTRICT  8

ENTIRE COUNTIES
Dutchess

PARTIAL COUNTIES
Columbia: Only the Townships of Ancram, Claverack, Clermont, Copake, Gallatin, Germantown, Greenport, Hillsdale, Hudson, Livingston, Philmont and Taconic.

WAGES
GROUP # 1:
All Laborers except those listed in Group 2

GROUP # 2:
Blaster, Laser Beam Oper., Asphalt Rakers, & Drilling Equipment Only Where a Separate Air Compressor Unit Supplies Power

WAGES per hour
07/01/2018

GROUP # 1  $ 31.70*
GROUP # 2  34.05*

*Subtract $ 4.50 to calculate overtime premium

Note: Any job requiring Hazwopper Certification will pay $1.00 above job classification wage rate.

SUPPLEMENTAL BENEFITS
Per hour:
Journeyman $ 27.40

OVERTIME PAY
See (B, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: Whenever a holidays falls on Sunday, it will be observed on the following Monday.

REGISTERED APPRENTICES
Wages per hour: 07/01/2018

1000 Hour terms

1st term  $ 19.00
2nd term  22.95
3rd term  27.00
4th term  31.00
5th term  31.70

Note: Any job requiring Hazwopper Certification will pay $1.00 above job classification wage rate.

Supplemental Benefits per hour:

1st term  $ 13.45
2nd term  15.50
3rd term  17.00
4th term  17.00
5th term  27.40
**Laborer - Building**

JOB DESCRIPTION  Laborer - Building

ENTIRE COUNTIES
Dutchess

PARTIAL COUNTIES
Columbia: Only the Townships of Greenport, Claverack, Philmont, Clermont, Germantown, Livingston, Hillsdale, Gallatin, Copake, Ancram, Taghkanic and the City of Hudson.

WAGES
*ALL WORK RELATED WITH TOXIC OR ANY ASBESTOS OR HAZARDOUS MATERIAL*

WAGES: (per hour)

<table>
<thead>
<tr>
<th>Date</th>
<th>Premium</th>
<th>Class 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/01/2018</td>
<td>$ 39.60</td>
<td>$ 42.15</td>
</tr>
<tr>
<td>06/01/2019</td>
<td>$ 40.50</td>
<td>$ 43.15</td>
</tr>
</tbody>
</table>

These rates will cover all work within five feet of the building foundation line.

Shift Differential: On all Governmental mandated irregular or off shift work, an additional 25% of wage is required. The 25% shift differential will be paid on public works contract for shifts or irregular workdays outside the normal working hours for 2nd and 3rd shifts or irregular work day or when mandated or required by state, federal, county, local or other governmental agency contracts.

**SUPPLEMENTAL BENEFITS**
Per hour:

- **Journeyman**
  - 07/01/2018: $ 28.18
  - 06/01/2019: $ 29.18

- **Shift**
  - 07/01/2018: $ 34.49
  - 06/01/2019: TBA

OVERTIME PAY
See (B, E, E5, Q) on OVERTIME PAGE

**HOLIDAY**
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

Holidays that fall on Saturday shall be observed on Friday, when holidays fall on Sunday they shall be observed on Monday.

**REGISTERED APPRENTICES**
1000 hour terms at the following wage rate:

<table>
<thead>
<tr>
<th>Date</th>
<th>1st term</th>
<th>2nd term</th>
<th>3rd term</th>
<th>4th term</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/01/2018</td>
<td>$ 19.28</td>
<td>$ 22.78</td>
<td>$ 26.29</td>
<td>$ 29.79</td>
</tr>
<tr>
<td>06/01/2019</td>
<td>$ 19.77</td>
<td>$ 23.37</td>
<td>$ 26.96</td>
<td>$ 30.56</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour:

- **Apprentices**
  - 07/01/2018: $ 23.10
  - 06/01/2019: $ 24.10

- **Shift**
  - 07/01/2018: $ 28.04
  - 06/01/2019: TBA

---

**Laborer - Heavy&Highway**

JOB DESCRIPTION  Laborer - Heavy&Highway

ENTIRE COUNTIES
Dutchess

PARTIAL COUNTIES
Columbia: Only the Townships of Claverack, Clermont, Greenport, Philmont, Germantown, Livingston, Hillsdale, Taghkanic, Gallatin, Copake, Ancram, City of Hudson.

WAGES
*ALL WORK RELATED WITH TOXIC OR ANY ASBESTOS OR HAZARDOUS MATERIAL, BIO REMEDIATION AND PHYTO REMEDIATION*(Five feet or more outside of building foundation line)

WAGES: (per hour)

<table>
<thead>
<tr>
<th>Date</th>
<th>Class 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/01/2018</td>
<td>$ 42.15</td>
</tr>
<tr>
<td>07/01/2019</td>
<td>$ 43.15</td>
</tr>
</tbody>
</table>

SHIFT DIFFERENTIAL: On all NYS D.O.T. or other Governmental mandated irregular or off shift work, an additional 15% of wage on straight time pay.

**SUPPLEMENTAL BENEFITS**
Per hour:

- **Journeyman**
  - TBA
OVERTIME PAY
See (B, E, Q, X) on OVERTIME PAGE
Employees that work on a holiday which falls on a Saturday, shall be paid two and one-half (2-1/2) times the regular hourly rate for all hours worked on that day.

HOLIDAY
Paid: See (5, 6, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 15, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wages per hour

1000 hour terms at the following wage rates:

<table>
<thead>
<tr>
<th>Term</th>
<th>07/01/2018</th>
<th>07/01/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st term</td>
<td>$ 19.28</td>
<td>$ 19.77</td>
</tr>
<tr>
<td>2nd term</td>
<td>$ 22.78</td>
<td>$ 23.37</td>
</tr>
<tr>
<td>3rd term</td>
<td>$ 26.29</td>
<td>$ 26.96</td>
</tr>
<tr>
<td>4th term</td>
<td>$ 29.79</td>
<td>$ 30.56</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour:
Apprentice $ 22.95 $ 23.95
Shift $ 25.91 TBA

11-17 to 11 HHH

Laborer - Heavy&Highway

JOB DESCRIPTION Laborer - Heavy&Highway

ENTIRE COUNTIES
Dutchess

PARTIAL COUNTIES
Columbia: Only the Townships of Ancram, Claverack, Clermont, Copake, Gallatin, Germantown, Greenport, Hillsdale, Hudson, Livingston, Philmont and Taconic.

WAGES

GROUP # 1: Flagger, Placing & maintenance of all flares, cones, lights, signs, barricades, traffic patterns and all reflective type materials for traffic control, custodial work, traffic directors, temporary heat or light tenders, tool room.

GROUP # 2: All Other Classifications not listed in Group # 1 or Group # 3

GROUP # 3: Asphalt Raker, Asphalt Screedman, Drilling Equipment Only Where a Separate Air Compressor Unit Supplies Power, Laser Beam Operator, Metal Form Setters/Aligners (sidewalk), Blaster,

WAGES per hour 07/01/2018

<table>
<thead>
<tr>
<th>Group #</th>
<th>Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$ 28.90*</td>
</tr>
<tr>
<td>2</td>
<td>32.66*</td>
</tr>
<tr>
<td>3</td>
<td>33.66*</td>
</tr>
</tbody>
</table>

*Subtract $.50 to calculate overtime premium

Note: All employees working on a project that requires Hazwopper Certification will receive $1.00 per hour over job classification rate of pay. All employees who work an irregular work day that starts after 9:00 AM on a governmental mandated schedule shall be paid an additional 15% per hour.

SUPPLEMENTAL BENEFITS
Per hour:
Journeyman $ 27.85

OVERTIME PAY
See (B, E, E2, Q) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

Note: Whenever a holiday falls on Sunday, it will be observed on the following Monday.
REGISTERED APPRENTICES
Wages per hour

1000 hour year terms

1st Term $ 20.84
2nd Term 22.60
3rd Term 28.10
4th Term 32.60
5th Term 32.66

Note: All employees working on a project that requires Hazwopper Certification will receive $1.00 per hour over job classification rate of pay.

All employees who work an irregular work day that starts after 9:00 AM on a governmental mandated schedule shall be paid an additional 15% per hour.

Supplemental Benefits per hour:

1st Term $ 12.65
2nd Term 16.35
3rd Term 17.05
4th Term 17.55
5th Term 27.85

LABORER - TUNNEL

JOB DESCRIPTION Laborer - Tunnel
DISTRICT 11

ENTIRE COUNTIES
Dutchess, Orange, Otsego, Putnam, Rockland, Sullivan, Ulster, Westchester

PARTIAL COUNTIES
Chenango: Townships of Columbus, Sherburne and New Berlin.
Columbia: Townships of Ancram, Claverack, Clermont, Copake, Gallatin, Germantown, Greenport, Hillsdale, Hudson, Livingston, Philmont and Taghkanic
Delaware: Townships of Andes, Bovina, Middletown, Roxbury, Franklin, Hamden, Stamford, Delhi, Kortright, Harpersfield, Merideth and Davenport.
Greene: Township of Catskill

WAGES
Class 1: All support laborers/sandhogs working above the shaft or tunnel.

Class 2: All laborers/sandhogs working in the shaft or tunnel.

Class 4: Safety Miners

WAGES: (per hour)

07/01/2018

Class 1 $ 48.05
Class 2 $ 50.20
Class 4 $ 56.60

Toxic and hazardous waste, lead abatement and asbestos abatement work will be paid an additional $3.00 an hour.

SHIFT DIFFERENTIAL: On all Government mandated irregular shift work, Employee shall be paid at time and one half the regular rate Monday through Friday.
Saturday shall be paid at 1.65 times the regular rate.
Sunday shall be paid at 2.15 times the regular rate.

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman $ 29.50 on straight hours

* $ 44.25

*This benefit rate is applicable on overtime, irregular shift work, Saturday, Sunday and Holiday hours.
OVERTIME PAY
See (B, E, P, *X) on OVERTIME PAGE
*Applicable to Paid Holidays not worked.

HOLIDAY
Paid: See (5, 6, 15, 25) on HOLIDAY PAGE
Overtime: See (*16) on HOLIDAY PAGE
* Double rate and benefits if worked

Lineman Electrician

JOB DESCRIPTION Lineman Electrician

DISTRICT 6

ENTIRE COUNTIES

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)

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>05/06/2019</th>
<th>05/04/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lineman, Technician</td>
<td>$ 50.60</td>
<td>$ 52.05</td>
<td>$ 53.50</td>
</tr>
<tr>
<td>Crane, Crawler Backhoe</td>
<td>50.60</td>
<td>52.05</td>
<td>53.50</td>
</tr>
<tr>
<td>Welder, Cable Splicer</td>
<td>50.60</td>
<td>52.05</td>
<td>53.50</td>
</tr>
<tr>
<td>Digging Mach. Operator</td>
<td>45.54</td>
<td>46.85</td>
<td>48.15</td>
</tr>
<tr>
<td>Tractor Trailer Driver</td>
<td>43.01</td>
<td>44.24</td>
<td>45.48</td>
</tr>
<tr>
<td>Groundman, Truck Driver</td>
<td>40.48</td>
<td>41.64</td>
<td>42.80</td>
</tr>
<tr>
<td>Equipment Mechanic</td>
<td>40.48</td>
<td>41.64</td>
<td>42.80</td>
</tr>
<tr>
<td>Flagman</td>
<td>30.36</td>
<td>31.23</td>
<td>32.10</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>05/06/2019</th>
<th>05/04/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lineman, Technician</td>
<td>$ 50.60</td>
<td>$ 52.05</td>
<td>$ 53.50</td>
</tr>
<tr>
<td>Crane, Crawler Backhoe</td>
<td>50.60</td>
<td>52.05</td>
<td>53.50</td>
</tr>
<tr>
<td>Cable Splicer</td>
<td>55.66</td>
<td>57.26</td>
<td>58.85</td>
</tr>
<tr>
<td>Certified Welder -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe Type Cable</td>
<td>53.13</td>
<td>54.65</td>
<td>56.18</td>
</tr>
<tr>
<td>Digging Mach. Operator</td>
<td>45.54</td>
<td>46.85</td>
<td>48.15</td>
</tr>
<tr>
<td>Tractor Trailer Driver</td>
<td>43.01</td>
<td>44.24</td>
<td>45.48</td>
</tr>
<tr>
<td>Groundman, Truck Driver</td>
<td>40.48</td>
<td>41.64</td>
<td>42.80</td>
</tr>
<tr>
<td>Equipment Mechanic</td>
<td>40.48</td>
<td>41.64</td>
<td>42.80</td>
</tr>
<tr>
<td>Flagman</td>
<td>30.36</td>
<td>31.23</td>
<td>32.10</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>05/06/2019</th>
<th>05/04/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lineman, Tech, Welder</td>
<td>51.92</td>
<td>53.37</td>
<td>54.82</td>
</tr>
<tr>
<td>Crane, Crawler Backhoe</td>
<td>51.92</td>
<td>53.37</td>
<td>54.82</td>
</tr>
<tr>
<td>Cable Splicer</td>
<td>57.11</td>
<td>58.71</td>
<td>60.30</td>
</tr>
<tr>
<td>Certified Welder -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipe Type Cable</td>
<td>54.52</td>
<td>56.04</td>
<td>57.56</td>
</tr>
<tr>
<td>Digging Mach. Operator</td>
<td>46.73</td>
<td>48.03</td>
<td>49.34</td>
</tr>
<tr>
<td>Tractor Trailer Driver</td>
<td>44.13</td>
<td>45.36</td>
<td>46.60</td>
</tr>
<tr>
<td>Groundman, Truck Driver</td>
<td>41.54</td>
<td>42.70</td>
<td>43.86</td>
</tr>
<tr>
<td>Equipment Mechanic</td>
<td>41.54</td>
<td>42.70</td>
<td>43.86</td>
</tr>
<tr>
<td>Flagman</td>
<td>31.15</td>
<td>32.02</td>
<td>32.89</td>
</tr>
</tbody>
</table>
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)

<table>
<thead>
<tr>
<th>Position</th>
<th>Rate 1</th>
<th>Rate 2</th>
<th>Rate 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lineman, Tech, Welder</td>
<td>$ 53.11</td>
<td>$ 54.56</td>
<td>$ 56.01</td>
</tr>
<tr>
<td>Crane, Crawler Backhoe</td>
<td>53.11</td>
<td>54.56</td>
<td>56.01</td>
</tr>
<tr>
<td>Cable Splicer</td>
<td>53.11</td>
<td>54.56</td>
<td>56.01</td>
</tr>
<tr>
<td>Digging Mach. Operator</td>
<td>47.80</td>
<td>49.10</td>
<td>50.41</td>
</tr>
<tr>
<td>Tractor Trailer Driver</td>
<td>45.14</td>
<td>46.38</td>
<td>47.61</td>
</tr>
<tr>
<td>Groundman, Truck Driver</td>
<td>42.49</td>
<td>43.65</td>
<td>44.81</td>
</tr>
<tr>
<td>Equipment Mechanic</td>
<td>42.49</td>
<td>43.65</td>
<td>44.81</td>
</tr>
<tr>
<td>Flagman</td>
<td>31.87</td>
<td>32.74</td>
<td>33.61</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Shift</th>
<th>Time</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1ST SHIFT</td>
<td>8:00 AM to 4:30 PM</td>
<td>REGULAR RATE</td>
</tr>
<tr>
<td>2ND SHIFT</td>
<td>4:30 PM to 1:00 AM</td>
<td>REGULAR RATE PLUS 17.3 %</td>
</tr>
<tr>
<td>3RD SHIFT</td>
<td>12:30 AM to 9:00 AM</td>
<td>REGULAR RATE PLUS 31.4 %</td>
</tr>
</tbody>
</table>

** 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.
*Effective 05/06/2013, 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 (also required on non-worked holidays):

The following SUPPLEMENTAL BENEFITS apply to all classification categories of CONSTRUCTION, TRANSMISSION and DISTRIBUTION.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Rate 1</th>
<th>Rate 2</th>
<th>Rate 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journeyman</td>
<td>$ 23.40</td>
<td>$ 24.15</td>
<td>$ 24.90</td>
</tr>
</tbody>
</table>

*The 6.75% is based on the hourly wage paid, straight time rate or premium rate.

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: 1000 hour terms at the following percentage of the applicable Journeyman Lineman wage.

<table>
<thead>
<tr>
<th>Percentage</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
<td>90%</td>
<td></td>
</tr>
</tbody>
</table>

SUPPLEMENTAL BENEFITS: Same as Journeyman
JOB DESCRIPTION Lineman Electrician - Teledata

ENTIRE COUNTIES

WAGES
Per hour:

For outside work, stopping at first point of attachment (demarcation).

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>01/01/2019</th>
<th>01/01/2020</th>
<th>01/01/2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable Splicer</td>
<td>$ 31.83</td>
<td>$ 32.78</td>
<td>$ 33.77</td>
<td>$ 34.78</td>
</tr>
<tr>
<td>Installer, Repairman</td>
<td>30.21</td>
<td>31.12</td>
<td>32.05</td>
<td>33.01</td>
</tr>
<tr>
<td>Teledata Lineman</td>
<td>30.21</td>
<td>31.12</td>
<td>32.05</td>
<td>33.01</td>
</tr>
<tr>
<td>Tech., Equip. Operator</td>
<td>30.21</td>
<td>31.12</td>
<td>32.05</td>
<td>33.01</td>
</tr>
<tr>
<td>Groundman</td>
<td>16.01</td>
<td>16.49</td>
<td>16.99</td>
<td>17.50</td>
</tr>
</tbody>
</table>

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                     2ND SHIFT               3RD SHIFT               
REGULAR RATE                  REGULAR RATE PLUS 10%     REGULAR RATE PLUS 15%

SUPPLEMENTAL BENEFITS
Per hour:

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>01/01/2019</th>
<th>01/01/2020</th>
<th>01/01/2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journeymen</td>
<td>$ 4.73</td>
<td>$ 4.73</td>
<td>$ 4.73</td>
<td>$ 4.73</td>
</tr>
<tr>
<td>*plus 3% of</td>
<td>*plus 3% of</td>
<td>*plus 3% of</td>
<td>*plus 3% of</td>
<td>*plus 3% of</td>
</tr>
<tr>
<td>wage paid</td>
<td>wage paid</td>
<td>wage paid</td>
<td>wage paid</td>
<td>wage paid</td>
</tr>
</tbody>
</table>

*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

Lineman Electrician - Traffic Signal, Lighting 08/01/2018

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting

ENTIRE COUNTIES
Columbia, Dutchess, Orange, Putnam, Rockland, Ulster

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 linemen technician, a ground man/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.
(Ref #14.01.02)

Per hour:
Above rates applicable on all Lighting and Traffic Signal Systems and the installation, testing, operation, maintenance and repair of all traffic control and illumination projects, traffic monitoring systems, road weather information systems and the installation of Fiber Optic Cable.

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%

** 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. *Effective 05/06/2013, 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):

Journeyman $23.40 $24.15 $24.90
*plus 6.75% of hourly wage *plus 6.75% of hourly wage *plus 6.75% of hourly wage

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 and Governor of NYS Election Day.
Overtime: See (5, 6, 8, 13, 25) on HOLIDAY PAGE and 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.

Lineman Electrician - Tree Trimmer 08/01/2018

07/01/2018 05/06/2019 05/04/2020

1st term $27.05 $27.77 $28.49
2nd term 29.30 30.08 30.86
3rd term 31.56 32.40 33.24
4th term 33.81 34.71 35.61
5th term 36.06 37.02 37.98
6th term 38.32 39.34 40.36
7th term 40.57 41.65 42.73

SUPPLEMENTAL BENEFITS: Same as Journeyman

WAGES
Per hour:

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.

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>01/01/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree Trimmer</td>
<td>$ 25.10</td>
<td>$ 25.79</td>
</tr>
<tr>
<td>Equipment Operator</td>
<td>22.20</td>
<td>22.81</td>
</tr>
<tr>
<td>Equipment Mechanic</td>
<td>22.20</td>
<td>22.81</td>
</tr>
<tr>
<td>Truck Driver</td>
<td>18.48</td>
<td>18.99</td>
</tr>
<tr>
<td>Groundman</td>
<td>15.22</td>
<td>15.64</td>
</tr>
<tr>
<td>Flag person</td>
<td>10.97</td>
<td>11.27</td>
</tr>
</tbody>
</table>

SUPPLEMENTAL BENEFITS
Per hour worked (but also required on non-worked holidays):

<table>
<thead>
<tr>
<th></th>
<th>$ 9.98</th>
<th>$ 9.98</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journeyman</td>
<td>*plus 3% of hourly wage</td>
<td>*plus 3% of hourly wage</td>
</tr>
</tbody>
</table>

* 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, 16, 25) 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.

Mason - Building
08/01/2018

JOB DESCRIPTION Mason - Building

ENTIRE COUNTIES
Bronx, Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, Westchester

WAGES
Wages: 07/01/2018

Marble Cutters & Setters $ 58.63

SUPPLEMENTAL BENEFITS
Per Hour:

<table>
<thead>
<tr>
<th></th>
<th>$ 36.12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journeyworker</td>
<td></td>
</tr>
</tbody>
</table>

OVERTIME PAY
See (B, E, Q, V) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 11, 15, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wage Per Hour:

7500 hour terms at the following wage.

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
<th>9th</th>
<th>10th</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-</td>
<td>751-</td>
<td>1501-</td>
<td>2251-</td>
<td>3001-</td>
<td>3751-</td>
<td>4501-</td>
<td>5251-</td>
<td>6001-</td>
<td>6751-</td>
</tr>
<tr>
<td>750</td>
<td>1500</td>
<td>2250</td>
<td>3000</td>
<td>3750</td>
<td>4500</td>
<td>5250</td>
<td>6000</td>
<td>6751</td>
<td>7500</td>
</tr>
</tbody>
</table>
07/01/2018
$23.34 $26.29 $29.22 $32.16 $35.11 $38.05 $40.98 $43.93 $49.82 $55.68

Supplemental Benefits per hour:

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
<th>9th</th>
<th>10th</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25.69</td>
<td>$26.55</td>
<td>$27.44</td>
<td>$28.30</td>
<td>$29.16</td>
<td>$30.03</td>
<td>$30.91</td>
<td>$31.77</td>
<td>$33.50</td>
<td>$35.26</td>
</tr>
</tbody>
</table>

JOB DESCRIPTION Mason - Building

ENTIRE COUNTIES
Dutchess, Sullivan, Ulster

PARTIAL COUNTIES
Orange: Entire county except the Township of Tuxedo.

WAGES
Per hour:

<table>
<thead>
<tr>
<th>07/01/2018</th>
<th>06/01/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bricklayer</td>
<td>$ 40.67</td>
</tr>
<tr>
<td>Cement Mason Bldg</td>
<td>40.67</td>
</tr>
<tr>
<td>Plasterer/Stone Mason</td>
<td>40.67</td>
</tr>
<tr>
<td>Pointer/Caulker</td>
<td>40.67</td>
</tr>
</tbody>
</table>

Additional $1.00 per hour for power saw work
Additional $0.50 per hour for swing scaffold or staging work

SHIFT WORK: When shift work or an irregular work day is mandated or required by state, federal, county, local or other governmental agency contracts, the following premiums apply:

- Irregular work day requires 15% premium
- Second shift an additional 15% of wage plus benefits to be paid
- Third shift an additional 25% of wage plus benefits to be paid

SUPPLEMENTAL BENEFITS
Per hour:

Journeyman $ 33.53 $ 34.64

OVERTIME PAY
Cement Mason See ( B, E, Q, W ) on OVERTIME PAGE.
All Others See ( B, E, Q ) on OVERTIME PAGE.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

REGISTERED APPRENTICES
Wages per hour:

750 hour terms at the following percentage of Journeyman's wage

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>55%</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>55%</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
</tr>
</tbody>
</table>

Apprentices indentured before June 1st, 2011 receive full journeyman benefits
## ENTIRE COUNTIES
Dutchess, Orange, Putnam, Sullivan, Ulster

### WAGES
Per hour: 07/01/2018

Building:
Tile, Marble, & Terrazzo
Mechanic/Setter $48.65

### SUPPLEMENTAL BENEFITS
Per Hour:
Journeyman: $30.26

### OVERTIME PAY
See (B, *E, Q) on OVERTIME PAGE
* Double time rate applies after 10 hours

### HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

### REGISTERED APPRENTICES
Wages per hour:

<table>
<thead>
<tr>
<th>(750 hour) terms at the following wages:</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$23.59</td>
<td>$27.42</td>
<td>$30.55</td>
<td>$33.63</td>
<td>$36.43</td>
<td>$38.76</td>
<td>$39.08</td>
<td>$43.92</td>
</tr>
</tbody>
</table>

Supplemental Benefits:

<table>
<thead>
<tr>
<th>(750 hour) terms at the following wages:</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$15.14</td>
<td>$15.18</td>
<td>$16.53</td>
<td>$17.07</td>
<td>$17.90</td>
<td>$18.94</td>
<td>$20.22</td>
<td>$24.40</td>
</tr>
</tbody>
</table>

---

**Mason - Building** 08/01/2018

### JOB DESCRIPTION
Mason - Building

### ENTIRE COUNTIES
Dutchess, Orange, Putnam, Sullivan, Ulster

### WAGES
Per hour: 07/01/2018

Building
Tile, Marble, & Terrazzo Finisher $41.82

### SUPPLEMENTAL BENEFITS
Journeyman:

Per Hour $25.14

### OVERTIME PAY
See (A, *E, Q) on OVERTIME PAGE
* Double time rate applies after 10 hours on Saturdays.

### HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25) on HOLIDAY PAGE

---

**Mason - Heavy&Highway** 08/01/2018

### JOB DESCRIPTION
Mason - Heavy&Highway

### ENTIRE COUNTIES
Dutchess, Sullivan, Ulster

### PARTIAL COUNTIES
Orange: Entire county except the Township of Tuxedo.

### WAGES
Per hour:

<table>
<thead>
<tr>
<th>07/01/2018</th>
<th>06/01/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bricklayer</td>
<td>$41.19</td>
</tr>
<tr>
<td>Cement Mason</td>
<td>41.19</td>
</tr>
</tbody>
</table>
Marble/Stone Mason  41.19  41.82
Plasterer  41.19  41.82
Pointer/Caulker  41.19  41.82
Additional $1.00 per hour for power saw work
Additional $0.50 per hour for swing scaffold or staging work

SHIFT WORK: When shift work or an irregular work day is mandated or required by state, federal, county, local or other governmental contracts, the following rates apply:
- Irregular work day requires 15% premium
- Second shift an additional 15% of wage plus benefits to be paid
- Third shift an additional 25% of wage plus benefits to be paid

SUPPLEMENTAL BENEFITS
Per hour:
Journeyman  $33.31  $34.43

OVERTIME PAY
Cement Mason  See (B, E, Q, W, X)
All Others  See (B, E, Q, X)

HOLIDAY
Paid:  See (5, 6, 15, 25) on HOLIDAY PAGE
Overtime:  See (5, 6, 15, 25) on HOLIDAY PAGE
Whenever any of the above holidays fall on Sunday, they will be observed on Monday. Whenever any of the above holidays fall on Saturday, they will be observed on Friday.

REGISTERED APPRENTICES
Wages per hour:
750 hour terms at the following percentage of Journeyman's wage

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>55%</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
<td></td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour
750 hour terms at the following percentage of journeyman supplements

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
</tr>
</thead>
<tbody>
<tr>
<td>50%</td>
<td>55%</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
<td></td>
</tr>
</tbody>
</table>

Apprentices indentured before June 1st, 2011 receive full journeyman benefits

11-5du-H/H

Operating Engineer - Building 08/01/2018

JOB DESCRIPTION  Operating Engineer - Building  DISTRICT  9

ENTIRE COUNTIES
Bronx, Kings, New York, Putnam, Queens, Richmond, Westchester

PARTIAL COUNTIES
Dutchess: that part of Dutchess County lying south of the North City Line of the City of Poughkeepsie.

WAGES
NOTE: Construction surveying
Party chief—One who directs a survey party
Instrument Man—One who runs the instrument and assists Party Chief.
Rodman—One who holds the rod and assists the Survey Crew

Wages: (Per Hour)  07/01/2018

Building Construction:
Party Chief  $72.87
Instrument Man  $58.07
Rodman  $39.85

Steel Erection:
Party Chief  $73.48
Instrument Man $ 58.64
Rodman $ 41.31

Heavy Construction-NYC counties only:
(Foundation, Excavation.)

Party Chief $ 78.61
Instrument man $ 59.45
Rodman $ 50.93

SUPPLEMENTAL BENEFITS
Per Hour: 07/01/2018

Building Construction & Steel $21.85* + 6.90
Heavy Construction $22.10* + 6.90

* This portion subject to same premium as wages

OVERTIME PAY
See (A, B, E, Q) on OVERTIME PAGE
Code "A" applies to Building Construction and has double the rate after 7 hours on Saturdays.
Code "B" applies to Heavy Construction and Steel Erection and have double the rate after 8 hours on Saturdays.

HOLIDAY
Paid: See (5, 6, 9, 11, 15, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 9, 11, 15, 16, 25) on HOLIDAY PAGE

Operating Engineer - Building 08/01/2018

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 8

ENTIRE COUNTIES
Putnam, Westchester

PARTIAL COUNTIES
Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

WAGES
GROUP I:
Cranes (All Types up to 49 tons), Boom Trucks, Cherry Pickers, Clamshell Crane, Derrick, Dragline, Franki Pile Rig or similar, High Lift (Lull or similar) with crane attachment and winch used for hoisting or lifting, Hydraulic Cranes, Pile Drivers, Potain and similar.

Cranes (All types 50-99 tons), Conventional and Hydraulic.

Cranes (All types 100 tons and over), Tower, Climbing, Conventional, Hydraulic.

GROUP I-A: Barber Green Loader-Euclid Loader, Bulldozer, Carrier-Trailer Horse, Concrete Cleaning Decontamination Machine Operator, Concrete-Portable Hoist, Conway or Similar Mucking Machines, Elevator & Cage, Excavators all types, Front End Loaders, Gradall, Shovel, Backhoe, etc.(Crawler or Truck), Heavy Equipment Robotics Operator/Mechanic, Hoist Engineer-Material, Hoist Portable Mobile Unit, Hoist-Single, Double or Triple Drum, Horizontal Directional Drill Locator, Horizontal Directional Drill Operator, and Jersey Spreader, Letourneau or Tournapull(Scrapers over 20 yards Struck), Lift Slab Console, etc., Lull HiLift or Similar, Maintenance Engineer, Master Environmental Maintenance Mechanics, Mucking Machines Operator/Mechanic or Similar Type, Overhead Crane, Pavement Breaker(Air Ram), Paver(Concrete), Post Hole Digger, Power House Plant, Road Boring Machine, Road Mix Machine, Ross Carrier and Similar Machines, Rubber tire double end backhoes and similar machines, Scoopmobile Tractor-Shovel over 1.5 yards, Shovel (Tunnels), Spreader (Asphalt) Telephie(Cableway), Tractor Type Demolition Equipment, Trenching Machines-Vermeer Concrete Saw Trencher and Similar, Ultra High Pressure Waterjet Cutting Tool System, Vacuum Blasting Machine operator/mechanic, Winch Truck. A Frame).

GROUP I-B: Compressor (Steel Erection), Mechanic (Outside All Types, Negative Air Machine (Asbestos Removal), Push Button (Buzz Box) Elevator.

GROUP II: Bulldozer D6 and Under, Compactor Self-Propelled, Concrete Pump, Crane Operator in Training(Over 100 Tons, Grader, Machines Pulling Sheep's Foot Roller, Roller 4 ton and over, Scrapers-20 yards Struck and Under, Vibratory Rollers, Welder.

GROUP III-A: Asphalt Plant, Concrete Mixing Plants, Concrete Buggy(One yard and up, Ride on dumper, Benford or Similar) Fire Watchman, Forklift(All power sources), Joy Drill or similar, Tractor Drilling Machine, Loader(1 1/2 yards and under), Portable Asphalt Plant, Portable Batch Plant, Portable Crusher, Skid Steer( Bobcat or similar), Stone Crusher, Well Drilling Machine, Well Point System.
GROUP III-B: Compressor Over 125 cu. Feet, Conveyor Belt Machine Regardless of Size, Compressor Plant, Ladder Hoist, Lighting Unit (Portable & Generator), Stud Machine.


GROUP IV-B: Compressor(Under 125 cu.Feet), Heater(All Types), Lighting Unit (Portable & Generator) Pump, Pump Station(Water, Sewer, Portable, Temporary), Steam Jenny, Sweeper, Chipper, Mulcher, Welding Machine (Steel Erection & Excavation)

GROUP V: Crane Operator in Training(65 Tons to 100 Tons), Mechanics Helper, Motorized Roller (walk behind), Stock Attendant, Welder's Helper.

GROUP VI-A: Welder, Certified.

GROUP VI-B: Utility Man, Warehouse Man.

WAGES: (per hour) 07/01/2018

<table>
<thead>
<tr>
<th>GROUP</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>$61.70</td>
</tr>
<tr>
<td>I-A</td>
<td>53.95</td>
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<tr>
<td>I-B</td>
<td>49.68</td>
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<tr>
<td>II</td>
<td>52.03</td>
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<tr>
<td>III-A</td>
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<tr>
<td>IV-A</td>
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<td>IV-B</td>
<td>41.85</td>
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<td>V</td>
<td>45.17</td>
</tr>
<tr>
<td>VI-A</td>
<td>52.96</td>
</tr>
<tr>
<td>VI-B</td>
<td>44.92</td>
</tr>
<tr>
<td>Utility Man</td>
<td>42.83</td>
</tr>
<tr>
<td>Warehouse Man</td>
<td>44.92</td>
</tr>
</tbody>
</table>

An additional 20% to wage when required to wear protective equipment on hazardous/toxic waste projects.

Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional $2.00 per hour.

Engineers operating cranes with booms 149 feet or over in length will be paid an additional $3.00 per hour.

Loader operators over 5 cubic yard capacity additional .50 per hour.

Shovel operators over 4 cubic yard capacity additional $1.00 per hour.

SUPPLEMENTAL BENEFITS

Per hour: 07/01/2018

Journeyworker $28.52

OVERTIME PAY

OVERTIME:..... See ( B, E,P,R*,V ) on OVERTIME PAGE.

HOLIDAY

Paid:........ See ( 5, 6, 11, 12, 15, 25 ) on HOLIDAY PAGE.

Overtime:..... See ( 5, 6, 11, 12, 15, 25 ) on HOLIDAY PAGE.

* For Holiday codes 11, 12, 15, 25, code R applies.

Note: If employees are required to work on Easter Sunday they shall be paid at the rate of triple time.
Dutchess: Defined as north of the northern boundary line of City of Poughkeepsie then due east to Route 115 to Bedelt Road then east along Bedelt Road to VanWagner Road then north along VanWagner Road to Bower Road then east along Bower Road to Rte. 44 east to Route 343 then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to Connecticut.

**WAGES**

**CLASS A1:**
Crane, hydraulic cranes, tower crane, piledriver, cableway, derricks, whirlies, dragline, boom trucks over 5 tons.

**CLASS A:**
Shovel, all Excavators (including rubber tire full swing), Gradalls, power road grader, all CMI equipment, front-end rubber tire loader, tractor-mounted drill (quarry master), mucking machine, concrete central mix plant, concrete pump, belcrete system, automated asphalt concrete plant, and tractor road paver, boom trucks 5 tons and under, maintenance engineer, self-contained crawler drill-hydraulic rock drill.

**CLASS B:**
Backhoes (rubber tired backhoe/loader combination), bulldozer, pushcat, tractor, traxcavator, scraper, LeTourneau grader, form line grader, self-propelled soil compactor (fill roller), asphalt roller, blacktop spreader, power brooms, sweepers, trenching machine, Barber Green loader, side booms, hydro hammer, concrete spreader, concrete finishing machine, one drum hoist, power hoisting (single drum), hoist two drum or more, three drum engine, power hoisting (two drum and over), two drum and swinging engine, three drum swinging engine, hod hoist, A-L frame winches, core and well drillers (one drum), post hole digger, model CHB Vibro-Tamp or similar machine, batch bin and plant operator, dinky locomotive, skid steer loader, track excavator 5/8 cubic yard or smaller, front end rubber tired loader under four cubic yards, vacuum machine (mounted or towed).

**CLASS C:**
Fork lift, high lift, all terrain fork lift: or similar, oiler, fireman and heavy-duty greaser, boilers and steam generators, pump, vibrator, motor mixer, air compressor, dust collector, welding machine, well point, mechanical heater, generators, temporary light plants, electric submersible pumps 4" and over, Murphy type diesel generator, conveyor, elevators, concrete mixer, belcrete power pack (belcrete system), seeding, and mulching machines, pumps.

* In the event that equipment listed above is operated by robotic control, the classification covering the operation will be the same as if manually operated.

**WAGES per hour**

<table>
<thead>
<tr>
<th>Class</th>
<th>Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>$43.79</td>
</tr>
<tr>
<td>A</td>
<td>$43.30</td>
</tr>
<tr>
<td>B</td>
<td>$42.28</td>
</tr>
<tr>
<td>C</td>
<td>$39.38</td>
</tr>
</tbody>
</table>

Additional $0.50 per hr for Tower Cranes.
Additional $1.25 per hr for Cranes with Boom length & jib 150ft. and over.
Additional $2.25 per hr for Cranes with Boom length & jib 200ft. and over.
Additional $2.00 per hr over B rate for Nuclear Leader work.
Additional $0.40 per hr for tunnel or excavation of shaft 40’ or more deep.
Additional $2.50 per hour if work requires Personal Protective Equipment for hazardous waste site activities with a level C or over rating.

**SUPPLEMENTAL BENEFITS**

Per hour

Journeyman $25.90

**OVERTIME PAY**

See (B, E, Q) on OVERTIME PAGE

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Note: If a holiday falls on Sunday, it will be celebrated on Monday. If the holiday falls on Saturday, it will be celebrated on Friday.

Employees who work a Saturday holiday shall be paid double time plus the holiday pay.

**REGISTERED APPRENTICES**

Wages per hour

1000 hours terms at the following percentage of Journeyman’s wage Class B

<table>
<thead>
<tr>
<th>Term</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>60%</td>
</tr>
<tr>
<td>2nd</td>
<td>70%</td>
</tr>
<tr>
<td>3rd</td>
<td>80%</td>
</tr>
<tr>
<td>4th</td>
<td>90%</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour worked

07/01/2018
Operating Engineer - Heavy&Highway

JOB DESCRIPTION

ENTIRE COUNTIES
Putnam, Westchester

PARTIAL COUNTIES
Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.

WAGES

GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane, (Crawler, Truck), Dragline, Rough Terrain Crane.

GROUP I-A: Auger, Auto Grader, Dynahoe and Dual purpose and similar machines, Barber Green Loader-Euclid Loader or similar type machine, boat captain, boring machine(all types), Bulldozer-All Sizes, Central Mix Plant Operator, Cherry Picker(Cableway)-Hydraulic, chipper (all types), close circuit t.v., Compactor with Blade, Concrete Portable Hoist, C.M.I. or Similar, Conway or Similar Mucking Machines, Gradall, Shovel Backhoe, etc. Grader, Derrick (Stone-Steel) Elevator & Cage, Front End Loaders over 1 1/2ys Hoist Single, Double, Triple Drum, Hoist Portable Mobile Unit, Hoist Engineer Concrete(Crane-Derrick-Mine Hoist), Hoist Engineer-Material, Hydraulic, Letourneau or Tournapull (Scrapers over 20 yds struck), Mucking Machines, Overhead Crane, Paver (concrete) Pulsometer, Push Button (Buss Box) Elevator, Road Mix Machines, Ross Carrier and similar, Shovels (Tunnels), SideBoom, Spreader (asphalt), Scoopmobile-Tractor-Shovel over 1 1/2 yards, Trenching Machines, Telephies-Vermeer Concrete Saw Trencher and/or Similar, Tractor type Demolition Equipment, Whirly, P-811 Track Renewal Machine-Similar, certified Welder, Excavator (and all attachments).

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver-Asphalt.

GROUP II-A: Ballast regulators, Compactor Self Propelled, Cow Tracks, Fusion Machine, Rail Anchor Machines, Scrapers-20 yds truck and under, Switchtampers, Vibratory Roller, etc., Roller 4 ton and over, Welder.

GROUP II-B: Mechanic (Outside) All Types.

GROUP III: Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler (High Pressure), Concrete Breaker, Concrete Pump, Concrete Spreader, Farm Tractor (All Types), Forklift (All), Gas Tapping (Live), Hydroseeder, Loader 1 1/2 yards and under, Locomotive(All Sizes), Machine Pulling Sheep's Foot Roller, Portable Plant, Portable Batch Plant, Portable Crusher, Powerhouse Plant, Roller (Under 4 ton), Stone Crusher, Sweeper, Turbo JetBurner or Similar, Sheer Excavator, Skid Steer/Boobcat, Well Drilling Machine.

GROUP IV-A: Service Person (Grease Truck).

GROUP IV-B: Conveyor Belt Machine, Heater all types, Lighting Unit (Portable & Generator), Mechanic's Helper, Pilot/Assistant Engineer/2 seated, Pumps-Pump Station-Water-Sewer-Gypsum-Plaster, etc., Pump Truck(Sewer Jet or Similar), Stock Room Attendant, Welding Machine Steel Erection Excavation), Well Point System, Welder's Helper.

GROUP V-A: Engineer-All Tower Cranes-All Climbing Cranes and all cranes of 100 ton capacity or greater(3900 Manitowac or similar), Hoist Engineer(Steel), Engineer-Pile Driver, Welder-Certified, Jersey Spreader, Pavement Breaker(Air Ram), Post Hole Digger.

WAGES: Per hour:

<table>
<thead>
<tr>
<th>Group</th>
<th>07/01/2018</th>
<th>03/04/2019</th>
<th>03/02/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>$59.75</td>
<td>$61.03</td>
<td>$62.38</td>
</tr>
<tr>
<td>Group I-A</td>
<td>52.71</td>
<td>53.80</td>
<td>54.95</td>
</tr>
<tr>
<td>Group I-B</td>
<td>55.52</td>
<td>56.69</td>
<td>57.92</td>
</tr>
<tr>
<td>Group I-A</td>
<td>50.49</td>
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<td>52.61</td>
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<tr>
<td>Group I-B</td>
<td>52.06</td>
<td>53.13</td>
<td>54.26</td>
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<tr>
<td>Group III</td>
<td>49.61</td>
<td>50.61</td>
<td>51.68</td>
</tr>
<tr>
<td>Group IV-A</td>
<td>45.12</td>
<td>46.00</td>
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<tr>
<td>Group IV-B</td>
<td>38.78</td>
<td>39.49</td>
<td>40.24</td>
</tr>
<tr>
<td>Group V-A</td>
<td>67.64</td>
<td>69.14</td>
<td>70.72</td>
</tr>
<tr>
<td>Engineeer All Tower, Climbing and Cranes of 100 Tons</td>
<td>67.64</td>
<td>69.14</td>
<td>70.72</td>
</tr>
<tr>
<td>Hoist Engineer(Steel)</td>
<td>61.28</td>
<td>62.61</td>
<td>64.00</td>
</tr>
<tr>
<td>Engineer(Pile Driver)</td>
<td>65.33</td>
<td>66.77</td>
<td>68.27</td>
</tr>
<tr>
<td>Jersey Spreader, Pavement Breaker (Air Ram)</td>
<td>51.65</td>
<td>52.71</td>
<td>53.83</td>
</tr>
</tbody>
</table>
SHIFT DIFFERENTIAL:
A 15% premium on all hours paid, including overtime hours for 2nd, 3rd shifts
on all government mandated off-shift work

Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional $2.00 per hour over the rate listed
in the Wage Schedule. Engineers operating cranes with booms 149 feet or over in length will be paid an additional $3.00 per hour over the rate listed in the Wage Schedule. Loader and Excavator Operators: over 5 cubic yards capacity $0.50 per hour over the rate listed in the Wage Schedule. Shovel Operators: over 4 cubic yards capacity $1.00 per hour over the rate listed in the Wage Schedule.

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: 07/01/2018 03/04/2019 03/02/2020
$ 20.85 on all hours. $ 21.55 on all hours. $ 22.50 on all hours.
PLUS $ 8.00 for first 40 hours worked. PLUS $ 8.00 for first 40 hours worked. PLUS $ 8.00 for first 40 hours worked.

OVERTIME PAY
See (B, E, E2, P, *R, **U) on OVERTIME PAGE

HOLIDAY
Paid:........ See ( 5, 6, 8, 9, 15, 25 ) on HOLDIAY PAGE
Overtime..... See ( 5, 6, 8, 9, 15, 25 ) on OVERTIME PAGE

* For Holiday codes 8,9,15,25 code R applies
** For Holiday Codes 5 & 6 code U applies

Note: If employees are required to work on Easter Sunday they shall be paid at the rate of triple time.

REGISTERED APPRENTICES
(1)year terms at the following rate.

07/01/2018 03/04/2019 03/02/2020
1st term $ 26.36 $ 26.90 $ 27.48
2nd term 31.62 32.28 32.97
3rd term 36.90 37.66 38.47
4th term 42.17 43.04 43.96

Supplemental Benefits per hour:

Apprentices: 07/01/2018 03/04/2019 03/02/2020
$ 20.85 $ 21.55 $ 22.50

8-137HH

Operating Engineer - Heavy&Highway 08/01/2018

JOB DESCRIPTION Operating Engineer - Heavy&Highway DISTRICT 1

ENTIRE COUNTIES

PARTIAL COUNTIES
Dutchess: Defined as north of the northern boundary line of City of Poughkeepsie then due east to Route 115 to Bedelt Road then east along Bedelt Road to VanWagner Road then north along VanWagner Road to Bower Road then east along Bower Road to Rte. 44 east to Route 343 then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to Connecticut.

WAGES
CLASSIFICATION A:
Asphalt Curb Machine (Self Propelled, Slipform), Asphalt Paver, Automated Concrete Spreader (CMI Type), Automatic Fine Grader, Backhoe (Except Tractor Mounted, Rubber Tired), Backhoe Excavator Full Swing (CAT 212 or similar type), Back Filling Machine, Belt Placer (CMI Type), Blacktop Plant (Automated), Boom truck, Cableway, Caisson Auger, Central Mix Concrete Plant (Automated), Concrete Curb Machine (Self Propelled, Slipform), Concrete Pump, Crane, Cherry Picker, Derricks (steel erection), Dragline, Overhead Crane (Gantry or Straddle type), Pile Driver, Truck Crane, Directional Drilling Machine, Dreudge, Dual Drum Paver, Excavator (All Purpose Hydraulically Operated) (Gradall or Similar), Front End Loader (4 cu. yd. and Over), Head Tower (Sauermans or Equal), Hoist (Two or Three Drum), Holland Loader, Maintenance Engineer, Mine Hoist, Mucker Machine or Mole, Pavement Breaker (SP) Wertgen; PB-4 and similar type, Power Grader, Profiler (over 105 H.P.), Quad 9, Quarry Master (or equivalent), Scraper, Shovel, Side Boom, Slip Form Paver (If a second man is needed, he shall be an Oiler), Tractor Drawn Belt Type Loader, Truck or Trailer Mounted Log Chipper (Self Feeder), Tug Operator (Manned Rented Equipment Excluded), Tunnel Shovel

CLASSIFICATION B:
Backhoe (Tractor Mounted, Rubber Tired), Bituminous Recycler Machine, Bituminous Spreader and Mixer, Blacktop Plant (NonAutomated), Blast or Rotary Drill (Truck or Tractor Mounted), Boring Machine, Cage Hoist, Central Mix Plant [(NonAutomated) and All Concrete Batching Plants], Concrete Paver (Over 16S), Crawler Drill (Self-contained), Crusher, Diesel Power Unit, Drill Rigs, Tractor Mounted, Front End Loader (Under 4 cu. yd.), Greaseman/Lubrication Engineer, HiPressure Boiler (15 lbs. and over), Hoist (One Drum), Hydro-Axe, Kolman Plant Loader and Similar Type Loaders (If Employer requires another man to clean the screen or to maintain the equipment, he shall be an Oiler), L.C.M. Work Boat Operator, Locomotive, Material handling knuckle boom, Mixer (for stabilized base selfpropelled), Monorail Machine, Plant Engineer, Profiler (105 H.P. and under), Pug Mill, Pump Crete, Ready Mix Concrete Plant, Refrigeration Equipment (for soil stabilization), Road Widener, Roller (all above subgrade), Sea Mule, Self-contained Ride-on Rock Drill (Excluding Air-Track Type Drill), Skidder, Tractor with Dozer and/or Pusher, Trencher, Tugger Hoist, Vacuum machine (mounted or towed), Vermeer saw (ride on, any size or type), Welder

CLASSIFICATION C:
A Frame Winch on Truck, Articulated Heavy Hauler, Aggregate Plant, Asphalt or Concrete Grooving Machine (ride on), Ballast Regulator (Ride-on), Boiler (used in conjunction with production), Bituminous Heater (selfpropelled), Boat (powered), Cement and Bin Operator, Concrete Paver Spreader and Finisher Concrete Paver or Mixer (16' and under), Concrete Saw (selfpropelled), Conveyor, Deck Hand, Directional Drill Machine Locator, Drill (Core and Well), Farm Tractor with accessories, Fine Grade Machine, Fireman, Fork Lift, Form Tamper, Grount Pump, Gunite Machine, Hammers (Hydraulic selfpropelled), Hydra-Spiker (ride-on), Hydraulic Pump (jacking system), Hydro-Blaster (Water), Mulching Machine, Oiler, Parapet Concrete or Pavement Grinder, Post Hole Digger and Post Driver, Power Broom (towed), Power Heateman, Power Sweeper, Revinius Widener, Roller (Grade and Fill), Scarifier (ride-on), Shell Winder, Skid steer loader (Bobcat or similar), Span-Saw (ride-on), Steam Cleaner, Tamper (ride-on), Tie Extractor (ride-on), Tie Handler (ride-on), Tie Inserter (ride-on), Tie Spacer (ride-on), Tire Repair, Track Liner (ride-on), Tractor, Tractor (with towed accessories), Vibratory Compactor, Vibro Tamp, Well Point, and the following hands-off equipment: Compressors, Dust Collectors, Generators, Pumps, Welding Machines, Light Plants and Heaters

- Note for all above classifications of Operating Engineer - In the event that equipment listed above is operated by robotic control, the classification covering the operation will be the same as if manually operated.

WAGES per hour

<table>
<thead>
<tr>
<th>Classification</th>
<th>Wage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Mechanic</td>
<td>45.08</td>
</tr>
<tr>
<td>Class A*</td>
<td>43.47</td>
</tr>
<tr>
<td>Class B</td>
<td>42.56</td>
</tr>
<tr>
<td>Class C</td>
<td>39.99</td>
</tr>
</tbody>
</table>

Additional $2.00 per hour for All Employees who work a single irregular work shift starting from 5:00 PM to 1:00 AM that is mandated by the Contracting Agency.

Additional $2.50 per hr. for hazardous waste removal work on State and/or Federally designated waste site which require employees to wear Level C or above forms of personal protection.

(*) Premiums for CRANES is based upon Class A rates with the following premiums:
- Additional $4.00 per hr for Tower Cranes, including self erecting.
- Additional $3.00 per hr for Lattice Boom Cranes and all other cranes with a manufacturers rating of fifty (50) tons and over.
- Additional $2.00 per hr for all Hydraulic Cranes and Derricks with a manufacturer's rating of 49 ton and below, including boom trucks.

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

<table>
<thead>
<tr>
<th>Classification</th>
<th>Wage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journeyman</td>
<td>26.10</td>
</tr>
</tbody>
</table>

OVERTIME PAY
See (B, E, Q) on OVERTIME PAGE
HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
Note: If the holiday falls on Sunday, it will be celebrated on Monday. If the holiday falls on a Saturday, it will be celebrated on Saturday.

REGISTERED APPRENTICES
Wages per hour

1000 hours terms at the following percentage of Journeyman's wage Class B

<table>
<thead>
<tr>
<th></th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour worked

07/01/2018
All Terms $ 21.50

Operating Engineer - Heavy&Highway

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 9

ENTIRE COUNTIES
Putnam, Westchester

PARTIAL COUNTIES
Dutchess: South of the North city line of Poughkeepsie

WAGES
Party Chief - One who directs a survey party
Instrument Man - One who runs the instrument and assists Party Chief
Rodman - One who holds the rod and in general, assists the Survey Crew
Categories cover GPS & Underground Surveying

Per Hour: 07/01/2018
Party Chief $ 75.94
Instrument Man 57.30
Rodman 48.99

SUPPLEMENTAL BENEFITS
Per Hour: 07/01/2018
All Categories
Straight Time: $ 22.10* plus $6.90
Premium:
Time & 1/2 $ 33.15* plus $6.90
Double Time $ 44.20* plus $6.90

OVERTIME PAY
See (B, *E, Q) on OVERTIME PAGE
* Doubletime paid on all hours in excess of 8 hours on Saturday

HOLIDAY
Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE
Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

Operating Engineer - Heavy&Highway - Tunnel

JOB DESCRIPTION Operating Engineer - Heavy&Highway - Tunnel

DISTRICT 8

ENTIRE COUNTIES
Putnam, Westchester

PARTIAL COUNTIES
Dutchess: All the counties of Westchester and Putnam and the southern part of Dutchess County defined by the northern boundary line of the City of Poughkeepsie, then due east to Route 115, then north along Route 115 to Bedell Road, then east along Bedell Road to Van Wagner Road, then north along Van Wagner Road to Bower Road, then east along Bower Road to Route 44 and along Route 44 east to Route 343, then along Route 343 east to the northern boundary of Town of Dover Plains and east along the northern boundary of Town of Dover Plains to the border line of the State of Connecticut and bordered on the west by the middle of the Hudson River.
WAGES

GROUP I:  Boom Truck, Cherry Picker, Clamshell, Crane(Crawler, Truck), Dragline, Drill Rig Casa Grande(Cat or Similar), Floating Crane (Crane on Barge-Under 100 Tons), Hoist Engineer (Concrete/Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A:  Auger, Auto Grader, Dynahoe & Dual purpose & similar machines, Barber Green Loader-Euclid Loader or similar type machine, Boat Captain, Boring Machine(all types), Bull Dozer-all types, Central Mix Plant Operator, Cherry Picker(Cableway or hydraulic), Chipper-all types, Close Circuit T.V., Compactor with Blade, Concrete Portable Hoist, C.M.I. or similar, Conveyor or similar Mucking Machine, Crane(Crawler or Truck) dragline, Gradall, Shovel Backhoe, etc. Grader, Derrick(Stone-Steel), Elevator & Cage(materials or passengers), Front End Loaders over 1 1/2 yards, Hoist Single, Double, Triple Drum, Hoist Portable Mobile Unit, Hoist Engineer-Concrete(Crane-Derrick-Mine Hoist), Hoist Engineer-Material, Hydraulic Boom, Letourneau or Tournapull(Scrapers over 20 yards struck), Log Skidder, Milling Machine, Moveable Concrete Barrier Transfer & Transport Vehicle, Mucking Machines. Overhead Crane, Paver(concrete), Pulsemeter, Push Button(Buzz Box)Elevator, Raise Boring Machine, Road Mix Machines. Robot Hammer(Brock or similar), Robotic EquipmentRoss Carrier and similar machines, Shovels(Tunnels), Side Boom, Slip Form Machine, Spreader(Asphalt), Scoopmobile-Tractor-Shovel over 1 1/2 yards, Trenching Machines, Telephies-Vermeer Concrete Saw Trencher and/or similar, Tractor type demolition equipment, Whirly.

GROUP I-B:  Road Paver(Asphalt).

GROUP II-A:  Ballast Regulators, Compactor Self-propelled, Cow Tracks, Fusion Machine, Rail Anchor Machines, Roller 4 ton and over, Scrapers (20 yard struck and under), Switch Tampsers, Vibratory Roller, etc., Welder.

GROUP II-B:  Mechanic(outside) all types.

GROUP III:  Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler (High Pressure), Concrete Breaker, Concrete Pump, Concrete Spreader, Curb Cutter Machine, Farm Tractor(all types), Finishing Machine(Concrete) Fine Grading Machine, Firemen, Forklift(ALL), John Henry Drill or similar, Joy Drill or similar Tractor Drilling Machine, Loader 1 1/2 yards and under, Locomotive(all sizes), Maintenance Engineer, Machine Pulling Sheeps Foot Roller, Material Hopper, Mixer Concrete(21-E & over), Mulching Grass Spreader, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher, Powerhouse Plant, Quarry Master, Roller under 4 ton, Spreading and Fine Grading Machine, Stone Crusher, Sweeper, Turbo Jet Burner or similar, Well Drilling Machine, Winch Truck "A" Frame.

GROUP IV-A: Service Person(Fuel Truck), Service Person(Grease Truck).

GROUP IV-B: Bending Machine, Compressor-Compressor Plant-Paint, Compressor-Steel Erection, Compressor Truck Mounted(2-6), Conveyor Belt Machine, Dust Collector, Heater(all types), Lighting Unit(portable & generator), Mixer Concrete under 21-E, Pilot/Assistant Engineer/2 seated, Pumps-Pump Station-Water-Sewer-Gypsum-Plaster, etc., Pump Truck(Sewer Jet or similar), Roller Motorized(Walk behind), Steam Jenny, Stock Room Attendant, Syphon Pump-Air-Stream, Tar Joint Machine, Vibrator(1 to 5), Welding Machine, Welders Helper.

GROUP V-A: Engineer(all Tower Cranes, all Climbing Cranes & all cranes of 100 ton capacity or greater),Hoist Engineer(Steel-Sub Structure), Engineer-Pile Driver, Jersey-Spreader, Pavement breaker, Post Hole Digger

WAGES: (per hour)

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>03/04/2019</th>
<th>03/02/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROUP I</td>
<td>$59.75</td>
<td>$61.03</td>
<td>$62.38</td>
</tr>
<tr>
<td>GROUP I-A</td>
<td>52.71</td>
<td>53.80</td>
<td>54.95</td>
</tr>
<tr>
<td>GROUP I-B</td>
<td>55.52</td>
<td>56.69</td>
<td>57.92</td>
</tr>
<tr>
<td>GROUP II-A</td>
<td>50.49</td>
<td>51.52</td>
<td>52.61</td>
</tr>
<tr>
<td>GROUP II-B</td>
<td>52.06</td>
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<tr>
<td>GROUP III</td>
<td>49.61</td>
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<tr>
<td>GROUP IV-A</td>
<td>45.12</td>
<td>46.00</td>
<td>46.93</td>
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<tr>
<td>GROUP IV-B</td>
<td>38.78</td>
<td>39.49</td>
<td>40.24</td>
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<tr>
<td>GROUP V-A</td>
<td>67.64</td>
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<tr>
<td>Engineer-Cranes</td>
<td>65.33</td>
<td>66.77</td>
<td>68.27</td>
</tr>
<tr>
<td>Hoist Engineer</td>
<td>61.28</td>
<td>62.61</td>
<td>64.00</td>
</tr>
<tr>
<td>Jersey Spreader</td>
<td>51.65</td>
<td>52.71</td>
<td>53.83</td>
</tr>
<tr>
<td>Pavement Breaker</td>
<td>51.65</td>
<td>52.71</td>
<td>53.83</td>
</tr>
<tr>
<td>Post Hole Digger</td>
<td>51.65</td>
<td>52.71</td>
<td>53.83</td>
</tr>
</tbody>
</table>

SHIFT DIFFERENTIAL:
A 15% premium on all hours paid, including overtime hours for 2nd, 3rd shifts on all government mandated off-shift work

An additional 20% to wage when required to wear protective equipment on hazardous/toxic waste projects. Operators required to use two buckets pouring concrete on other than road pavement shall receive $0.50 per hour over scale. Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional $2.00 per hour. Engineers operating cranes with booms 149 feet or over in length will be paid an additional $3.00 per hour. Operators of shovels with a capacity over (4) cubic yards shall be paid an additional $1.00 per hour. Operators of loaders with a capacity over (5) cubic yards shall be paid an additional $0.50 per hour.
SUPPLEMENTAL BENEFITS
Per hour:
Journeyworker:

<table>
<thead>
<tr>
<th>Date</th>
<th>Rate</th>
<th>Rate</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/01/2018</td>
<td>$20.85</td>
<td>$21.55</td>
<td>$22.50</td>
</tr>
<tr>
<td>03/04/2019</td>
<td>+$8.00</td>
<td>+$8.00</td>
<td>+$8.00</td>
</tr>
<tr>
<td>03/02/2020</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Limited to 40 hours)

OVERTIME PAY
See (D, O, *U, V) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

* Note: For Holiday codes 5 & 6, code U applies.
Note: If employees are required to work on Easter Sunday, they shall be paid at the rate of triple time.

REGISTERED APPRENTICES
(1)year terms at the following rates:

<table>
<thead>
<tr>
<th>Date</th>
<th>Rate</th>
<th>Rate</th>
<th>Rate</th>
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</thead>
<tbody>
<tr>
<td>07/01/2018</td>
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<td>03/04/2019</td>
<td>$29.77</td>
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<td>03/02/2020</td>
<td>$34.73</td>
<td>$35.43</td>
<td>$36.18</td>
</tr>
<tr>
<td>1st term</td>
<td></td>
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</tr>
<tr>
<td>2nd term</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3rd term</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th term</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour:

<table>
<thead>
<tr>
<th>Date</th>
<th>Rate</th>
<th>Rate</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/01/2018</td>
<td>$20.85</td>
<td>$21.55</td>
<td>$22.50</td>
</tr>
<tr>
<td>03/04/2019</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>03/02/2020</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All terms

Operating Engineer - Marine Dredging

JOB DESCRIPTION Operating Engineer - Marine Dredging
DISTRICT 4

ENTIRE COUNTIES
Albany, Bronx, Cayuga, Chautauqua, Clinton, Columbia, Dutchess, Erie, Essex, Franklin, Greene, Jefferson, Kings, Monroe, Nassau, New York, Niagara, Orange, Orleans, Oswego, Putnam, Queens, Rensselaer, Richmond, Rockland, St. Lawrence, Suffolk, Ulster, Washington, Wayne, Westchester

WAGES
These wages do not apply to Operating Engineers on land based construction projects. For those projects, please see the Operating Engineer Heavy/Highway Rates. The wage rates below for barge mounted cranes and other equipment are only for marine dredging work in navigable waters found in the counties listed above.

Per Hour:

DREDGING OPERATIONS 07/01/2018
CLASS A
Operator, Leverman, $38.18
Lead Dredgeman

CLASS A1
Dozer, Front Loader
To conform to Operating Engineer Prevailing Wage in locality where work is being performed including benefits.

CLASS B
Barge Operator $33.02
Spider/Spill
Tug Operator (over 1000hp), $31.09
Operator, Fill Placer,
Derrick Operator, Engineer,
Chief Mate, Electrician,
Chief Welder,
Maintenance Engineer

Certified Welder,
Boat Operator (licensed)

CLASS C
Drag Barge Operator, $ 30.24
Steward, Mate,
Assistant Fill Placer,

Welder (please add)$ 0.06

Boat Operator $ 29.26

CLASS D
Shoreman, Deckhand,
Rodman, Scowman, Cook,
Messman, Porter/Janitor

Oiler (please add)$ 0.09

SUPPLEMENTAL BENEFITS
Per Hour:
THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

07/01/2018
All Classes A & B
$11.23 plus 8% of straight time wage, Overtime hours add $ 0.63

All Class C
$10.93 plus 8% of straight time wage, Overtime hours add $ 0.48

All Class D
$10.63 plus 8% of straight time wage, Overtime hours add $ 0.33

OVERTIME PAY
See (B, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 26) on HOLIDAY PAGE

Operating Engineer - Survey Crew 08/01/2018

JOB DESCRIPTION Operating Engineer - Survey Crew

DISTRICT 12

ENTIRE COUNTIES
Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton,
Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer,
Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES
Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.
Genesee: Only the portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia.

WAGES
These rates apply to Building and Heavy Highway.

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.
07/01/2018

Party Chief  $40.45
Instrument Person  $38.17
Rod Person  $26.48

Additional $3.00/hr. for Tunnel Work
Additional $2.50/hr. for Hazardous Work Site

SUPPLEMENTAL BENEFITS
Per hour worked:

Journeyman  $25.75

OVERTIME PAY
See (B, E, P, T) on OVERTIME PAGE

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:

07/01/2018

<table>
<thead>
<tr>
<th>Range</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1000</td>
<td>60%</td>
</tr>
<tr>
<td>1001-2000</td>
<td>70%</td>
</tr>
<tr>
<td>2001-3000</td>
<td>80%</td>
</tr>
</tbody>
</table>

SUPPLEMENTAL BENEFIT per hour worked:

<table>
<thead>
<tr>
<th>Range</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1000</td>
<td>$15.45</td>
</tr>
<tr>
<td>1001-2000</td>
<td>$18.03</td>
</tr>
<tr>
<td>2001-3000</td>
<td>$20.60</td>
</tr>
</tbody>
</table>

12-158-545 D.H.H.

Operating Engineer - Survey Crew - Consulting Engineer 08/01/2018

JOB DESCRIPTION  Operating Engineer - Survey Crew - Consulting Engineer  DISTRICT  12

ENTIRE COUNTIES

PARTIAL COUNTIES
Dutchess: The northern portion of the county from the northern boundary line of the City of Poughkeepsie, north.
Genesee: Only the portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia.

WAGES
These rates apply to feasibility and preliminary design surveying, line and 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.

07/01/2018

<table>
<thead>
<tr>
<th>Role</th>
<th>Rate</th>
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</thead>
<tbody>
<tr>
<td>Party Chief</td>
<td>$41.40</td>
</tr>
<tr>
<td>Instrument Person</td>
<td>$38.02</td>
</tr>
<tr>
<td>Rod Person</td>
<td>$28.12</td>
</tr>
</tbody>
</table>

Additional $3.00/hr. for Tunnel Work.
Additional $2.50/hr. for EPA or DEC certified toxic or hazardous waste work.

SUPPLEMENTAL BENEFITS
Per hour worked:
Journeyman $ 24.90

OVERTIME PAY
See (B, E, P, T) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
WAGES: 1000 hour terms based on percentage of Rod Persons Wage:

<table>
<thead>
<tr>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1000</td>
<td>60%</td>
</tr>
<tr>
<td>1001-2000</td>
<td>70%</td>
</tr>
<tr>
<td>2001-3000</td>
<td>80%</td>
</tr>
</tbody>
</table>

SUPPLEMENTAL BENIFIT per hour worked:

<table>
<thead>
<tr>
<th>Hours</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1000</td>
<td>$ 16.82</td>
</tr>
<tr>
<td>1001-2000</td>
<td>$ 19.63</td>
</tr>
<tr>
<td>2001-3000</td>
<td>$ 22.45</td>
</tr>
</tbody>
</table>

Operating Engineer - Survey Crew - Consulting Engineer

08/01/2018

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer

DISTRICT 9

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

PARTIAL COUNTIES
Dutchess: That part in Duchess County lying South of the North City line of Poughkeepsie.

WAGES
Feasibility and preliminary design surveying, any line and grade surveying for inspection or supervision of construction.

Per hour:

<table>
<thead>
<tr>
<th>Classification</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Party Chief</td>
<td>$ 43.10</td>
</tr>
<tr>
<td>Instrument Man</td>
<td>36.01</td>
</tr>
<tr>
<td>Rodman</td>
<td>31.54</td>
</tr>
</tbody>
</table>

SUPPLEMENTAL BENEFITS
Per Hour:

All Crew Members: $ 18.50

OVERTIME PAY
OVERTIME: See (B, E*, Q, V) ON OVERTIME PAGE.
*Doubletime paid on the 9th hour on Saturday.

HOLIDAY
Paid: See (5, 6, 7, 11, 16) on HOLIDAY PAGE
Overtime: See (5, 6, 7, 11, 16) on HOLIDAY PAGE

Operating Engineer - Tunnel

08/01/2018

JOB DESCRIPTION Operating Engineer - Tunnel

DISTRICT 7

ENTIRE COUNTIES

PARTIAL COUNTIES
Dutchess: Northern part of Dutchess to the northern boundary line of the City of Poughkeepsie then due east to Route 115 to Bedell Road then east along Bedell Road to VanWagner Road then north along VanWagner Road to Bower Road then east along Bower Road to Rte. 44 east to Rte. 343 then along Rte. 343 east to the northern boundary of the Town of Dover Plains and east along the northern boundary of the Town of Dover Plains to Connecticut.
Genesee: Only that portion of the county that lies east of a line drawn down the center of Route 98 and the entirety of the City of Batavia.
WAGES

CLASS A: Automatic Concrete Spreader (CMI Type); Automatic Fine Grader; Backhoe (except tractor mounted, rubber tired); Belt Placer (CMI Type); Blacktop Plant (automated); Cableway; Caisson Auger; Central Mix Concrete Plant (automated); Concrete Curb Machine (self-propelled slipform); Concrete Pump (8" or over); Dredge; Dual Drum Paver; Excavator; Front End Loader (4 cu. yd & over); Gradall; Head Tower (Sauerman or Equal); Hoist (shaft); Hoist (two or three Drum); Log Chipper/Loader (self-feeder); Maintenance Engineer (shaft and tunnel); any Mechanical Shaft Drill; Mine Hoist; Mining Machine (Mole and similar types); Mucking Machine or Mole; Overhead Crane (Gantry or Straddle Type); Pile Driver; Power Grader; Remote Controlled Mole or Tunnel Machine; Scraper; Shovel; Side Boom; Slip Form Paver (If a second man is needed, they shall be an Oiler); Tripper/Maintenance Engineer (shaft & tunnel); Tractor Drawn Belt-Type Loader; Tug Operator (manned rented equipment excluded); Tunnel Shovel

CLASS B: Automated Central Mix Concrete Plant; Backhoe (topside); Backhoe (track mounted, rubber tired); Bituminous Spreader and Mixer, Blacktop Plant (non-automated); Blast or Rotary Drill (truck or tractor mounted); Boring Machine; Cage Hoist; Central Mix Plant (non-automated); all Concrete Batching Plants; Compressors (4 or less exceeding 2,000 c.f.m. combined capacity); Concrete Pump; Crusher; Diesel Power Unit; Drill Rigs (tractor mounted); Front End Loader (under 4 cu. yd.); Grayco Epoxy Machine; Hoist (One Drum); Hoist (2 or 3 drum topside); Knuckle Boom material handler; Kolman Plant Loader & similar type Loaders (if employer requires another person to clean the screen or to maintain the equipment, they shall be an Oiler); L.C.M. Work Boat Operator; Locomotive; Maintenance Engineer (topside); Maintenance Grease Man; Mixer (for stabilized base-self propelled); Monorail Machine; Plant Engineer; Personnel Hoist; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above sub-grade); Sea Mule; Shotcrete Machine; Shovel (topside); Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Tunnel Locomotive; Welder; Winch; Winch Cat

CLASS C: A Frame Truck; All Terrain Telescoping Material Handler; Ballast Regulator (ride-on); Compressors (4 not to exceed 2,000 c.f.m. combined capacity; or 3 or less with more than 1200 c.f.m. but not to exceed 2,000 c.f.m.); Compressors ((any size, but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (4 or any type combination)); Concrete Pavement Spreaders and Finishers; Electric Pump used in conjunction with Well Point System; Farm Tractor with Accessories; Fine Grade Machine; Fork Lift; Grout Pump (over 5 cu. ft.); Gunite Machine; Hammers (hydraulic-self-propelled); Hydra-Mat (ride-on); Hydra-Mat (water); Hydro-Blaster; Motorized Form Carrier; Post Hole Digger and Post Driver; Power Sweeper; Roller grade & fill; Scarifier (ride-on); Span-Saw (ride-on); Submersible Electric Pump (when used in lieu of well points); Tamper (ride-on); Tie-Extractor (ride-on); Tie Handler (ride-on), Tie Inserter (ride-on), Tie Spacer (ride-on); Track Liner (ride-on); Tractor with towed accessories; Vibratory Compactor; Vibro Tamp, Well Point

CLASS D: Aggregate Plant; Cement & Bin Operator; Compressors (3 or less not to exceed 1,200 c.f.m. combined capacity); Compressors ((any size, but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (3 or less or any type or combination)); Concrete Saw (self-propelled); Form Tamper; Greaseman; Hydraulic Pump (jacking system); Junior Engineer; Light Plants; Multiplex Machine; Oiler; Parapet Concrete or Pavement Grinder; Power Broom (towed); Power Heaterman (when used for production); Revinius Widener; Shell Winder; Steam Cleaner; Tractor

WAGES per hour:

<table>
<thead>
<tr>
<th>Master Mechanic</th>
<th>$ 46.65</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASS A</td>
<td>44.24</td>
</tr>
<tr>
<td>CLASS B</td>
<td>43.02</td>
</tr>
<tr>
<td>CLASS C</td>
<td>40.23</td>
</tr>
<tr>
<td>CLASS D</td>
<td>37.22</td>
</tr>
</tbody>
</table>

Additional $5.00 per hour for Hazardous Waste Work on a state or federally designated hazardous waste site where the Operating Engineer is in direct contact with hazardous material and when personal protective equipment is required for respiratory, skin and eye protection. Fringe benefits will be paid at the hourly wage premium.

CRANES:
Crane 1: All cranes, including self-erecting to be paid $4.00 per hour over the Class A rate.
Crane 2: All Lattice Boom Cranes and all cranes with a manufacturer's rating of fifty (50) ton and over to be paid $3.00 per hour over Class A rate.
Crane 3: All hydraulic cranes and derricks with a manufacturer's rating of forty nine (49) ton and below, including boom trucks, to be paid $2.00 per hour over Class A rate.

| Crane 1           | $ 48.24 |
| Crane 2           | 47.24   |
| Crane 3           | 46.24   |

SUPPLEMENTAL BENEFITS
Per hour: $ 28.40

OVERTIME PAY
See (B, B2, E, Q, X) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE
If a holiday falls on Sunday, it shall be observed on Monday.

REGISTERED APPRENTICES
WAGES: (1000) hours terms at the following percentage of Journeyman's wage.

1st term  60% of Class B
2nd term  65% of Class B
3rd term  70% of Class B
4th term  75% of Class B

SUPPLEMENTAL BENEFITS per hour paid: Same as Journeyman

7-158-832TL.

Painter

JOB DESCRIPTION Painter

ENTIRE COUNTIES
Columbia, Dutchess, Greene, Orange, Sullivan, Ulster

WAGES
Per hour

07/01/2018  05/01/2019
Additional

Brush/Paper Hanger  $32.99  $32.99
Dry Wall Finisher  32.99
Lead Abatement  32.99
Sandblaster-Painter  32.99
Spray Rate  33.99

See Bridge Painting rates for the following work:
Structural Steel, all work performed on tanks, ALL BRIDGES, towers, smoke stacks, flag poles. Rate shall apply to all of said areas from the ground up.

SUPPLEMENTAL BENEFITS
Per hour
Journeyman  $22.89

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
Six (6) month terms at the following percentage of Journeyman's wage

<table>
<thead>
<tr>
<th>Term</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40%</td>
<td>50%</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour worked

<table>
<thead>
<tr>
<th>Term</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st term</td>
<td>$10.24</td>
</tr>
<tr>
<td>All others</td>
<td>22.89</td>
</tr>
</tbody>
</table>

Painter - Bridge & Structural Steel

JOB DESCRIPTION Painter - Bridge & Structural Steel

ENTIRE COUNTIES

WAGES
Per Hour:
STEEL:
Bridge Painting: 07/01/2018 10/01/2018

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>10/01/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ 49.50</td>
<td>$ 49.50</td>
</tr>
<tr>
<td></td>
<td>+ 6.38*</td>
<td>+ 6.38*</td>
</tr>
</tbody>
</table>

ADDITIONAL $6.00 per hour for POWER TOOL/SPRAY, whether straight time or overtime.

NOTE: All premium wages are to be calculated on base rate per hour only.

* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (no cap).

NOTE: Generally, 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.

SUPPLEMENTAL BENEFITS
Per Hour:
Journeyworker: 07/01/2018 10/01/2018

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>10/01/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ 8.25</td>
<td>$ 9.50</td>
</tr>
<tr>
<td></td>
<td>+ 24.35*</td>
<td>+ 26.05*</td>
</tr>
</tbody>
</table>

* For the period of May 1st to November 15th, this amount is payable up to 40 hours. For the period of Nov 16th to April 30th, this amount is payable up to 50 hours. EXCEPTION: First and last week of employment, and for the weeks of Memorial Day, Independence Day and Labor Day, where the amount is paid for the actual number of hours worked (no cap).

OVERTIME PAY
See (A, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (4, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES
Wage - Per hour:
Apprentices: (1) year terms

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>10/01/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td>$ 22.65</td>
<td>$ 23.13</td>
</tr>
<tr>
<td>2nd year</td>
<td>33.98</td>
<td>34.73</td>
</tr>
<tr>
<td>3rd year</td>
<td>45.30</td>
<td>46.30</td>
</tr>
</tbody>
</table>

Supplemental Benefits - Per hour:

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
<th>10/01/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td>$ 12.76</td>
<td>$ 13.44</td>
</tr>
<tr>
<td>2nd year</td>
<td>19.14</td>
<td>20.16</td>
</tr>
<tr>
<td>3rd year</td>
<td>25.52</td>
<td>26.88</td>
</tr>
</tbody>
</table>

Painter - Line Striping 08/01/2018

JOB DESCRIPTION Painter - Line Striping
DISTRICT 8

ENTIRE COUNTIES

WAGES
Per hour:

Painter (Striping-Highway): 07/01/2018

<table>
<thead>
<tr>
<th></th>
<th>07/01/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Striping-Machine Operator*</td>
<td>$ 29.93</td>
</tr>
<tr>
<td>Linerman Thermoplastic</td>
<td>$ 36.06</td>
</tr>
</tbody>
</table>

Note: * Includes but is not limited to: Positioning of cones and directing of traffic using hand held devices. Excludes the Driver/Operator of equipment used in the maintenance and protection of traffic safety.
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 paid: 07/01/2018
Journeyworker:
- Striping-Machine operator $7.44
- Linerman Thermoplastic $7.44

OVERTIME PAY
See (B, B2, E2, F, S) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 20) on HOLIDAY PAGE
Overtime: See (5, 20) on HOLIDAY PAGE

REGISTERED APPRENTICES
One (1) year terms at the following wage rates:

<table>
<thead>
<tr>
<th>Term</th>
<th>Wage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st term</td>
<td>$11.97</td>
</tr>
<tr>
<td>2nd term</td>
<td>$17.96</td>
</tr>
<tr>
<td>3rd term</td>
<td>$23.94</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour:

<table>
<thead>
<tr>
<th>Term</th>
<th>Wage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st term</td>
<td>$7.44</td>
</tr>
<tr>
<td>2nd term</td>
<td>7.44</td>
</tr>
<tr>
<td>3rd term</td>
<td>7.44</td>
</tr>
</tbody>
</table>

 Painter - Metal Polisher 08/01/2018

JOB DESCRIPTION Painter - Metal Polisher

DISTRICT 8

ENTIRE COUNTIES

WAGES 07/01/2018
- Metal Polisher $30.58
- Metal Polisher* 31.53
- Metal Polisher** 34.08

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS
Per Hour: 07/01/2018
Journeyworker:
All classification $7.72

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:

<table>
<thead>
<tr>
<th>Year</th>
<th>Wage Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/01/2018</td>
<td>$13.00</td>
</tr>
<tr>
<td>01/01/2019</td>
<td>$15.00</td>
</tr>
</tbody>
</table>
2nd year  13.00  15.00
3rd year  15.75  15.75

1st year*  $15.39  $17.39
2nd year*  15.44  17.44
3rd year*  16.29  18.29

1st year**  $17.50  19.50
2nd year**  17.50  19.50
3rd year**  18.25  20.25

*Note: Applies on New Construction & complete renovation
** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:
Per hour:

1st year  $5.52  $5.52
2nd year  5.52  5.52
3rd year  5.52  5.52

8-8A/28A-MP

Plumber 08/01/2018

JOB DESCRIPTION  Plumber
DUTCHESS COUNTY

PARTIAL COUNTIES
Delaware: Only the Townships of Middletown and Roxbury.
Ulster: Entire county (including Wallkill and Shawangunk Prisons in Town of Shawangunk) EXCEPT for remainder of Town of Shawangunk,
and Towns of Plattekill, Marlboro, and Wawarsing.

WAGES
Per hour:  07/01/2018
Plumber & Steamfitter  $50.84

SHIFT WORK:
When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of
eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4)
hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of
five days Monday through Friday must be worked to establish shift work.

SUPPLEMENTAL BENEFITS

Per hour:
Journeyworker:  $34.52

OVERTIME PAY
See (B, E, E2, Q, V) on OVERTIME PAGE

HOLIDAY
Paid:  See (1) on HOLIDAY PAGE
Overtime:  See (5, 6, 8, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
(1) year terms at the following rates:

07/01/2018

1st year  $19.30
2nd year  26.78
3rd year  31.07
4th year  37.33
5th year  43.09

Supplemental Benefits per hour:

1st year  $14.77
2nd year  18.74
3rd year  21.77
Plumber - HVAC / Service 08/01/2018

JOB DESCRIPTION  Plumber - HVAC / Service

ENTIRE COUNTIES
Dutchess, Putnam, Westchester

PARTIAL COUNTIES
Delaware: Only the townships of Middletown and Roxbury
Ulster: Entire County (including Wallkill and Shawangunk Prisons) except for remainder of Town of Shawangunk and Towns of Plattekill, Marlboro, and Wawarsing.

WAGES
Per hour: 07/01/2018
HVAC Service $ 42.50

SUPPLEMENTAL BENEFITS
Per hour: 07/01/2018
Journeyworker HVAC Service $ 22.44

OVERTIME PAY
See (B, F, R) on OVERTIME PAGE

HOLIDAY
Paid: See (5, 6, 16, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
HVAC SERVICE
(1) year terms at the following wages:

<table>
<thead>
<tr>
<th>Year</th>
<th>1st yr.</th>
<th>2nd yr.</th>
<th>3rd yr.</th>
<th>4th yr.</th>
<th>5th yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/01/2018</td>
<td>$ 19.74</td>
<td>$ 23.17</td>
<td>$ 28.91</td>
<td>$ 35.40</td>
<td>$ 38.18</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour:

Apprentices 07/01/2018

1st term $ 17.82
2nd term 18.61
3rd term 19.54
4th term 20.74
5th term 21.63

Plumber - Jobbing & Alterations 08/01/2018

JOB DESCRIPTION  Plumber - Jobbing & Alterations

ENTIRE COUNTIES
Dutchess, Putnam, Westchester

PARTIAL COUNTIES
Ulster: Entire county (including Wallkill and Shawangunk Prisons in Town of Shawangunk) EXCEPT for remainder of Town of Shawangunk, and Towns of Plattekill, Marlboro, and Wawarsing.

WAGES
Per hour: 07/01/2018
Journeyworker: $ 43.15

Repairs, replacements and alteration work is any repair or replacement of a present plumbing system that does not change existing roughing or water supply lines.
SHIFT WORK:
When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

SUPPLEMENTAL BENEFITS
Per hour:
Journeyworker
$ 28.84

OVERTIME PAY
See (B, *E, E2, Q, V) on OVERTIME PAGE
*When used as a make-up day, hours after 8 on Saturday shall be paid at time and one half.

HOLIDAY
Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES
(1) year terms at the following wages:

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>$ 18.84</td>
</tr>
<tr>
<td>2nd</td>
<td>20.88</td>
</tr>
<tr>
<td>3rd</td>
<td>22.51</td>
</tr>
<tr>
<td>4th</td>
<td>31.68</td>
</tr>
<tr>
<td>5th</td>
<td>33.42</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour:

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>$ 9.13</td>
</tr>
<tr>
<td>2nd</td>
<td>10.82</td>
</tr>
<tr>
<td>3rd</td>
<td>14.45</td>
</tr>
<tr>
<td>4th</td>
<td>19.45</td>
</tr>
<tr>
<td>5th</td>
<td>21.20</td>
</tr>
</tbody>
</table>

...
Sheetmetal Worker

**JOB DESCRIPTION** Sheetmetal Worker

**ENTIRE COUNTIES**
Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

**WAGES**

SheetMetal Worker 
07/01/2018
$ 43.70

**SHIFT WORK**
For all NYS D.O.T. and other Governmental mandated off-shift work:
10% increase for additional shifts for a minimum of five (5) days

**SUPPLEMENTAL BENEFITS**

Journeyworker 
$ 41.42

**OVERTIME PAY**

OVERTIME: See (B, E, Q, ) on OVERTIME PAGE.

**HOLIDAY**

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 16, 23) on HOLIDAY PAGE

**REGISTERED APPRENTICES**

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
</tr>
</thead>
<tbody>
<tr>
<td>$16.18</td>
<td>$18.20</td>
<td>$20.23</td>
<td>$22.25</td>
<td>$24.27</td>
<td>$26.30</td>
<td>$28.80</td>
<td>$31.29</td>
</tr>
</tbody>
</table>

Supplemental Benefits per hour:

Apprentices
1st term $ 17.86
2nd term 20.09
3rd term 22.31
4th term 24.58
5th term 26.79
6th term 29.02
7th term 30.77
8th term 32.55

Sprinkler Fitter

**JOB DESCRIPTION** Sprinkler Fitter

**ENTIRE COUNTIES**
Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

**WAGES**

Per hour

<table>
<thead>
<tr>
<th>Sprinkler Fitter</th>
<th>07/01/2018</th>
<th>01/01/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 45.42</td>
<td>45.42</td>
<td></td>
</tr>
</tbody>
</table>

**SUPPLEMENTAL BENEFITS**

Per hour

Journeyman $ 23.42 23.97

**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

For Apprentices HIRED ON OR AFTER 04/01/2010:

One Half Year terms at the following percentage of journeyman's wage.
### Supplemental Benefits per hour worked

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
<th>9th</th>
<th>10th</th>
</tr>
</thead>
<tbody>
<tr>
<td>$9.05</td>
<td>$9.11</td>
<td>$17.24</td>
<td>$17.30</td>
<td>$17.66</td>
<td>$17.92</td>
<td>$17.98</td>
<td>$18.03</td>
<td>$18.09</td>
<td>$18.15</td>
</tr>
</tbody>
</table>

For Apprentices HIRED ON OR AFTER 04/01/2013:
One Half Year terms at the following percentage of journeyman's wage.

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
<th>9th</th>
<th>10th</th>
</tr>
</thead>
<tbody>
<tr>
<td>45%</td>
<td>50%</td>
<td>55%</td>
<td>60%</td>
<td>65%</td>
<td>70%</td>
<td>75%</td>
<td>80%</td>
<td>85%</td>
<td>90%</td>
</tr>
</tbody>
</table>

### Supplemental Benefits per hour worked

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
<th>9th</th>
<th>10th</th>
</tr>
</thead>
<tbody>
<tr>
<td>$8.27</td>
<td>$8.27</td>
<td>$17.24</td>
<td>$17.24</td>
<td>$17.49</td>
<td>$17.49</td>
<td>$17.49</td>
<td>$17.49</td>
<td>$17.49</td>
<td>$17.49</td>
</tr>
</tbody>
</table>

### JOB DESCRIPTION

Teamster - Building / Heavy&Highway

#### ENTIRE COUNTIES
Dutchess, Orange, Rockland, Sullivan, Ulster

#### WAGES

**GROUP 1:** LeTourneau Tractors, Double Barrel Euclids, Athney Wagons and similar equipment (except when hooked to scrapers), I-Beam and Pole Trailers, Tire Trucks, Tractor and Trailers with 5 axles and over, Articulated Back Dumps and Road Oil Distributors, Articulated Water Trucks and Fuel Trucks/Trailers, positions requiring a HAZMAT CDL endorsement.

**GROUP 1A:** Drivers on detachable Gooseneck Low Bed Trailers rated over 35 tons.

**GROUP 2:** All equipment 25 yards and up to and including 30 yard bodies and cable Dump Trailers and Powder and Dynamite Trucks.

**GROUP 3:** All Equipment up to and including 24-yard bodies, Mixer Trucks, Dump Crete Trucks and similar types of equipment, Fuel Trucks, Batch Trucks and all other Tractor Trailers, Hi-Rail Truck.

**GROUP 4:** Tri-Axles, Ten Wheelers, Grease Trucks, Tillerman, Pattern Trucks, Attenuator Trucks. Water Trucks, Bus.

**GROUP 5:** Straight Trucks.

**GROUP 6:** Pick-up Trucks for hauling materials and parts, and Escort Man over-the-road.

#### WAGES: (per hour)

<table>
<thead>
<tr>
<th>GROUP</th>
<th>07/01/2018</th>
<th>05/01/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROUP 1</td>
<td>$32.50</td>
<td>$33.25</td>
</tr>
<tr>
<td>GROUP 1A</td>
<td>33.64</td>
<td>34.39</td>
</tr>
<tr>
<td>GROUP 2</td>
<td>31.94</td>
<td>32.69</td>
</tr>
<tr>
<td>GROUP 3</td>
<td>31.72</td>
<td>32.47</td>
</tr>
<tr>
<td>GROUP 4</td>
<td>31.61</td>
<td>32.36</td>
</tr>
<tr>
<td>GROUP 5</td>
<td>31.49</td>
<td>32.24</td>
</tr>
<tr>
<td>GROUP 6</td>
<td>31.49</td>
<td>32.24</td>
</tr>
</tbody>
</table>

#### NOTE ADDITIONAL PREMIUMS:

- On projects requiring an irregular shift a premium of 10% will be paid on wages. The premium will be paid for off-shift or irregular shift work when mandated by Governmental Agency.

- Employees engaged in hazardous/toxic waste removal, on a State or Federally designated hazardous/toxic waste site, where the employee comes in contact with hazardous/toxic waste material and when personal protective equipment is required for respiratory, skin, or eye protection, the employee shall receive an additional 20% premium above the hourly wage.

#### SUPPLEMENTAL BENEFITS

**Per hour:**

- First 40 hours: $34.46
- Over 40 hours: $27.82

#### OVERTIME PAY

See (*B, E, **P, X) on OVERTIME PAGE

*Holidays worked Monday through Friday receive Double Time (2x) after 8 hours.*
Sunday Holidays are paid at a rate of double time and one half (2.5x) for all hours worked.

**HOLIDAY**
Paid: See (5, 6, 15, 25) on HOLIDAY PAGE
Overtime: See (**1) on HOLIDAY PAGE
*See OVERTIME PAY section for when additional premium is applicable on Holiday hours worked.

11-445B/HH

Welder

**JOB DESCRIPTION** Welder

**DISTRICT** 1

**ENTIRE COUNTIES**

**WAGES**
Per hour 07/01/2018

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(AA)</td>
<td>Time and one half of the hourly rate after 7 and one half hours per day</td>
</tr>
<tr>
<td>(A)</td>
<td>Time and one half of the hourly rate after 7 hours per day</td>
</tr>
<tr>
<td>(B)</td>
<td>Time and one half of the hourly rate after 8 hours per day</td>
</tr>
<tr>
<td>(B1)</td>
<td>Time and one half of the hourly rate for the 9th &amp; 10th hours week days and the 1st 8 hours on Saturday. Double the hourly rate for all additional hours</td>
</tr>
<tr>
<td>(B2)</td>
<td>Time and one half of the hourly rate after 40 hours per week</td>
</tr>
<tr>
<td>(C)</td>
<td>Double the hourly rate after 7 hours per day</td>
</tr>
<tr>
<td>(C1)</td>
<td>Double the hourly rate after 7 and one half hours per day</td>
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<td>(D)</td>
<td>Double the hourly rate after 8 hours per day</td>
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<td>(D1)</td>
<td>Double the hourly rate after 9 hours per day</td>
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<td>(E)</td>
<td>Time and one half of the hourly rate on Saturday</td>
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<td>(E1)</td>
<td>Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours</td>
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<td>(E2)</td>
<td>Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather</td>
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<td>(E3)</td>
<td>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</td>
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<td>(E4)</td>
<td>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</td>
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<td>(E5)</td>
<td>Double time after 8 hours on Saturdays</td>
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<td>(F)</td>
<td>Time and one half of the hourly rate on Saturday and Sunday</td>
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<tr>
<td>(G)</td>
<td>Time and one half of the hourly rate on Saturday and Holidays</td>
</tr>
<tr>
<td>(H)</td>
<td>Time and one half of the hourly rate on Saturday, Sunday, and Holidays</td>
</tr>
<tr>
<td>(I)</td>
<td>Time and one half of the hourly rate on Sunday</td>
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<tr>
<td>(J)</td>
<td>Time and one half of the hourly rate on Sunday and Holidays</td>
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<td>(M)</td>
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<td>Double the hourly rate on Saturday and Holidays</td>
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<td>(P)</td>
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<td>(Q)</td>
<td>Double the hourly rate on Sunday and Holidays</td>
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<tr>
<td>(R)</td>
<td>Double the hourly rate on Holidays</td>
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<tr>
<td>(S)</td>
<td>Two and one half times the hourly rate for Holidays, if worked</td>
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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.

Triple the hourly rate for Holidays, if worked

Four times the hourly rate for Holidays, if worked

Including benefits at SAME PREMIUM as shown for overtime

Time and one half for benefits on all overtime hours.

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
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)  

2. NY State Units (see Item 5)  
☐ 07 City  
☐ 08 Local School District  
☐ 09 Special Local District, i.e., Fire, Sewer, Water District  
☐ 10 Village  
☐ 11 Town  
☐ 12 County  
☐ 13 Other Non-N.Y. State 

Telephone:  
Fax:  
E-Mail:

3. SEND REPLY TO  
☐ check if new or change)  

Name and complete address:  

Telephone:  
Fax:  
E-Mail:

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:  
☐ Construction (Building, Heavy Highway/Sewer/Water)  
☐ Tunnel  
☐ Residential  
☐ Landscape Maintenance  
☐ Elevator maintenance  
☐ Exterminators, Fumigators  
☐ Fire Safety Director, NYC Only  
☐ Guards, Watchmen  
☐ Janitors, Porters, Cleaners, Elevator Operators  
☐ Moving furniture and equipment  
☐ Trash and refuse removal  
☐ Window cleaners  
☐ Other (Describe)

9. Has this project been reviewed for compliance with the Wicks Law involving separate bidding?  
☐ YES  ☐ NO

10. Name and Title of Requester  

Signature  

SEE PAGE TWO FOR LAWS RELATING TO PUBLIC WORK CONTRACTS

PW-39 (04.11)
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
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### Article 8

**NYSDOL Bureau of Public Work Debarment List**  
08/07/2018

| DOL | NYC | ROBERT GUIDO | 3256 BRUNER AVENUE  
BRONX NY 10469 | 07/29/2014 | 07/29/2019 |
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| DOL | DOL | ROBERT TORDELLA | 125 CHAUTAUQUA AVENUE  
LAKEWOOD NY 14750 | 06/24/2015 | 06/24/2020 |
| DOL | DOL | ROCHESTER ACOUSTICAL CORP | P O BOX 799  
HILTON NY 14688 | 02/19/2016 | 02/19/2021 |
| NYC | NYC | RODNEY SCOTT | 201 HEMPSTEAD AVENUE  
WEST HEMPSTEAD NY 11552 | 10/30/2015 | 10/30/2020 |
| DOL | DOL | ROMEO WARREN | 161 ROBYN RD  
MONROE NY 10950 | 09/18/2013 | 09/18/2019 |
| DOL | DOL | ROMEO WARREN | 161 ROBYN RD  
MONROE NY 10950 | 01/30/2018 | 01/30/2023 |
| DOL | DOL | ROSEANNE CANTISANI | 10 ST CHARLES STREET  
TROYWOOD NY 10594 | 09/03/2013 | 09/03/2018 |
| DOL | DOL | RYAN ALBIE | 21 S HOWELLS POINT ROAD  
BELLPORT NY 11713 | 02/21/2017 | 02/21/2022 |
| DOL | DOL | RYAN ALBIE CONTRACTING INC | SUITE B-8  
782 PELHAM PARKWAY  
SOUTHBRONX NY 10462 | 04/21/2016 | 04/21/2021 |
| NYC | NYC | SABIR MUHAMMAD | 4908 BROADWAY 6  
NEW YORK NY 10040 | 08/04/2014 | 08/04/2019 |
| NYC | NYC | SAEED HASAN | 4908 BROADWAY 6  
NEW YORK NY 10040 | 10/30/2015 | 10/30/2020 |
| DOL | DOL | SCOTT ELECTRICAL LLC | 201 HEMPSTEAD AVENUE  
WEST HEMPSTEAD NY 11552 | 04/14/2014 | 04/14/2019 |
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QUEENS VILLAGE NY 11427 | 12/16/2013 | 12/16/2018 |
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VALHALLA NY 10595 | 02/14/2017 | 02/14/2022 |
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FULTONVILLE NY 12072 | 06/23/2016 | 06/23/2021 |
| DOL | DOL | STEPHEN P SUCATO | 15-68 208TH STREET  
BAYSIDE NY 11360 | 08/18/2014 | 08/18/2019 |
| DOL | DOL | STEVEN SAGESE | 3005 WYNSUM AVENUE  
MERRICK NY 11566 | 01/23/2017 | 01/23/2022 |
| DOL | DOL | STEVEN TESTA | 50 SALEM STREET - BLDG B  
LYNNFIELD MA 01940 | 07/28/2012 | 11/19/2018 |
| DOL | DOL | STUART CHAIN | 334 ROUTE 303  
BLAUVET NY 12013 | 11/19/2015 | 11/19/2020 |
| NYC | NYC | SUBLINK LTD | 345 THIRDO AVENUE  
PELHAM NY 10803 | 10/16/2013 | 10/16/2018 |
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PROPOSAL FOR
TOWN OF POUGHKEEPSIE

ARLINGTON WASTEWATER TREATMENT PLANT
PRIMARY AND SECONDARY SCUM WELLS PUMPING EQUIPMENT

CONTRACT NO. 2018-05

DIVISION 600
TECHNICAL SPECIFICATIONS

PREPARED BY:

ENGINEERING DEPARTMENT
TOWN OF POUGHKEEPSIE
ONE OVEROCKER ROAD
POUGHKEEPSIE, NEW YORK 12603

AUGUST 2018
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End of Section
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 600 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements governing allowances.

B. Types of allowances include the following:

1. General Contingency Allowance
   a. An allowance amount has been established for the project for unforeseen and additional work discovered during work on the project.
   b. Payment for such work will be made by Change Order.

1.3 SELECTION AND PURCHASE

A. At Engineer’s request, provide change order proposals for each work item and its respective allowance for review and approval. Include recommendations that are relevant to performing the Work.

1.4 SUBMITTALS

A. Coordinate and process Change Orders for allowance items in same manner as for other portions of the Work.

1.5 ALLOWANCES

A. Use the extra work and general contingency allowances only as directed by Engineer for Owner’s purposes and only by Change Orders that indicate amounts to be charged to each respective allowance.
B. Contractor's overhead, profit, and related costs for products, equipment and work ordered by Owner under the extra work and general contingency allowances are included in the allowances and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

C. Change Orders authorizing use of funds from the extra work and general contingency allowances will include Contractor's related costs and reasonable overhead and profit margins.

D. At Project closeout, credit unused amounts remaining in the extra work and general contingency allowances to Owner by Change Order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Potential extra work areas may be identified by SUEZ personnel, by the Engineer, or by the Contractor.

B. Examine potential extra work areas to determine the exact work required and to be included in the Change Order.

3.2 PREPARATION

A. Coordinate materials and their installation for allowance work with other contract work to and installations to ensure that the allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

The Bid Sheet includes the following contingency allowances in the amounts stated and for use in accordance with the Engineer's instructions.

General Contingency Allowance $50,000

END OF SECTION
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 600 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications. This Section supersedes similar provisions in the general conditions in Div. 400.

B. Related Sections include the following:

1. Division 1 Section "Allowances" for procedural requirements for handling and processing allowances.
2. Division 1 Section "Unit Prices" for administrative requirements for using unit prices.
3. Division 1 Section "Product Requirements" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

A. Engineer will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions" or "Engineers Supplemental Instructions" form provided by the Engineer.

1.4 PROPOSAL REQUESTS

A. Owner-Initiated or Engineer-Initiated Proposal Requests:
1. The Engineer shall give the Contractor a Proposal Request for information only. If necessary, the Proposal Request work description will include supplemental or revised Drawings and Specifications.

2. The Contractor shall not consider the request as instructions either to stop work in progress or to execute the proposed change.

3. The Owner, the Engineer and the Contractor will examine the potential work area and discuss and agree on the full scope of proposed changes in the Work, including if applicable, that the work may require adjustment to the Contract Time.

4. Within time specified in Proposal Request after receipt of Proposal Request, the Contractor shall submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
   a. Include
      1) a list of quantities of products or materials required and costs,
      2) applicable delivery charges,
      3) applicable equipment and tool rental charges inclusive of fuel and consumables, and
      4) time and costs of labor and supervision directly attributable to the change.
   b. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

5. The Engineer and the Contractor will negotiate a final, fixed price for the work, and the work shall be paid with a Change Order processed per the contract provisions.

B. Contractor-Initiated Proposal Requests:
   1. If latent or unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to Engineer.
   2. The Owner, the Engineer and the Contractor will examine the potential work area. If the Owner and the Engineer agree with the Contractor, The Engineer shall give the Contractor a Proposal Request for information only.
3. The Contractor shall not consider the request as instructions either to stop work in progress or to execute the proposed change.

4. Within time specified in Proposal Request after receipt of Proposal Request, the Contractor shall submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

   a. Include
      1) a list of quantities of products or materials required and costs,
      2) applicable delivery charges,
      3) applicable equipment and tool rental charges inclusive of fuel and consumables, and
      4) time and costs of labor and supervision directly attributable to the change.

   b. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

5. The Engineer and the Contractor will negotiate a final, fixed price for the work, and the work shall be paid with a Change Order processed per the contract provisions.

C. Proposal Request Form: Use “AIA Document G709” for Proposal Requests or similar.

1.5 ALLOWANCES

A. Submit claims for increased costs because of a change in scope or nature of the work for each respective allowance described in the Contract Documents on a Change Order Form. The Change Order amount shall be inclusive of all the Contractor's costs, including handling, labor, equipment and tools, installation, overhead, and profit.

B. Submit claims within 21 days of receipt of the Change Order authorizing work to proceed. Owner will reject claims submitted later than 21 days after such authorization.
1.6 CHANGE ORDER PROCEDURES

A. The Engineer will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500
PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Use this Section in conjunction with the Contract General Conditions in Div. 400, except that this Section supersedes any conflicting statements or requirements.

C. There will be no separate payment for processing the work of this section. The work shall be part of the total price bid for the contract.

1.2 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.3 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

   a. Application for Payment forms with Continuation Sheets.
   b. Contractor's Construction Schedule.

2. Submit the Schedule of Values to Engineer at earliest possible date but no later than seven (7) days before the date scheduled for submittal of initial Application for Payment.

B. Format and Content: Use the Bid Sheets and the Description of Work as guides to establish line items for the Schedule of Values. Provide at least one line item for each enumerated part of the work and for each identified item on the bid sheet. See also Division 500, Section 2, Article 4 regarding payments for materials stored on site, and consider those requirements when making the allocations per paragraph 1.2.A above and the sub-paragraphs below.
1. Identification: Include the following Project identification on the Schedule of Values:

   a. Project name and location.
   b. Name of Engineer.
   c. Contractor's name and address.
   d. Date of submittal.

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:

   a. Related Specification Section or Division.
   b. Description of the Work.
   c. Name of subcontractor.
   d. Change Orders (numbers) that affect value.
   e. Dollar value and Percentage of the Contract Sum to nearest whole percent, adjusted to total 100 percent.

3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment. Provide several line items for principal subcontract amounts, where appropriate.

4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

5. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Bid Documents to determine quantities.

6. Each item in the Schedule of Values and each item in the Application for Payment shall be complete. Include proportionate share of the total cost of general overhead and proportionate share of profit in each line item.

   a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

7. Schedule Updating: If required by the Engineer, update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.
1.4 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.

1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: Progress payments shall be submitted to Engineer by the first of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

C. Payment Application Forms: Use original prints of AIA Document G702 and AIA Document G703 Continuation Sheets, or similar, as forms for Application for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.

1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.

2. Include amounts of Change Orders issued before last day of construction period covered by application.

E. Transmittal: Submit 3 signed and notarized original copies of each Application for Payment to Engineer. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.

2. When an application shows completion of an item, submit final or full waivers.

3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
5. Waiver Forms: Submit waivers of lien on forms and executed in a manner acceptable to Owner.

G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of Values.
3. Contractor’s Construction Schedule.
5. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
6. Certificates of insurance and insurance policies.

H. Application for Payment at Substantial Completion: After receiving the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy/use of designated portions of the Work.
3. The Owner will withhold twice the value of incomplete work until Final Payment is made.

I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Evidence that the performance bond will be converted to a one year guarantee bond for all work of the Contract.
4. Evidence that claims have been settled.
5. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
7. AIA Document G707, "Consent of Surety to Final Payment."
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Updated final statement, accounting for final changes to the Contract Sum, including final liquidated damages settlement statement.
10. Warranties and guarantees, instruction manuals and spare parts for installed products.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 012900
SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 600 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. Coordination Drawings.
2. Administrative and supervisory personnel.
3. Project meetings.

B. Related Sections include the following:

1. Division 6 Section 017700 "Closeout Procedures" for coordinating Contract closeout.

1.3 COORDINATION

A. Coordination:

1. Schedule construction operations in sequence required to obtain the best results, where execution of one part of the Work depends on execution of others.

2. The Contractor shall note that other contractors may be using the pipe tunnel concurrently with the project work and the Contractor shall coordinate his work to assure that the tunnel is available for use by others when needed. The Contractor shall post notices at all tunnel access points alerting others that the tunnel is not available for through passage, and promptly remove such notices when they are no longer applicable.

3. Where availability of space is limited, coordinate installation of
different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

4. Comply with alternating support requirements in the description of work in the Special Conditions.

B. Prepare memoranda for distribution to Owner and Engineer, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

C. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

1.4 SUBMITTALS

A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Sheet Size: At least 8-1/2 by 11 inches but no larger than 30 by 40 inches.
2. Number of Copies: Submit two opaque copies of each submittal. Engineer will return one copy.
3. Refer to individual Sections for Coordination Drawing requirements for Work in those Sections.

1.5 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Engineer of scheduled meeting dates and times.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Engineer, within three days of the meeting.
B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Engineer, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Engineer, and Contractor and its major supplier. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

C. Progress Meetings: Conduct progress meetings at biweekly intervals. Coordinate dates of meetings with preparation of payment requests.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100
PART 1.0 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 600 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Contractor's Construction Schedule.
2. Daily construction reports.
3. Field condition reports.

1.3 SUBMITTALS

A. Contractor's Construction Schedule: Submit two copies of initial schedule, large enough to show entire schedule for entire construction period.

B. Field Condition Reports: Submit two copies at time of discovery of differing conditions.

PART 2.0 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for commencement of the Work to date of Final Completion.
B. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Engineer.
2. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Engineer's administrative procedures necessary for certification of Substantial Completion.

2.2 REPORTS

A. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation on CSI Form 13.2A. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3. - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating: At intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Actual Completion percentage for each activity.

END OF SECTION 013200
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Requirements:

1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

C. There will be no separate payment for the work of this section. The work shall be part of the amount bid for the contract.

1.3 DEFINITIONS

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

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

C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-
1.4 ACTION SUBMITTALS

A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Engineer and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
   a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
3. Format: Arrange the following information in a tabular format:
   a. Scheduled date for first submittal.
   b. Specification Section number and title.
   c. Submittal category: Action; informational.
   d. Name of subcontractor.
   e. Description of the Work covered.
   f. Scheduled date for Engineer's final release or approval.
   g. Scheduled date of fabrication.
   h. Scheduled dates for purchasing.
   i. Scheduled dates for installation.
   j. Activity or event number.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.

3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.

4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
   a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

   1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
   2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
   3. Resubmittal Review: Allow 15 days for review of each resubmittal.

C. Paper Submittals: Place a permanent label or title block on each submittal item for identification.

   1. Indicate name of firm or entity that prepared each submittal on label or title block.
   2. Provide a space approximately 5 by 5 inches on label or beside title block to record Contractor's review and approval markings and action taken by Engineer.
   3. Include the following information for processing and recording action taken:
      a. Project name.
      b. Date.
c. Name of Engineer.
d. Name of Contractor.
e. Name of subcontractor.
f. Name of supplier.
g. Name of manufacturer.
h. Submittal number or other unique identifier, including revision identifier.
   1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).
i. Number and title of appropriate Specification Section.
j. Drawing number and detail references, as appropriate.
k. Location(s) where product is to be installed, as appropriate.
l. Other necessary identification.

4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Engineer observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Engineer will return without review submittals received from sources other than Contractor.

a. Transmittal Form for Paper Submittals: Provide locations on form for the following information:

   1) Project name.
   2) Date.
   3) Destination (To:).
   4) Source (From:).
   5) Name and address of Engineer.
   6) Name of Contractor.
   7) Name of firm or entity that prepared submittal.
   8) Names of subcontractor, manufacturer, and supplier.
   9) Category and type of submittal.
   10) Submittal purpose and description.
   11) Specification Section number and title.
12) Specification paragraph number or drawing designation and generic name for each of multiple items.
13) Drawing number and detail references, as appropriate.
14) Indication of full or partial submittal.
15) Transmittal number, numbered consecutively.
16) Submittal and transmittal distribution record.
17) Remarks.
18) Signature of transmitter.

D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
   a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Engineer.
4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:
   a. Project name.
   b. Date.
   c. Name and address of Engineer.
   d. Name of Contractor.
   e. Name of firm or entity that prepared submittal.
   f. Names of subcontractor, manufacturer, and supplier.
   g. Category and type of submittal.
   h. Submittal purpose and description.
   i. Specification Section number and title.
   j. Specification paragraph number or drawing designation and generic name for each of multiple items.
   k. Drawing number and detail references, as appropriate.
   l. Location(s) where product is to be installed, as appropriate.
m. Related physical samples submitted directly.
n. Indication of full or partial submittal.
o. Transmittal number, numbered consecutively.
p. Submittal and transmittal distribution record.
q. Other necessary identification.
r. Remarks.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
   a. Project name.
   b. Number and title of appropriate Specification Section.
   c. Manufacturer name.
   d. Product name.

E. Options: Identify options requiring selection by Engineer.

F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
   1. Note date and content of previous submittal.
   2. Note date and content of revision in label or title block and clearly indicate extent of revision.
   3. Resubmit submittals until they are marked with approval notation from Engineer's action stamp.

H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

I. Use for Construction: Retain complete copies of submittals. Use only final action submittals that are marked with approval notation from Engineer's action stamp.
PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Submit electronic submittals via email as PDF electronic files.
   a. Engineer will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Engineer will return two copies.

3. Informational Submittals: Submit one paper copy of each submittal unless otherwise indicated. Engineer will not return copies.

4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
   a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
   b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.

2. Mark each copy of each submittal to show which products and options are applicable.

3. Include the following information, as applicable:
   a. Manufacturer's catalog cuts.
   b. Manufacturer's product specifications.
   c. Standard color charts.
   d. Statement of compliance with specified referenced standards.
   e. Testing by recognized testing agency.
f. Application of testing agency labels and seals.
g. Notation of coordination requirements.
h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:
   a. Wiring diagrams showing factory-installed wiring.
   b. Printed performance curves.
   c. Operational range diagrams.
   d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.

6. Submit Product Data in the following format:
   a. PDF electronic file.
   b. Three paper copies of Product Data unless otherwise indicated. Engineer will return two copies.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
   a. Identification of products.
   b. Schedules.
   c. Compliance with specified standards.
   d. Notation of coordination requirements.
   e. Notation of dimensions established by field measurement.
   f. Relationship and attachment to adjoining construction clearly indicated.
   g. Seal and signature of professional engineer if specified.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).

3. Submit Shop Drawings in the following format:
   a. PDF electronic file.
b. Two opaque bond copies of each submittal. Engineer will return one copy.

D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:
   a. Generic description of Sample.
   b. Product name and name of manufacturer.
   c. Sample source.
   d. Number and title of applicable Specification Section.
   e. Specification paragraph number and generic name of each item.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.

4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
   a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
   b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
a. Number of Samples: Submit two full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer’s product line. Engineer will return submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

a. Number of Samples: Submit three sets of Samples. Engineer will retain one Sample set; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.

1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:

a. PDF electronic file.
b. Three paper copies of product schedule or list unless otherwise indicated. Engineer will return two copies.

F. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."

G. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."

H. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements."

I. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."

J. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."

K. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Engineers and owners, and other information specified.

L. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

M. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

N. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

O. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
P. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

Q. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

R. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

S. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

T. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Engineer.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system.
specifically assigned to Contractor to be designed or certified by a
design professional.

1. Indicate that products and systems comply with performance and
design criteria in the Contract Documents. Include list of codes,
loads, and other factors used in performing these services.

2. Prepare delegated-design drawings in AutoCAD DWG format.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Action and Informational Submittals: Review each submittal and check
for coordination with other Work of the Contract and for compliance
with the Contract Documents. Note corrections and field dimensions.
Mark with approval stamp before submitting to Engineer.

B. Project Closeout and Maintenance Material Submittals: See
requirements in Section 017700 "Closeout Procedures."

C. Approval Stamp: Stamp each submittal with a uniform, approval stamp.
Include Project name and location, submittal number, Specification
Section title and number, name of reviewer, date of Contractor's
approval, and statement certifying that submittal has been reviewed,
checked, and approved for compliance with the Contract Documents.

3.2 ENGINEER'S ACTION

1. Action Submittals: Engineer will review each submittal, make marks
to indicate corrections or revisions required, and return it. Engineer
will stamp each submittal with an action stamp and will mark stamp
appropriately to indicate action.

B. Informational Submittals: Engineer will review each submittal and will not
return it, or will return it if it does not comply with requirements. Engineer
will not forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed
when use of partial submittals has received prior approval from Engineer.
D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Submittals not required by the Contract Documents may be returned by the Engineer without action.

END OF SECTION 013300
SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

B. There will be no separate payment for the work of this section. The work shall be part of the price bid for the contract.

1.3 USE CHARGES

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

B. Water Service from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations. Install backflow preventer on each potable water tap.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations. Use GFCI protection for all electrical feeds and extension cords in the tunnel and outdoors.

1.4 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of Town of Poughkeepsie.

C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

D. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.
   1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.

1.5 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. Assure that each fire extinguisher has a current valid inspection tag, and keep inspections valid during the course of construction.

2.2 MATERIALS

A. Store combustible materials apart from building.

PART 3 - EXECUTION

3.1

A. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to
Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

B. Sanitary Facilities: Limited use may be made by the construction personnel of the Owner's toilets, wash facilities, and drinking water. This privilege will be withdrawn if abused, and then the contractor shall provide all such facilities at no increase in the contract price.

C. Heating: Provide temporary heating required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

D. Ventilation and Humidity Control: Provide temporary ventilation in accordance with OSHA and NIOSH requirements
   1. for cutting, welding and painting operations,
   2. required by all construction activities for curing or drying of completed installations,
   3. for protecting installed construction from adverse effects of high humidity, or
   4. required for safe and comfortable working conditions for plant personnel and construction personnel.
   5. Coordinate ventilation requirements to produce ambient condition required and to minimize energy consumption.

E. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

G. Roads, Driveways and Paved Areas: Maintain roads, driveways and paved areas adequate for construction operations.

H. Traffic Controls: Comply with requirements of authorities having jurisdiction.
   1. Protect existing site improvements to remain including curbs, pavement, and utilities.
   2. Maintain access for fire-fighting equipment and access to fire hydrants.

I. Parking: Use designated areas of Owner's site for construction personnel.

K. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

2. Provide a design and calculations prepared by a NYS licensed engineer for any lifting or hoisting equipment to be temporarily attached to the building structure, including floor, walls and ceiling, to demonstrate that the proposed use will not cause loads greater than were contemplated in the building design and construction.

3. Provide a design and calculations prepared by a NYS licensed engineer for floor loads of any lifting or hoisting equipment to be placed or moved on the building floor, to demonstrate that the proposed use will not cause loads greater than were contemplated in the building design and construction.

L. Existing Floor and Stair Usage: Use of Owner's existing floor and stairs will be permitted, provided floor and stairs are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore floor and stairs to condition existing before initial use.

1. Provide protective coverings, barriers, devices, signs, or other procedures to protect floor and stairs and to maintain means of egress. If floor or stairs become damaged, restore damaged areas so no evidence remains of correction work.

3.2 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
1. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, as required by the Town of Poughkeepsie Engineering and Building Departments.

2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.

4. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

C. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

D. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

   1. Prohibit smoking in construction areas.
   2. Supervise welding and cutting operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.
   3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.3 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

   1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis
where required to achieve indicated results and to avoid possibility of damage.

END OF SECTION 015000
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 600 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.

B. Related Sections include the following:
   1. Division 600 Section 017700 "Closeout Procedures" for submitting warranties for Contract closeout.
   2. Other Division 600 Sections 02xxxx to 16xxxx for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

   1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
   2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
   3. Comparable Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type,
function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

C. “Basis-of-Design”: A reference in a Product Specification used in place of a detailed specification by naming a specific manufacturer’s product including make or model number or other designation and accompanied by the words "basis of design". The implied specification shall establish the significant product qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other manufacturers. Such reference shall be interpreted as establishing standards but shall not be construed as limiting competition. Comply with provisions for paragraph 1.4B “substitution requests” to obtain approval for use of a proposed alternate product.

D. “Or Equal”: An example in a Product Specification to any article, device, product, material, fixture, form or type of construction by name, make or catalog number. Such reference shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition. The Contractor, in such cases, may use any article, device, product, material, fixture, form or type of construction which in the judgment of the Owner and Engineer, expressed in writing, is equal to that specified. The Engineer shall be the sole and conclusive judge as to the quality of such substitution. Comply with provisions for paragraph 1.4B “substitution requests” to obtain approval for use of an unnamed product.

1.4 SUBMITTALS

A. Product List: Submit a list, in tabular form, showing specified products. Include generic names of products required. Include manufacturer’s name and proprietary product names for each product.

1. Coordinate product list with Contractor’s Construction Schedule and the Submittals Schedule.

2. Form: Tabulate information for each product under the following column headings:

   a. Specification Section number and title.
   b. Generic name used in the Contract Documents.
c. Proprietary name, model number, and similar designations.
d. Manufacturer's name and address.
e. Supplier's name and address.
f. Installer's name and address.
g. Projected delivery date or time span of delivery period.
h. Identification of items that require early submittal approval for scheduled delivery date.

3. Completed List: Within 60 days after date of the Notice to Proceed, submit 3 copies of completed product list. Include a written explanation for omissions of data and for variations from Contract requirements.

4. Engineer's Action: Engineer will respond in writing to Contractor within 15 days of receipt of completed product list. Engineer's response will include a list of unacceptable product selections and a brief explanation of reasons for this action. Engineer's response, or lack of response, does not constitute a waiver of requirement to comply with the Contract Documents.

B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use CSI Form 13.1A.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

   a. Statement indicating why specified material or product cannot be provided.
   b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, which will be necessary to accommodate proposed substitution.
   c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
   d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
   e. Samples, where applicable or requested.
f. List of similar installations for completed projects with project names and addresses and names and addresses of Engineers and owners.

g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.

h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.

i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.

j. Cost information, including a proposal of change, if any, in the Contract Sum.

k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.

l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within 7 days of receipt of a request for substitution. Engineer will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.

a. Form of Acceptance: Change Order.

b. Use product specified if Engineer cannot make a decision on use of a proposed substitution within time allocated.

C. Comparable Product Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Documentation: Show compliance with requirements for comparable product and the following, as applicable:
a. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors; that will be necessary to accommodate proposed comparable products.

b. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

c. Product Data, including drawings and descriptions of products and fabrication and installation procedures.

d. Samples, where applicable or requested.

e. List of similar installations for completed projects with project names and addresses and names and addresses of Engineers and owners.

f. Cost information, including a proposal of change, if any, in the Contract Sum.

g. Contractor's certification that proposed comparable product complies with requirements in the Contract Documents and is appropriate for applications indicated.

h. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed comparable product to produce indicated results.

2. Engineer's Action: If necessary, Engineer will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Engineer will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.

a. Form of Approval: As specified in Division 1 Section "Submittal Procedures."

b. Use product specified if Engineer cannot make a decision on use of a comparable product request within time allocated.

D. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 600 Section 013300 "Submittal Procedures." Show compliance with requirements.
1.5 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
2. If a dispute arises between contractors over concurrently selectable but incompatible products, Engineer will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Store cementitious products and materials on elevated platforms.
5. Store foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.

2. Special Warranties:
   a. Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.
   b. Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
   c. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
   d. Specified Form: When specified forms are included with the Specifications, prepare a written document using appropriate form properly executed.
   e. Refer to Divisions 2 through 16 Sections for specific content requirements and particular requirements for submitting special warranties.

B. Submittal Time: Comply with requirements in Division 600 Section 017700 “Closeout Procedures.”
PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, that are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Engineer will make selection.
5. Where products are accompanied by the term "match sample," sample to be matched is Engineer's.
7. Or Equal: Where products are specified by name and accompanied by the term "or equal" or "or approved equal" or "or approved," comply with provisions in Part 1 "Comparable Products" paragraph to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single product and manufacturer, provide the named product that complies with requirements.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements.
3. Products: Where Specifications include a list of names of both products and manufacturers, provide one of the products listed that complies with requirements.
4. Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements.
5. **Available Products:** Where Specifications include a list of names of both products and manufacturers, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with provisions in Part 1 "Comparable Products" paragraph for consideration of an unnamed product.

6. **Available Manufacturers:** Where Specifications include a list of manufacturers, provide a product by one of the manufacturers listed, or an unnamed manufacturer, that complies with requirements. Comply with provisions in Part 1 "Comparable Products" paragraph for consideration of an unnamed product.

7. **Product Options:** Where Specifications indicate that sizes, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide the specified product or system. Comply with provisions in Part 1 "Product Substitutions" paragraph for consideration of an unnamed product or system.

8. **Basis-of-Design Product:** Where Specifications name a product and include a list of manufacturers, provide the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with provisions in Part 1 "Comparable Products" paragraph for consideration of an unnamed product by the other named manufacturers or unnamed products by an unnamed manufacturers.

9. **Visual Matching Specification:** Where Specifications require matching an established Sample, select a product that complies with requirements and matches Engineer's sample. Engineer's decision will be final on whether a proposed product matches.

   a. If no product available within specified category matches and complies with other specified requirements, comply with provisions in Part 1 "Product Substitutions" paragraph for proposal of product.

10. **Visual Selection Specification:** Where Specifications include the phrase "as selected from manufacturer's colors, patterns, textures" or a similar phrase, select a product that complies with other specified requirements.

    a. **Standard Range:** Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Engineer will select color, pattern, density, or texture from manufacturer's product line that does not include premium items.
b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Engineer will select color, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

A. Timing: Engineer will consider requests for substitution if received within 60 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Engineer.

B. Conditions: Engineer will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:

1. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Engineer for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.

2. Requested substitution does not require extensive revisions to the Contract Documents.

3. Requested substitution is consistent with the Contract Documents and will produce indicated results.

4. Substitution request is fully documented and properly submitted.

5. Requested substitution will not adversely affect Contractor's Construction Schedule.

6. Requested substitution has received necessary approvals of authorities having jurisdiction.

7. Requested substitution is compatible with other portions of the Work.

8. Requested substitution has been coordinated with other portions of the Work.

9. Requested substitution provides specified warranty.

10. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
2.3 COMPARABLE PRODUCTS

A. Conditions: Engineer will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Engineer will return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require extensive revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.

2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.

3. Evidence that proposed product provides specified warranty.

4. List of similar installations for completed projects with project names and addresses and names and addresses of Engineers and owners, if requested.

5. Samples, if requested.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 600 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

2. Installation of the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials that visually match in-place adjacent surfaces to the fullest extent possible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.
3.2 PREPARATION

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product.

B. Do not rely on the plans and do not scale from the plans.

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Engineer promptly.

B. Staging Area: Identify the location(s) of equipment staging, materials storage & dumpster locations and coordinate with Owner.

3.4 FIELD ENGINEERING

A. Reference Points: Locate existing temporary benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect benchmarks and control points during construction operations.

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

B. Comply with manufacturer’s written instructions and recommendations for installing products in applications indicated.

C. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

D. As needed at each work location, remove existing lead containing paint and primer before performing any cutting, grinding or welding operations.

E. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous, except as needed for the industrial applications and procedures.
F. Provide additional temporary ventilation and exhaust air handling equipment and ducts when flame cutting or arc welding or painting is performed. Do not rely on normal room and adjacent tunnel ventilation to exhaust fumes from contract work.

END OF SECTION 017300
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 600 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes procedural requirements for cutting and patching.

B. Related Sections include the following:
   1. Other Division 600 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation or performance of other Work.

1.4 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

C. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as
intended, or that results in increased maintenance or decreased operational life or safety.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Owner’s Representative’s opinion, reduce the building’s aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner, as determined by Owner’s representative.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.

2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.
B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas to the maximum extent practicable.

D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.

3. Concrete/Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.

4. Excavating and Backfilling: Comply with requirements in applicable Division 02xxxx Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

   a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
   b. Restore damaged pipe covering to its original condition.
3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

END OF SECTION 017310
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 600 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Inspection procedures.
2. Warranties.
3. Final cleaning.

1.3 SUBSTANTIAL COMPLETION

A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.

1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
2. Advise Owner of pending insurance changeover requirements.
3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement reports and similar final record information.
6. Submit test records.
7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
8. Complete final cleaning requirements, including touchup painting.

9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.

PART 2 - FINAL COMPLETION

2.1 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."

2. Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Engineer and Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

2.2 WARRANTIES

A. Submittal Time: Submit written warranties on request of Engineer for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
PART 3 - NOT USED

END OF SECTION 017700
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Requirements:
1. Section 017700 "Closeout Procedures" for general closeout procedures.
2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

C. There will be no separate payment for the work of this section. The work shall be part of the price bid for the contract.

1.3 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set of marked-up record prints.
2. Number of Copies: Submit copies of record Drawings as follows:

   a. Initial Submittal:

      1) Submit one paper-copy set of marked-up record prints.
      2) Submit PDF electronic files of scanned record prints and one of file prints.
3) Engineer will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.

b. Final Submittal:
   1) Submit PDF electronic files of scanned record prints and three sets of paper prints.
   2) Scan/print each drawing, whether or not changes and additional information were recorded.

c. Final Submittal:
   1) Submit a CD/DVD of scanned record files and three sets of paper record paper prints.
   2) Scan/print each drawing file, whether or not changes and additional information were recorded.

B. Record Specifications: Submit a CD with one annotated PDF electronic file of Project’s Specifications, including addenda and contract modifications.

C. Record Product Data: Submit a CD with one annotated PDF electronic file and directories of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.

b. Accurately record information in an acceptable drawing technique.

c. Record data as soon as possible after obtaining it.

d. Record and check the markup before enclosing concealed installations.

e. Cross-reference record prints to corresponding archive photographic documentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.

b. Revisions to details shown on Drawings.

c. Revisions to electrical circuitry.

d. Actual equipment locations.

e. Changes made by Change Order.

f. Changes made following Engineer’s written orders.

g. Details not on the original Contract Drawings.

h. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.

4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

5. Mark important additional information that was either shown schematically or omitted from original Drawings.

6. Note Change Order numbers, and similar identification, where applicable.

B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Engineer. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

1. Format: Annotated PDF electronic file with comment function enabled.

2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
3. Refer instances of uncertainty to Engineer for resolution.

C. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.

1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
2. Consult Engineer for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared record Drawings into record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.

D. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Format: A CD with Annotated PDF electronic file with comment function enabled.
2. Identification: As follows:
   a. Project name.
   b. Date.
   c. Designation "PROJECT RECORD DRAWINGS."
   d. Name of Engineer.
   e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.

5. Note related Change Orders and record Drawings where applicable.

B. Format: Submit a CD with Record Specifications as scanned PDF electronic file of marked-up paper copy of Specifications.

2.3 RECORD PRODUCT DATA

A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders and record Drawings where applicable.

B. Format: Submit CD with Record Product Data as scanned PDF electronic files of marked-up paper copy of Product Data.

1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit a CD with miscellaneous record submittals as scanned PDF electronic files of marked-up miscellaneous record submittals.

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.
PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.

B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Engineer's reference during normal working hours.

END OF SECTION 017839
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 600 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Demolition and removal of selected site elements.
   2. The existing primer and paint on walls and equipment may contain lead. Therefore, demolition includes solvent removal of paint from painted items before any mechanical work (e.g. chipping, grinding, sawing, dismantling) or flame cutting or welding is done that may release lead.

B. There will be no separate payment for the work of this section. The work shall be part of the price bid for the contract.

1.3 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.

C. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste shall become the property of Contractor.
1.5 PREDEMOLITION CONFERENCE

A. General
   1. No demolition will be permitted until after the Plant Manager has given written permission to start demolition, and that will be after the Predemolition Conference. The Contractor shall prepare a schedule for review at the Predemolition Conference to show the work items and timeframes for each phase of construction.
   2. All demolition waste shall be properly disposed of by the Contractor, except that immediately upon their removal from the primary scum well, the aluminum cover plates shall be given to SUEZ.

1.6 QUALITY ASSURANCE

A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

B. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's access and operations will not be disrupted.

C. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work, with the possible exception of lead in the primer and paint on steel, iron pipes and equipment, and on the walls.
   1. Hazardous materials will be removed by Owner before start of the Work, except that lead contaminated paint products will not be removed.
   2. If suspected hazardous materials other than lead in paint products are encountered, do not disturb; immediately notify Engineer and Owner. Such hazardous materials will be removed by the Owner under a separate contract.

E. Storage or sale of removed items or materials on-site is not permitted.

1.7 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

C. As needed at each work location, remove existing lead containing paint and primer before performing any cutting, grinding, disassembly or welding operations.

D. Comply with OSHA and NIOSH requirements pertaining to lead for
   1. lead in the primer or paint on the walls, and on iron or steel components to be disassembled, cut, ground or welded, and
   2. lead in the air from working on areas with lead containing paint or primer.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

B. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Engineer.

C. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or preconstruction videotapes.
   1. Inventory and record the condition of items to be removed and salvaged.
   2. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, driveways, walks, walkways, and other adjacent occupied and
used facilities. To the maximum extent practical, the steps in the secondary building and the access to the tunnel shall remain a useable passageway by others.

B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition areas and to prevent unauthorized entry into the work areas.

C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Use solvents to loosen and remove any lead containing paint and primer that may be affected by performance of the contract work, and properly dispose of all waste.
2. Take all necessary and required precautions and actions to protect both the workers and the thickener building pump room and adjacent tunnel atmosphere from airborne lead.
3. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
4. Dispose of demolished items and materials promptly.
5. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations. Note: A special SUEZ permit is required for flame-cutting.
7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
B. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

C. Existing Items to Remain: Protect equipment and construction in and around the work area against damage and soiling during selective demolition.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Perform any cutting (by torch, abrasive wheel, saw, etc) with full consideration of and proper protection for heat, sparks, fire, abrasive particles or fumes. Maintain suitable fresh air for breathing by fans, ventilation or other means.

B. Use protective gear, including garments, head and hearing protection and respirators, as needed or required by OSHA and New York State labor law.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

A. Disposal: Except for items or materials indicated to be reinstalled, transport demolished materials off Owner's property and legally dispose of them in an EPA-approved landfill or recycling facility.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

3.7 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.
3.8 SELECTIVE DEMOLITION SCHEDULE

A. There are three areas that will require selective demolition.
   1. The scum well at the primary clarifiers.
   2. The scum well at the secondary clarifiers.
   3. At the end of the tunnel at the Thickener Building.

B. Existing Construction to be Removed and Disposed: As shown in the general locations on the plans and noted in the description of work.

C. Existing Construction to be Removed and Reinstalled: As noted in the description of work, the only parts to be Removed and Reinstalled (salvaged and reused) are the pump and check valve in the secondary scum well.

END OF SECTION 024119
SECTION 033053 - MISCELLANEOUS CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

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

1.2 SUMMARY
   A. Section includes cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes.

1.3 ACTION SUBMITTALS
   A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL
   A. Comply with the following sections of ACI 301 (ACI 301M) unless modified by requirements in the Contract Documents:
      1. "General Requirements."
      2. "Formwork and Formwork Accessories."
      3. "Reinforcement and Reinforcement Supports."
      4. "Concrete Mixtures."
      5. "Handling, Placing, and Constructing."

2.2 STEEL REINFORCEMENT
   A. Rebar: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
   B. Plain-Steel Wire: ASTM A 1064/A 1064M, as drawn.
   C. Plain-Steel Welded-Wire Reinforcement: ASTM A 1064/A 1064M, plain, fabricated from as-drawn steel wire into flat sheets.

2.3 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
B. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth or cotton mats.
C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
D. Water: Potable.
E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.

2.4 CONCRETE MIXTURES

A. Use pre-packaged concrete mix Quikrete Qmax Pro or exact equal:
   1. Minimum Compressive Strength: 4000 psi (27.6 MPa) at 28 days.
   2. Shall include fiber reinforcement.

2.5 CONCRETE MIXING

A. Pre-packaged Concrete: Mix per manufacturer’s instructions. Do not exceed recommended water amount. Do not add bonding agent.

PART 3 - EXECUTION

3.1 FORMWORK INSTALLATION

A. Design, construct, erect, brace, and maintain formwork according to ACI 301 (ACI 301M).

3.2 EMBEDDED ITEM INSTALLATION

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-
place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

3.3 STEEL REINFORCEMENT INSTALLATION

A. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 CONCRETE PLACEMENT

A. Comply with ACI 301 (ACI 301M) for placing concrete.

B. Consolidate concrete with mechanical equipment.

C. Equipment Bases and Foundations:
   1. Coordinate sizes and locations of concrete bases with actual equipment provided.
   2. Construct concrete bases to the height required; and extend base not less than 6 inches (150 mm) in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated.
   3. Minimum Compressive Strength: 4000 psi (27.6 MPa) at 28 days.
   4. Install dowel rods to connect concrete base to concrete floor. Embed dowel rods using moisture resistant grout or anchoring cement, and anchor them into structural concrete substrate.
   5. Prior to pouring concrete, place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
   6. Cast anchor-bolt insert into bases. Install anchor bolts to elevations required for proper attachment to supported equipment.

D. Wall repairs:
   1. Install dowel rods to connect replacement concrete section to remaining concrete wall. Embed dowel rods using moisture resistant grout or anchoring cement, and anchor them into a sound concrete wall section.
   2. Construct one top horizontal rebar at 1.5" cover depth, and construct additional horizontal rebars as needed at 6" on center based on section depth, but not less than 1.5" above existing concrete wall section. Wall repairs less than 2" depth shall be made with mortar.
3. Apply Larsen Weld Crete bonding agent to wall and place new concrete.

3.5 FINISHING FORMED SURFACES

A. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/16 inch.

1. Apply to concrete surfaces to receive a rubbed finish.

B. Rubbed Finish: Apply the following rubbed finish, defined in ACI 301 (ACI 301M), to smooth-formed-finished as-cast concrete where indicated:

1. Smooth-rubbed finish.

3.6 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with ACI 301 (ACI 301M) for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

D. Curing Methods: Cure formed and unformed concrete for at least seven days by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
   a. Water.
   b. Continuous water-fog spray.
c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period, using cover material and waterproof tape.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoil areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

4. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoil areas subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.7 FIELD QUALITY CONTROL

A. Employ mechanics skilled in the mixing and placement of concrete, placing reinforcing steel and embeds, and curing and finishing concrete.

END OF SECTION 033053
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Removal of deteriorated concrete and subsequent patching and rebuilding.
2. Construction of housekeeping pads.
3. There will be no separate payment for the work of this section. The work shall be part of the price bid for the contract.

B. Concrete Patching and Repair:

1. Includes removal of deteriorated concrete at top and on interior face of each wall, and each location where existing equipment or existing fill was removed. All patching or rebuilding the concrete surface shall result in a surface that is within 1/16" of the theoretical surface plane.

1.3 SUBMITTALS

A. Product Data: Include patching or repair material descriptions, chemical composition, physical properties, test data, and mixing and application instructions.

1. Include Material Safety Data Sheets, if applicable.

B. Product Certificates: Signed by manufacturer certifying that products furnished comply with requirements and are recommended by manufacturer for uses indicated.

C. Qualification Data:

1. For products required to be installed by workers approved by product manufacturers, include letters of acceptance by product
manufacturers certifying that installers are approved to apply their products

1.4 QUALITY ASSURANCE

A. Installer Qualifications: employ workers trained and approved by manufacturer to apply concrete patching and rebuilding materials.

B. Manufacturer Qualifications: Manufacturers shall have factory-trained representatives who are available for consultation and Project site inspection at no additional cost.

C. Source Limitations: Obtain each of the following from a single approved manufacturer, except for specified admixtures and additives:

   1. Concrete patching and rebuilding materials.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer's original and unopened containers, labeled with type and name of product and manufacturer.

B. Comply with manufacturer's written instructions for minimum and maximum temperature requirements and other conditions for storage.

C. Store cementitious materials off the ground, under cover, and in a dry location.

D. Store aggregates, covered and in a dry location, where grading and other required characteristics can be maintained and contamination avoided.

1.6 PROJECT CONDITIONS

A. Cold-Weather Requirements for Cementitious Materials: Do not apply unless air temperature is between 40° and 90° F and will remain so for at least 48 hours after completion of Work.

B. Cold-Weather Requirements for Cementitious Materials: Comply with the following procedures:
1. When air temperature is below 40° F, heat patching material ingredients and existing concrete to produce temperatures between 40° and 90° F.
2. When mean daily air temperature is between 25° and 40° F, cover completed work with weather-resistant insulating blankets for 48 hours after repair.
3. When mean daily air temperature is below 25° F, provide enclosure and heat to maintain temperatures above 32° F within the enclosure for 48 hours after repair.

C. Hot-Weather Requirements for Cementitious Materials: Protect repair work when temperature and humidity conditions produce excessive evaporation of water from patching materials. Provide artificial shade and windbreaks, and use cooled materials as required. Do not apply to substrates with temperatures of 90° F and above.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Provide materials from the following manufacturers:

1. Quikrete Qmax Pro
2. Or equal

2.2 MATERIALS

A. Bonding Agents: Larsen Weld Crete.

B. Patching Mortar: Unless otherwise indicated, use the following:


2.3 MIXES

A. Mix products in clean containers according to manufacturer’s written instructions.

1. Add water, thinners, or additives only as recommended by each manufacturer.
2. When practical, use manufacturer’s premeasured packages to ensure that materials are mixed in proper proportions. When premeasured packages are not used, measure ingredients using graduated measuring containers; do not estimate quantities or use shovel or trowel as unit of measure.
3. Do not mix more materials than can be used within recommended open time. Discard materials that have begun to set.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect people, motor vehicles, equipment, surrounding construction, Project site, plants, and surrounding buildings from injury resulting from concrete rehabilitation work.

1. Erect temporary protective covers over pedestrian walkways and at points of entrance and exit for people and vehicles that must remain in operation during course of concrete rehabilitation work. Construct covers of tightly fitted, 3/4-inch exterior-grade plywood supported at 16 inches o.c. and covered with asphalt roll roofing.

2. Protect adjacent equipment and surfaces by covering them with heavy polyethylene film and waterproof tape. If practical, remove items, store, and reinstall after potentially damaging operations are complete.

3. Neutralize and collect alkaline and acid wastes for disposal off the Owner's property.

4. Dispose of runoff from wet operations by legal means and in a manner that prevents runoff into the building sumps and prevents damage to building surfaces.

B. Shoring: Install temporary supports before beginning concrete repairs.

3.2 APPLICATION

A. Patching concrete or mortar: Apply as recommended by manufacturer.

B. Housekeeping pads: Place concrete as recommended by manufacturer, except use only bagged dry pre-mix concrete with fiber reinforcement. If pad is more than 4” deep, submit a shop drawing for acceptance showing reinforcing steel.

C. Cure patching and grout materials as recommended by manufacturer.

END OF SECTION 039300
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Steel framing and supports for mechanical, process piping and electrical equipment.
   2. Pipe attachments.
   3. Pipe floor stands or similar.
   4. Loose plate washers.
   5. Metal tie down bars.

B. Products furnished and installed under this Section include, but are not limited to, the following:
   1. Wedge-type anchor bolts to be fastened into holes drilled into existing concrete.
   2. Pre-manufactured angle support brackets.
   3. Custom made steel tie down bars.
   5. Pre-manufactured U-bolts.
   6. Pre-manufactured pipe supports and hold down clamps.
   7. Nuts, washers and red threadblocker.
   8. Pipe floor stands or similar.

C. Related Requirements:
   1. Section 099123 "Interior Painting".

D. Provide materials and workmanship for use in ambient and environmental conditions of installation location. The work area is not a confined space, but proper ventilation must be provided to exhaust fumes from the tunnel atmosphere.

E. There will be no separate payment for the work of this section. Payment shall be made as part of the price bid for the contract.
1.3 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. See Section 099123 "Interior Painting".

B. Coordinate installation of metal fabrications that are anchored to or that receive other fabrications or other work. Furnish setting drawings, templates, and directions for installing anchor bolts in concrete. Deliver such items to Project site in time for installation.

1.4 ACTION SUBMITTALS

A. Product Test Reports: Signed by manufacturer certifying that the following products comply with requirements:

1. Anchor bolts, nuts, and washers including mechanical properties and chemical analysis.
3. Primer and paint products, unless specified products are used.

B. Shop Drawings General: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Indicate welds by standard AWS symbols, and show size, length, and type of each weld. Show anchorage and accessory items, including type, size, and length of anchor bolts.

C. Provide Shop Drawings or Manufacturer’s Cut Sheet for the following:

1. Angle bracket supports for all 4” pipe and fittings between the 8” tee and the quick connect flange.
2. Wall attachments for all 4” pipe and fittings between the 8” tee and the quick connect flange.
3. U-bolts and other means to hold pipes in place on angle brackets.
4. Hold down bars to anchor the base bend to the supporting plate, and the supporting plate and its attachment to the supporting angle brackets.
5. If any existing plant facilities (e.g. electrical conduits, PVC pipe, railings) have to be relocated, provide a shop drawing for acceptance to show the new locations and if necessary, new parts.
6. Pre-manufactured or custom made pipe supports and floor stands.
1.5 QUALITY ASSURANCE

A. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel."

B. Welding certificates: Submit to show compliance with paragraph 1.5 A for each welder and position as applicable.

1.6 DELIVERY, STORAGE, AND HANDLING

A. 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 erosion and deterioration.

B. 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. Allow all steel pieces and fabrications to acclimate to the temperature in the tunnel for at least 24 hours before setting or fastening in place.

1.7 FIELD CONDITIONS

A. Field Measurements:
   1. Verify actual locations of walls and other construction contiguous with metal fabrications or supported metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 STEEL MATERIALS

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without roller marks or blemishes.

B. Welding Electrodes: comply with AWS requirements.

C. Steel Plate and Bar: ASTM A 572/A 572M, Grade 50

D. Channels and Angles: ASTM A 572/A 572M, Grade 50
E. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.

1. Size of Channels: 1-5/8 by 1-5/8 inches (41 by 41 mm)] or larger as needed.
2. Material: Galvanized steel, ASTM A 653/A 653M, 0.108-inch (2.8-mm) nominal thickness.

F. There is no “Buy America” requirement for steel products.

2.2 FASTENERS

A. Post-Installed Anchors: Torque-controlled expansion anchors.
1. Material: Stainless Steel Type 304 Alloy stainless-steel bolts, washers and nuts.
2. HILTI KWIK Bolt 3 expansion anchor, Red Head Trubolt wedge type expansion anchor, or equal, as approved by the engineer.
3. Use lubricant as needed to prevent galling and seizing.

B. Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, min. 1-5/8 by 7/8 inches (41 by 22 mm) by length indicated with anchor straps or studs not less than 3 inches (75 mm) long at not more than 8 inches (200 mm) o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B 633, Class Fe/Zn 5, as needed for fastening to inserts.

2.3 MISCELLANEOUS MATERIALS

A. Shop Primers: Provide primers shall comply with Section 099123 "interior Painting".

B. Shims for leveling: machine setting shims, stainless steel

C. Wedges for leveling: brass or stainless steel

2.4 GROUT

A. Nonshrink Grout: factory-packaged aggregate grout complying with ASTM C 1107; nonmetallic, noncorrosive, nongaseous and nonstaining,
B. Grout shall be mixed with water to a consistency suitable for application and a 30-minute working time.

2.5 FABRICATION, GENERAL

A. Cutting from a larger section or plate: Saw cut or shear metals cleanly and accurately. Do not torch cut (gas or electric arc) any surfaces or ends to be welded.

B. Bolt Holes: Do not torch cut (gas or electric arc) any bolt holes. Drill or punch bolt holes perpendicular to metal surface.

C. Finishing: Accurately finish ends of columns, frame uprights and other members transmitting vertical bearing loads. Accurately finish ends of parts to be welded to comply with the respective shop drawing weld. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces. Shape ends to be welded to conform to profile as required per plan details and for each respective shop drawing.

2.6 Welded Connections:

A. Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.

B. Verify that weld sizes, fabrication sequence, and equipment used for exposed steel (all steel in this contract shall be considered to be exposed) will limit distortions to allowable tolerances.

C. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

D. Obtain fusion without undercut or overlap.

E. Remove welding flux immediately.

F. Weld corners and seams continuously. Fabricate seams and other connections in a manner to exclude water. Provide weep holes where water may accumulate.

G. At exposed welded connections adjacent to a walking path, grind or fill exposed fillet or butt welds surfaces to be smooth and blended with no roughness and no sharp edges or snags.
2.7 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports as needed to complete the Work.

B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
   1. Fabricate units from slotted channel framing where indicated.
   2. Furnish anchor bolts for units installed after concrete is placed.

C. Prime miscellaneous framing and supports with primer specified in Section 099123 "Interior Painting" where indicated.

2.8 LOAD BEARING HORIZONTAL SUPPORT ANGLES

A. Fabricate load bearing support angles from steel angles of sizes indicated.

B. Fabricate clip angle attachment brackets from steel angles of sizes indicated and for attachment between load bearing support angles and channel steel framing.

C. Shop or field weld clip angles to load bearing support angles. Field weld clip angles to channel steel framing.

D. Alternatively, weld an angle to each outside leg of upright steel channels.

E. Alternatively, weld a channel section in lieu of two angle irons to outside legs of upright steel channels.

2.9 LOOSE PLATE WASHERS

A. Provide loose, steel plate bearing washer for use under anchor bolt washer and nut at each anchor bolt where steel holes have been drilled oversize in plates to receive anchor bolts.

2.10 FINISHES, GENERAL

A. Finish metal fabrications after assembly.
B. Form exposed work with accurate angles and surfaces and straight edges.

C. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

D. Clean and paint all steel surfaces that are to bear on or against concrete or grout.

2.11 STEEL AND IRON FINISHES

A. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by the primer producer to provide the required dry film thickness.
   1. Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
   2. Stripe paint corners, crevices, bolts, welds, and sharp edges.

B. Apply paint to inaccessible surfaces after assembly or erection in accordance with specification Section 099123 "interior Painting".
   1. Change color of top coat to distinguish it from intermediate.
   2. Touch up damaged primer and paint finish when field erecting assemblies.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify elevations of concrete bearing surfaces and locations of bearing plates and anchor bolt for compliance with requirements.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep existing steel supports secure, plumb, and in alignment.
B. Provide temporary shores, guys, braces, and other supports during erection to keep existing process pipes in place and to prevent any horizontal or vertical alignment changes.

C. Remove temporary supports when permanent support steel, connections, and anchors are in place, unless otherwise indicated.

### 3.3 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

A. Install framing and supports to comply with requirements as indicated on Shop Drawings.

B. Align and adjust various members forming part of pipe support structure before permanently fastening. Perform necessary adjustments to compensate for discrepancies in elevations and alignment. Use shims and wedges if needed to provide proper support for pipes and fittings at bearing bracket if bracket elevation is too low.

C. Do not use thermal cutting during erection.

D. Field Welding: Comply with the following requirements:

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 welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

### 3.4 ADJUSTING AND CLEANING

A. Painting: Immediately after erection, clean field welds and abraded areas.

B. Paint uncoated and abraded areas to comply with Section 099123 “Interior Painting”.

C. Apply by brush or spray to provide a minimum dry film thickness as specified in Section 099123 “Interior Painting”.
3.5 **FIELD QUALITY CONTROL**

A. Welded Connections: Field welds will be visually inspected according to AWS D1.1.

B. Correct deficiencies in Work that inspections indicate do not comply with the Contract Documents or approved shop drawing.

3.6 **REPAIRS AND PROTECTION**

A. Touchup Painting After installation of new steel fabrications:
   1. Promptly clean, prepare, and prime abraded or damaged abutting surfaces.
   2. Promptly clean, prepare, and prime abraded or damaged painted coating on pipes and conduits near the installation.
   3. See Section 099123 "Interior Painting" for surface preparation and priming and painting requirements.
   4. Apply the same type of primer and paint as used on adjacent surfaces.

END OF SECTION 055000
SECTION 083483
FLOOR DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:
   1. Floor Doors for access as indicated on drawings and specified herein.

1.2 REFERENCES

A. Aluminum Diamond Tread Plate: ASTM B632-02, 1/4 inch 6061-T6 aluminum with mill finish.
B. Aluminum Extrusion: 6061-T6 aluminum.
C. Fasteners: Type No. 316 stainless steel. ASTM F593 for bolts and ASTM F594 for nuts.
D. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1.3 SUBMITTALS

A. Shop Drawings: Indicate configuration and dimensions, show components, adjacent construction, required clearances and tolerance and other affected work.
B. Product Data: Manufacturer’s technical data for each type of floor door, including setting drawings and finish requirements
C. Manufacturer's Installation Instructions and Operation & Maintenance: Indicate installation, operation and maintenance requirements and rough-in dimensions.

1.4 QUALITY ASSURANCE

A. Qualifications:
   1. Manufacturer/Installer: Company specializing in manufacturing and installation of components specified in this Section with minimum of 5 years documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site ready use.
B. Exercise proper care in handling of Work so as not to disrupt finished surfaces.
C. Store materials under cover in a dry and clean location off the ground.
1.6 WARRANTY

A. Provide manufacturer's standard warranty. Floor doors shall be free from manufacturing defects in materials and fabrication for a period of 5 years from the date of shipment. Should a product fail to function in normal use within this period, manufacturer shall furnish a replacement or new part.

PART 2 - PRODUCTS

2.1 AVAILABLE MANUFACTURERS

A. Nystrom Inc

9300 73rd Ave N
Minneapolis, MN 55428
PH: 800-547-2635
www.nystrom.com

B. Acudor

PH: 800-722-0501
www.acudor.com

2.2 ALUMINUM FLOOR DOORS

A. Angle Frame - Existing Opening Aluminum Floor Door, Retrofit applications. (Nystrom Model FDEPA, Acudor Model FA-300-R-DL)

1. Existing Opening Size: contractor shall field measure exact size needed; nominal opening sizes are 4'x4' and 4'x5'.
2. Frame: Mill finish aluminum angle designed to be fastened to the edge of an existing concrete opening.
3. Door: Double leaf; 1/4-inch-thick, diamond-pattern mill-finish aluminum plate.
5. Features:
   a. Gaskets: Debris gasket.
   b. Skirting: 1/8 inch sheet aluminum used to form slab concrete opening beneath the frame, 3" height.
   c. Bituminous coating on exterior of frame.
d. Hardware Material and Finish: Type 316 stainless steel, including latch, handle, lifting mechanism assemblies, hold-open arms, and brackets, hinges, pins, and fasteners.
e. Hinges: Heavy-duty butt hinges with stainless-steel pins fastened to door with stainless steel tamper resistant bolts and nuts.
f. Operating Mechanism: Adjustable Type 17-7 stainless steel counterbalancing spring enclosed in a telescoping tube, heavy-duty hold-open arm that automatically locks door open at 90 degrees, release handle with red vinyl grip that allows for one-handed closure, and recessed lift handle.
g. Latch: Stainless-steel slam latch or aluminum flush drop handle.

PART 3 - EXECUTION

3.1 EXAMINATION
A. Verify that preparation and affected dimensions are acceptable.
B. Verify tolerances and correct improper conditions.

3.2 PREPARATION
A. Advise installers of details relating to floor hatch installation, including rough opening dimensions, locations of supports, and anchoring methods.

3.3 INSTALLATION
A. Follow manufacturer’s instructions for installing floor doors and hatches.
B. Install frames plumb and level in opening, in proper alignment with adjacent surface for flush installation. Secure rigidly in place.
C. Position units as shown on the plans to provide convenient access to the scum well.

3.4 ADJUSTING
A. Operational Units: Test operate units with operable components.
B. Clean and lubricate joints and hardware.
C. Adjust for proper operation.

3.5 CLEANING
A. Clean adjacent surfaces and remove unused product and debris from site.
B. Adjust doors for smooth operation.
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes surface preparation and application of high-performance coating systems on the following substrates:

1. Exterior Substrates:
   a. Concrete, vertical and horizontal surfaces.
   b. Iron and Steel.
   c. Wood.

2. Interior Substrates:
   a. Iron and Steel.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include preparation requirements and application instructions.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Coatings: not less than 1 gal. (3.8 L) of each material and color applied.

2. Exception: if the remaining amount of material in an opened can is more than 0.5 gallon, that container will satisfy the requirement in subparagraph 1 above.
1.5 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).

   1. Maintain containers in clean condition, free of foreign materials and residue.
   2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

A. Apply coatings only when temperature of surface to be coated and surrounding air temperature are between 50 and 95 deg F (10 and 35 deg C).

B. Do not apply coatings when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

C. Do not apply exterior coatings in snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Tnemec

B. Rust Oleum

C. Others, subject to specific Engineer approval. Submit request as a shop drawing identifying substrate, proposed surface preparation, primer, and color coats.

2.2 HIGH-PERFORMANCE COATINGS, GENERAL

A. Material Compatibility:

   1. Provide materials for use within each coating system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a coating system, provide products recommended in writing by manufacturers of topcoat for use in coating system and on substrate indicated.
3. Provide products of same manufacturer for each coat in a coating system.

B. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior coatings applied at project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 150 g/L.
3. Primers, Sealers, and Undercoaters: 200 g/L.
4. Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metals: 250 g/L.
6. Pre-Treatment Wash Primers: 420 g/L.
7. Floor Coatings: 100 g/L.
8. Shellacs, Clear: 730 g/L.
9. Shellacs, Pigmented: 550 g/L.

C. Colors: As selected by SUEZ Plant Manager from manufacturer’s regular production color range to match the color code used at the plant.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
   a. Concrete: 12 percent.
   b. Wood: 15 percent.

B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

C. Proceed with coating application only after unsatisfactory conditions have been corrected.
1. Beginning coating application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.

B. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce coating systems indicated.

C. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.

1. Clean surfaces with pressurized water. Use pressure range of 1500 to 4000 psi (10 350 to 27 580 kPa).

D. Iron or Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:

1. SSPC-SP 3 "Power Tool Cleaning."

E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

F. Wood Substrates:

1. Scrape and clean knots. Before applying primer apply coat of knot sealer recommended in writing by topcoat manufacturer for coating system indicated.
2. Sand surfaces that will be exposed to view and dust off.
3. Prime edges, ends, faces, undersides, and back sides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
3.3 APPLICATION

A. Apply high-performance coatings according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

1. Use applicators and techniques suited for coating and substrate indicated.
2. Coat back sides of panels to match exposed surfaces.
3. Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.

D. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

3.4 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from coating operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.
3.5 EXTERIOR HIGH-PERFORMANCE COATING SCHEDULE

A. Concrete Substrates, Vertical Surfaces:
   1. Submerged surface/all interior of wetwell:
      a. Intermediate Coat: Tnemec: 46H-413 HB Tneme-tar, 8.0-10.0 mils dft, thinned 5%
      b. Topcoat: Tnemec 46H-413 HB Tneme-tar, 8.0-10.0 mils dft.
   2. Exterior surface/all interior of valve pit:

B. Concrete Substrates, Horizontal Surfaces:
   1. Epoxy Slip-Resistant Deck Coating System:
      a. Prime Coat: Tnemec: 66 Epoxoline HB, 2.0-3.0 mils dft, thinned 5%.
      b. Intermediate Coat: Tnemec 104 HS Epoxy, 3.0-4.0 mils dft.
      c. Topcoat: Tnemec 104 HS Epoxy, 3.1-4.0 mils dft.
      d. Non-slip Additive: Tnemec A12O3 #24 broadcast at 3.1-4.0 pounds per 100 SF, divided between the primer and second coats.

C. Iron or Steel Substrates:
   1. Epoxy System:
      a. Prime Coat: Tnemec 37H Chem Prime HS or 66-1211, 3.0-4.0 mils dft.
      c. Topcoat: Tnemec 73 Endura-Shield, 1.5-2.5 mils dft.

D. Wood Substrates:
   1. For pressure treated and other wood:
      b. Topcoat: Rust-Oleum Topside Paint.
3.6 INTERIOR HIGH-PERFORMANCE COATING SCHEDULE

A. Iron or Steel Substrates:

1. Epoxy System:

   a. Prime Coat: Tnemec 37H Chem Prime HS or 66-1211, 3.0-4.0 mils dft.
   c. Topcoat: Tnemec 73 Endura-Shield, 1.5-2.5 mils dft.

END OF SECTION 099600
SECTION 220529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Metal pipe hangers and supports.
2. Metal framing systems.
3. Fastener systems.
4. Pipe stands.
5. Equipment supports.

B. Related Sections:

1. Section 055000 "Metal Fabrications" for structural-steel shapes and plates for pipe and equipment supports.

1.3 DEFINITIONS

A. MSS: Manufacturers Standardization Society of the Valve and Fittings Industry Inc.

1.4 PERFORMANCE REQUIREMENTS

A. Structural Performance: Hangers and supports for plumbing piping and equipment shall withstand the effects of gravity loads and stresses within limits and under conditions indicated according to ASCE/SEI 7.

1. Design supports for multiple pipes, including pipe stands, capable of supporting combined weight of supported systems, system contents, and test water.
2. Design equipment supports capable of supporting combined operating weight of supported equipment and connected systems and components.
3. Design seismic-restraint hangers and supports for piping and equipment and obtain approval from authorities having jurisdiction.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Signed and sealed by a qualified professional engineer. Show fabrication and installation details and include calculations for the following; include Product Data for components:
   1. Metal framing systems.
   2. Pipe stands.
   3. Equipment supports.

1.6 INFORMATIONAL SUBMITTALS

A. Welding certificates.

1.7 QUALITY ASSURANCE

A. Structural Steel Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

PART 2 - PRODUCTS

2.1 METAL FRAMING SYSTEMS

A. MFMA Manufacturer Metal Framing Systems:
   1. Description: Shop- or field-fabricated pipe-support assembly for supporting multiple parallel pipes.
   3. Channels: Continuous slotted steel channel with inturned lips.
   4. Channel Nuts: Formed or stamped steel nuts or other devices designed to fit into channel slot and, when tightened, prevent slipping along channel.

2.2 FASTENER SYSTEMS

A. Mechanical-Expansion Anchors: Insert-wedge-type, stainless steel anchors, for use in hardened Portland cement concrete; with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

2.3 PIPE STANDS

A. General Requirements for Pipe Stands: Shop- or field-fabricated assemblies made of manufactured corrosion-resistant components to support floor-mounted piping.

2.4 EQUIPMENT SUPPORTS

A. Description: Welded, shop- or field-fabricated equipment support made from structural carbon-steel shapes.

2.5 MISCELLANEOUS MATERIALS

A. Structural Steel: ASTM A 36/A 36M, carbon-steel plates, shapes, and bars; black and galvanized.

B. Grout: ASTM C 1107, factory-mixed and -packaged, dry, hydraulic-cement, nonshrink and nonmetallic grout; suitable for interior and exterior applications.

2. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.

PART 3 - EXECUTION

3.1 HANGER AND SUPPORT INSTALLATION

A. Fastener System Installation:
1. Install mechanical-expansion anchors in concrete after concrete is placed and completely cured. Install fasteners according to manufacturer’s written instructions.

B. Pipe Stand Installation:
   1. Pipe Stand Types: Assemble components and mount on smooth floor surface.


D. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, including valves, flanges, and strainers, NPS 4” and larger and at changes in direction of piping.

E. Load Distribution: Install hangers and supports so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.

F. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

3.2 EQUIPMENT SUPPORTS
   A. Fabricate structural-steel stands to support equipment above floor.
   B. Grouting: Place grout under supports for equipment and make bearing surface smooth.
   C. Provide lateral bracing, to prevent swaying, for equipment supports.

3.3 METAL FABRICATIONS
   A. Cut, drill, and fit miscellaneous metal fabrications for and equipment supports.
   B. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded because of shipping size limitations.
C. Field Welding: Comply with AWS D1.1/D1.1M procedures for shielded, metal arc welding; appearance and quality of welds; and methods used in correcting welding work; and with the following:

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 welding flux immediately.
4. Finish welds at exposed connections so no roughness shows after finishing and so contours of welded surfaces match adjacent contours.
5. Note that a SUEZ permit is required each day for welding operations.

3.4 PAINTING

A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting 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 a minimum dry film thickness of 2.0 mils (0.05 mm).

B. Touchup: Cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal are specified in Section 099123 "Interior Painting".

C. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

3.5 HANGER AND SUPPORT SCHEDULE

A. Comply with MSS SP-69 for pipe-hanger selections and applications that are not specified in piping system Sections.

B. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finish.

C. Use carbon-steel supports and metal framing systems and attachments for general service applications.

D. Building Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
1. Welded-Steel Brackets: For support of pipes from below or for suspending from above by using clip and rod. Use one of the following for indicated loads:

   a. Light (MSS Type 31): 750 lb. (340 kg).
   b. Medium (MSS Type 32): 1500 lb. (680 kg).
   c. Heavy (MSS Type 33): 3000 lb. (1360 kg).

E. Comply with MFMA-103 for metal framing system selections and applications that are not specified in piping system Sections.

F. Use mechanical-expansion anchors in concrete construction.

END OF SECTION 220529
1.1 RELATED DOCUMENTS
   A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
   A. Section Includes:
      1. Iron pipes.
      2. Iron plug valves.
      3. Iron fittings.
      4. Restrained joint connectors.
      5. Silent check valves.

1.3 DEFINITIONS
   A. CWP: Cold working pressure.
   B. NRS: Non-rising stem.
   C. OS&Y: Outside screw and yoke.
   D. RS: Rising stem.

1.4 ACTION SUBMITTALS
   A. Shop Drawings: Detail pipe and valve and fitting assemblies and indicate dimensions, method of field assembly, and components for the sludge lines crossover connection.
   B. Shop Drawings: Detail pipe and valve and fitting assemblies and indicate dimensions, method of field assembly, and components for the primary scum well pump system connections and hoisting rails and chain.
C. Shop Drawings: Detail pipe and valve and fitting assemblies and indicate dimensions, method of field assembly, and components for the secondary scum well pump system connections and hoisting rails and chain.

1.5 INFORMATIONAL SUBMITTALS

A. Product Data: For each type of product indicated.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data:
   1. For plug valves to include in emergency, operation, and maintenance manuals.
   2. For check valves to include in emergency, operation, and maintenance manuals.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Prepare valves for shipping as follows:
   1. Protect internal parts against rust and corrosion.
   2. Protect threads, flange faces, grooves, and weld ends.
   3. Set plug valves closed to prevent rattling.

B. Use the following precautions during storage for valves:
   1. Maintain valve end protection.
   2. Store valves indoors and maintain at higher than ambient dew point temperature. If outdoor storage is necessary, store valves off the ground in watertight enclosures.

C. Use sling to handle large valves; rig sling to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

D. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.
E. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor when storing inside.

F. Protect flanges, fittings, and specialties from moisture and dirt.

1.8 PROJECT CONDITIONS

A. Interruption of existing sludge pumping: Do not interrupt service to facilities operated by Owner or others unless permitted under the following conditions:

1. Notify Engineer and Plant Operator no fewer than two days in advance of proposed interruption of service, following approval of shop drawings (see Div. 100, Section 2).
2. Do not proceed with interruption of sludge pumping without both Engineer's and Plant Operator's written permission.

PART 2 - PRODUCTS

2.1 DUCTILE IRON PIPE

A. Pipe for the sludge crossover and pipe within the scum wells shall be ductile iron, minimum thickness class 52 for plain end pipe for use with flange adaptors.

B. No field constructed pipes shall use threaded connections except at a pump.

2.2 DUCTILE IRON FITTINGS

A. Fittings for the 4" diameter and 6" diameter scum and sludge lines shall be ductile iron with ASME B16.1, Class 125 flanged ends.

B. No field constructed fittings shall use threaded connections except at a pump.

C. Plain end pipe sections shall use flange adapters to join with fittings or equipment.
2.3 DUCTILE IRON JOINT CONSTRUCTION

A. Make pipe joints according to the following:
   1. Ductile Iron Piping with plain end for Scum and Sludge Piping:
      a. Pipe: ductile iron with a minimum wall thickness per
         AWWA C151, Class 52, with square cut ends.
      b. Flange adapters shall be used in lieu of threaded or
         welded flanges on plain end ductile pipe.
      c. If joint deflection is desired due to pipe offsets, or if extra
         tolerance is required in pipe length, Series 2100
         MEGAFLANGE® Restrained Flange Adapter, or approved
         equal, shall be used. Series 2100 MEGAFLANGE®
         Restrained Flange Adapter may be used for any joint.
      d. For well aligned joints and close fitting pipe length, the
         restraint shall be the Series 1000 E-Z Flange, as
         manufactured by EBAA Iron, Inc., or approved equal.
         Series 1000 E-Z Flange shall not be used where the plans
         call out that Series 2100 MEGAFLANGE® Restrained Flange
         Adapter shall be used.
      e. The restraints shall be manufactured of ductile iron
         conforming to ASTM A536.
      f. The restraint devices shall be coated using MEGA-BOND®.
      g. The bolt circles and bolt holes shall conform to
         ANSI/AWWA C110/A21.10 for Class 125.
      h. Installation: Mechanical joint restraint shall require
         conventional tools and installation procedures per AWWA
         C600, while retaining full mechanical joint deflection
         during assembly.
      i. Approvals: Restraint devices shall be Listed by Underwriters
         Laboratories (3" through 24" inch size) and Approved by
         Factory Mutual (3" through 12" inch size).

2.4 VALVES, GENERAL

A. Refer to Part 3 Article for applications of valves.

B. Valve Pressure and Temperature Ratings: Not less than indicated and as
   required for system pressures and temperatures.

C. Valve Sizes: Same as upstream pipe, unless otherwise indicated.

D. Valve Actuators:
   1. Nut and operating wrench: For quarter-turn valves.
E. Valve Flanges: ASME B16.1 Class 125 for cast-iron or ductile-iron valves.

F. Threaded: not permitted.

### 2.5 DUCTILE IRON PLUG VALVES

A. Description: Plug valves shall be of the non-lubricating, eccentric type. Valve shall be a Pratt Ballcentric Plug Valve as manufactured by the Henry Pratt Company.
   1. Valves shall provide tight shut-off at rated pressure.
   2. Valves 12" and smaller shall have round port design. 14" and larger valves shall have rectangular port design.
   3. The plug valve body shall be cast iron ASTM A126 Class B with welded-in overlay of at least 95% nickel alloy content on all surfaces contacting the face of the plug. Sprayed, plated, nickel welded rings or seats screwed into the body are not acceptable.
   4. The valve plug shall be ductile iron ASTM A-536, Grade 65-45-12, in valve sizes up to 20", and ASTM A126 Class B cast iron in sizes 24" and larger, with Buna N resilient seating surface to mate with the body seat.
   5. Valve flanges shall be in strict accordance with ANSI B16.1, Class 125.
   6. Plug valve shall be furnished with permanently lubricated sleeve type bearings conforming to AWWA C517. Bearings shall be of sintered, oil impregnated type 316 stainless steel ASTM A-743 Grade CF8M or bronze ASTM B-127.
   7. Valves shaft seals shall be of the “U” cup type, in accordance with AWWA C517. Seals shall be self-adjusting and re-packable without moving the bonnet from the valve.
   8. Valve actuators shall be fully grease packed and have stops in the open/close position. The actuator shall have a mechanical stop that will withstand an input torque of 450 lbs. against the stop. The actuator shall be able to provide 1.25 times the required operating torque under full rated line pressure combined with a flow velocity of 8 feet per second.

B. Source Limitations for Valves: Obtain each type of valve from single source from single manufacturer.

C. Valve Pressure/Temperature Ratings: Not less than indicated and as required for system pressures and temperatures.

D. Valve Sizes: Same as upstream piping unless otherwise indicated.
E. Drawings indicate valve types to be used in non-potable water bypass service feed.

2.6 Flow check valve; silent check / non-slam type
   A. Crane, NIBCO, or equal
   B. Cast iron body, class 125, wafer style

PART 3 - EXECUTION

3.1 EXAMINATION
   A. Examine valve interior for cleanliness, freedom from foreign matter, and corrosion. Remove special packing materials, such as blocks, used to prevent disc movement during shipping and handling.
   B. Operate valves in positions from fully open to fully closed. Examine guides and seats made accessible by such operations.
   C. Examine threads on valve and mating pipe for form and cleanliness.
   D. Examine mating flange faces for conditions that might cause leakage. Check bolting for proper size, length, and material. Verify that gasket is of proper size, that its material composition is suitable for service, and that it is free from defects and damage.
   E. Do not attempt to repair defective valves; replace with new valves.

3.2 VALVE INSTALLATION
   A. Install valves with flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
   B. Locate valves for easy access and provide separate support where necessary.
   C. Install valves in horizontal piping with stem at or above center of pipe.
D. Install valves in position to allow full stem movement.

3.3 ADJUSTING

A. Adjust or replace valve packing after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves if persistent leaking occurs.

3.4 GENERAL REQUIREMENTS FOR PIPE AND FITTING INSTALLATION

A. Install ductile iron, water-service piping according to AWWA C600 and AWWA M41.

3.5 JOINT CONSTRUCTION

A. Joint Construction for Flanged-End, Ductile-Iron Piping, Fittings and Equipment:
   1. Select appropriate asbestos-free, nonmetallic gasket material in size, type, and thickness suitable for domestic water service.
   2. Join flanges with gasket and bolts according to ASME B31.9.
   3. Use ASTM A307 bolts when joining a ductile iron flange or flange adaptor to a cast iron flange and use extreme care not to crack the cast iron flange.

3.6 CHECKING SYSTEM

A. Verify that there are no leaks, and correct any leaks.

B. Verify that the scum pumping system is working properly in each scum well.

C. Verify that the sludge crossover piping and valve are working properly.

END OF SECTION 221113
PART 1 - GENERAL

1.1 SUMMARY

A. This contract does not require PLC based or other automatic controls. As used in this specification and for this contract, the words “Control Panel” refer to the enclosure that houses various electrical components and control switches.

B. This section covers requirements for the Control Panel and Backboard and related equipment at the primary scum well. No control panel is required at the secondary scum well.
   1. Place Control Panel (and optional Backboard) adjacent to the pump installation.
   2. A separate 480 VAC, 3Ø fused disconnect switch for the control panel shall be provided adjacent to the control panel. The operating handle shall include a hasp to facilitate lockout and tagout of the electrical feed.

C. The control panel functions shall all be housed in one enclosure with accessory boxes as specified mounted on the metal support frame or on the (optional) backboard. Provide a complete Control System with all components as needed for a complete and proper installation, ready for operation. Provide the following or as noted on the plans:
   1. Control Panel Enclosure with cover mounted switches and pilot lights and interior components as needed to control all equipment, devices, components, wiring and material.
   2. Include all necessary appurtenances whether specifically referenced herein or not but that can be reasonably inferred to be and which are required for complete operation.

1.2 SCOPE OF WORK

A. The Contractor shall provide the following control devices and components and related items of the Control System for this project including:
   1. Control Panel Enclosure and metal mounting frame, and optional backboard support and backboard panel.
   2. All work as indicated or inferred from the controls description and specification.
3. All field wiring, terminations, conduit and circuit identification associated with the installation of the Control Panel.

1.3 SUBMITTALS

A. Product Data: Include manufacturer’s technical literature or data sheet for the control panel enclosure and each control panel device. Indicate dimensions, capacities, performance characteristics, electrical characteristics, finishes for materials, and installation and startup instructions for each type of product indicated. Where multiple products are shown on one sheet, indicate on each page which piece of equipment or material is intended for use on this project.

B. Shop Drawings:
   1. Detail equipment assemblies and indicate dimensions, required clearances, method of field assembly, components, and location of each field connection.
      a. Include: Equipment tag number, description, manufacturer, complete model number and all options not defined by model number, and quantity supplied.
   3. Panel Construction Drawings: Indicate control panel layout drawn to scale clearly indicating device locations, terminal blocks, plastic wire ducts, plastic tubing ducts, usable spare space, name tags and their legends. Provide drawings that show the control panel enclosure with both the cover closed and with the cover open.
   4. Point-to-point wiring diagram in block format showing actual device terminations.
   5. For packaged mechanical or electrical equipment, indicate actual terminal connections at the control panel for each piece of equipment on control panel shop drawings.

C. Indicate the following on each Shop Drawing:
   1. Original drawing date.
   2. Show any change made after the original date within a “cloud” or “balloon” with a delta symbol. The delta symbol shall also appear in the revision block adjacent to the revision date and contain the same number corresponding to its revision.
   3. Indicate and explain deviations of the Drawings or submittal data from the express intent of this Document to the attention of the Engineer in writing.

D. The contractor shall submit a shop drawing showing the electrical support stand construction and the attached (optional) backboard.
   1. Include cut sheets as appropriate for all materials.
2. The electrical support stand shall be constructed from 0.108 inch (12 ga.) galvanized steel or Type 304 stainless steel channel measuring 1⅝" X 1⅝" or larger as needed, as made by Unistrut or equal.
3. All fasteners and hardware shall be galvanized steel or Type 304 SS.
4. The wiring shall be watertight.
5. Show conduits to and from the control panel and electrical support stand.
6. Show the main disconnect switch enclosure and the electrical convenience outlet enclosure outside the main enclosure and mounted on the electrical support stand or on the backboard.
7. All components mounted on the electrical support stand or on the backboard shall be rated for the expected sun exposure and temperature range and all weather conditions.

E. If applicable, the contractor shall submit a shop drawing showing the backboard construction. A backboard is not necessarily required. Comply with the following requirements for the backboard:
1. The backboard shall be constructed from ¾" plywood, pressure treated for outdoor exposure. The ¾" thick sides shall be protected with a cap securely fastened in place and caulked to protect the end grain of the plywood against weather exposure. All fasteners and hardware used in constructing the backboard shall listed as suitable for use with the pressure treated wood.
2. The backboard shall be primer painted and painted with two coats of premium exterior latex paint in a neutral color. SUEZ will choose the color from a color chip card of the manufacturer’s standard paint colors.
3. The backboard shall be attached to the electrical support with galvanized steel or SS 304 hardware or other hardware listed as suitable for use with both the pressure treated wood backboard and the electrical stand material.
4. All fasteners attached to the backboard shall be listed as suitable for use with the pressure treated wood. Chrome plated steel, plain steel, brass, or aluminum fasteners are not acceptable.

F. In checking Drawings and submittal data, the Engineer will make every effort to detect errors and omissions. Failure of the Engineer to detect errors or omissions during the review of Drawings and submittal data shall not relieve the vendor of his responsibility to comply with the Contract Documents.

1.4 FINAL PROJECT SUBMITTALS
1. A complete spare parts list with part numbers and current suppliers.
2. 2 hard copies of operation and maintenance manuals and a digital copy in PDF on a DVD.
1.5 REFERENCE STANDARDS

A. The following organizations have generated standards that are to be used as guides in assuring quality and reliability of components and systems; govern nomenclature; define parameters of configuration and construction, in addition to specific details in this Specification:

1. IEEE - Institute of Electrical and Electronic Engineers.
6. UL - Underwriters’ Laboratories.

B. Any special standard or code requirements of the State, the County, or local regulatory body and other regulatory agency shall also apply herein. Where a conflict arises between codes, the one containing the more stringent requirements shall apply.

1.6 WARRANTY

A. Warranty components, parts, and assemblies against defects in material and workmanship for a period of 1 year after written acceptance by Owner. Warranty commences at time of acceptance, which shall be no earlier than the date of Substantial Completion. Partial acceptance of any system will not be provided unless extended warranty was granted at the time of contract award.

PART 2 - PRODUCTS

2.1 NAMEPLATES AND TAGS

A. Control Panel Enclosure and Control Panel Nameplates: identification located on the enclosure face.

2. Letters: 1/2-inch white on black background, unless otherwise noted.

B. Nametags: Device identification for field devices.

1. Inscription: Component tag number.
4. Mounting: Affix to component with 16- or 18-gauge stainless steel braided wire or Type 304 stainless steel screws.

2.2 CONTROL PANEL

A. General:
1. Control Panel shall be sized to accommodate internal and external components. Control Panel shall have components and readouts arranged to provide for neat and orderly installation of conductors, materials and equipment.
2. Enclosure and Panel Construction and Interior Wiring: In accordance with the National Electrical Code (NEC), state and local codes, and applicable sections of NEMA, ANSI, UL, and ICECA.
3. Fabricated panels shall have instruments, user controls and displays installed horizontal and plumb at the factory.
4. All panels shall bear UL label stating “LISTED ENCLOSED INDUSTRIAL CONTROL PANEL.”
5. Controls and electrical components, terminals, wires, and enclosures UL recognized or UL listed.

B. Control Panel Exterior Construction Ratings:

1. NEMA Type 4X: Designed for outdoor or indoor use; providing a degree of protection to personnel against hazardous internal parts; providing a degree of protection to internal components from the ingress of falling dirt and blowing dust; providing a degree of protection to internal components from the harmful effects of the ingress of rain, sleet, snow, splashing water, and hose directed water; providing an additional level of protection against corrosion; and will not be damaged by the formation of ice on the exterior of the enclosure.

C. Control Panel Interior Construction Ratings:

1. NEMA Type 1 within a NEMA Type 4X outer enclosure.

D. NEMA Type 4X: General Construction:

1. Panels:
   a. Seams shall be continuously welded and ground smooth, no holes or knockouts.
   b. Rolled flange around three sides of door and along top of enclosure opening.

d. Floor Mount Panels: 12 gauge stainless steel construction, 12-inch floor stands shall be welded to enclosure. Rigging lifting rings. Body stiffeners for added strength, Removable center post.

e. Wall Mount Panels: 14 gauge stainless steel construction.

2. Doors:

a. Full height, fully gasketed overlapping doors.

b. Hinges: Full length, heavy gauge, continuous, piano type, stainless steel hinges with stainless steel pins.

c. Stainless steel door clamps on three sides of each door and hasp and staple for padlocking.

d. High impact thermoplastic data pocket, provided on inside of doors.

e. Bonding provision

f. Oil-resistant door gasket attached with oil resistant adhesive on door.

2.3 MINIMUM REQUIRED CONTROL PANEL FUNCTIONS

A. All functions and controls required elsewhere in this specification shall be provided, in addition to the functions and control required in this article.

B. Submit a shop drawing to scale showing the control panel cover and controls and pilot lights, including labels and colors. The drawing shall be large enough to be legible and easily read on a full size print (max. arch. D size sheet).

C. The control panel cover shall include the following controls:
   1. A manual on/off switch for the scum pump.
   2. A manual on/off switch for the local area light.
   3. A pilot light indicating that power to the control panel is on.

D. The control panel shall include a transformer for the connected 120 VAC loads.
   1. Mounted in NEMA 1 enclosure inside the control panel.
   2. Provide a 20 amp circuit for the convenience outlet.
      Provide a 20 amp circuit for the pilot light, area light and soft start controller.
E. The control panel shall include
1. Main circuit breaker
2. Main power pilot light
3. Surge protection
4. Fused 277/120 VAC transformer
5. Individual 277 VAC and 120 VAC circuit breakers
6. On/Off switch for 5 hp/480 VAC scum pump, across the line motor starter and Allen-Bradley SMC-3 model 150-C9NBD soft starter with 120 VAC control voltage
7. On/Off switch for area light; light shall be 120 or 277 VAC as selected by the SUEZ assistant plant manager
8. All wiring, accessories and appurtenances as required

2.4 PANEL MAIN CIRCUIT BREAKER
A. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.

2. Basis of Design Manufacturer and Products: Schneider Electric, Square D; L Frame molded case circuit breaker, type LD.
3. Molded-Case Circuit-Breaker (MCCB) Features and Accessories:
   a. Standard frame sizes, trip ratings, and number of poles.
   b. Lugs: Mechanical or Compression style, suitable for number, size, trip ratings, and conductor material.
   c. Application Listing: Appropriate for application.
   d. Key Interlock Kit: Externally mounted to prohibit circuit-breaker operation; key shall be removable only when circuit breaker is in off position.

2.5 DIN RAIL MOUNTED MOLDED-CASE CIRCUIT BREAKERS
A. Basis of Design Manufacturer and Products: Schneider Electric, Square D; Multi 9 C60N, IEC Rated C60 Comb Bus Bars and other required accessories.

B. UL489, with interrupting capacity to meet available fault currents.

C. Description: Quick-make, quick-break, over center toggle, trip-free, trip-indicating circuit breakers listed and labeled as complying with UL 489, and complying with FS W-C-375 where applicable; ratings, configurations, and features as indicated on the drawings.
D. Interrupting Capacity:

1. Provide circuit breakers with interrupting capacity as required to provide the short circuit current rating indicated, but not less than:
   a. 10,000 rms symmetrical amperes at 240 VAC or 208 VAC.

2. Fully Rated Systems: Provide circuit breakers with interrupting capacity not less than the short circuit current rating indicated.

E. Conductor Terminations:

1. Provide mechanical lugs unless otherwise indicated.
2. Lug Material: Aluminum, suitable for terminating aluminum or copper conductors.

F. Thermal Magnetic Circuit Breakers: For each pole, furnish thermal inverse time tripping element for overload protection and magnetic instantaneous tripping element for short circuit protection.

G. Multi-Pole Circuit Breakers: Furnish with common trip for all poles.

H. Provide multi-pole circuit breakers for multi-wire branch circuits as required by NFPA 70.

2.6 OPERATORS, LIGHTS, PUSHBUTTONS


2.7 TERMINAL BLOCKS

A. General:

1. Connection Type: Screw compression clamp.
2. Compression Clamp: DIN-VDE 0611 hardened steel clamp with transversal grooves that penetrate wire strands providing a vibration-proof connection.
4. Current Bar: Copper or treated brass.
5. Insulation: Thermoplastic rated for minus 55 to plus 110 degrees C. Two funnel shaped inputs to facilitate wire entry.
6. Mounting: Standard DIN rail. Terminal block can be extracted from an assembly without displacing adjacent blocks. End Stops: Minimum of one at each end of rail.
7. Wire Preparation: Stripping only permitted.
8. **Jumpers:** Allow jumper installation without loss of space on terminal or rail.

9. **Marking System:**
   
   a. Terminal number shown on both sides of terminal block.
   
   b. Allow use of preprinted and field marked tags.
   
   c. Terminal strip numbers shown on end stops.
   
   d. Mark terminal block and terminal strip numbers as shown on panel control diagrams and loop diagrams.
   
   e. **Fuse Marking for Fused Terminal Blocks:** Fuse voltage and amperage rating shown on top of terminal block.

**B. Terminal Block, General Purpose:**

1. **Basis of Design Manufacturer and Product:** Entrelec; Type M4/6.D2.
2. **Rated Voltage:** 600V ac.
3. **Rated Current:** 30 amp.
4. **Wire Size:** 22 to 10 AWG.
5. **Rated Wire Size:** 10 AWG.
6. **Color:** Gray body.
7. **Spacing:** 0.25 inch, maximum.

**C. Terminal Block, Ground:**

1. **Basis of Design Manufacturer and Product:** Entrelec; Type M4/6.P.
2. **Wire Size:** 22 to 12 AWG.
3. **Rated Wire Size:** 12 AWG.
4. **Color:** Green and yellow body.
5. **Spacing:** 0.25 inch, maximum.
6. **Grounding:** Ground terminal blocks electrically grounded to the mounting rail.

**D. Terminal Block, Fused, 24V dc:**

1. **Basis of Design Manufacturer and Product:** Entrelec; Type M10/13T.SFL.
2. **Rated Voltage:** 600V dc.
3. **Rated Current:** 16 amp.
4. **Wire Size:** 22 to 10 AWG.
5. **Rated Wire Size:** 10 AWG.
6. **Color:** Gray body.
7. **Fuse:** 0.25 inch by 1.25 inch.
8. **Indication:** LED diode 24V dc.
9. **Spacing:** 0.5 12 inch, maximum.
E. Terminal Block, Fused, 120V ac:

1. Basis of Design Manufacturer and Product: Entrelec; Type M10/13T.SFL.
2. Rated Voltage: 600V ac.
4. Wire Size: 22 to 10 AWG.
5. Rated Wire Size: 10 AWG.
7. Fuse: 0.25 inch by 1.25 inch.
8. Indication: Neon lamp 110V ac.
9. Leakage Current: 1.8 mA, maximum.
10. Spacing: 0.512 inch, maximum.

2.8 SURGE PROTECTION

A. Panel Surge Protection Device

2. Description: Sine-wave-tracking type, panel-mounted design, UL 1449.
3. LED indicator lights for power and protection status.
4. One set of dry contacts rated at 5 A and 240 VAC.
5. Arrangement with wire connections to phase buses, neutral bus, and ground bus.

B. Signal Circuit Protection:

1. Transient protection shall be integrally provided with all equipment to protect all instrumentation and telemetry devices either receiving or sending signals. The transient protector shall be a three-stage surge suppression device, which shall effectively arrest most transients encountered in an instrumentation environment. Transient protectors utilizing single or dual stage suppression devices shall not be acceptable.

PART 3 - EXECUTION

3.1 CONTROL PANELS

A. Power Distribution within Panels:
1. **Feeder Circuits:** Connect to existing feeder circuit in the valve pit as required. Make provisions for feeder circuit conduit entry. Furnish terminal board for termination of wires.

2. **Circuit Wiring:**
   
   a. Each circuit shall be identified with a unique number to facilitate troubleshooting.
   
   b. Branch Circuit Loading: 16 amperes continuous, maximum on a 20 amp circuit.
   
   c. Lighting and Motor Soft Start control voltage: Provide feed from separate 20-amp 120V ac branch circuit.
   
   d. Convenience Outlet: Provide 120 VAC and GFCI breaker for external convenience outlet.

3. **Power Distribution Directory:** Each breaker or fuse shall be identified with a unique number. Provide typed directory identifying each breaker or fuse and a description of circuit being fed. Directory shall be inserted into a clear plastic pocket attached to the interior of panel.

B. **Wires within Enclosures:**

1. AC Circuits: 600-volt, Type THHN stranded copper. Sized for current to be carried, but not less than No. 18 AWG.
3. Other dc Circuits: 300-volt, Type MFW stranded copper. Sized at No. 18 AWG, minimum.
4. Special Signal Circuits: Use manufacturer’s standard cables.
5. Wire to terminal strips. Wire nuts or similar devices are not permitted.
6. Wire Identification: Numbered and tagged at each termination. Taped-on or slip-on wire markers with legible machine printed markings and numbers.
7. Provide 20% spare electrical terminals and 20% spare usable space.

C. **Wires entering or leaving enclosures, terminate and identify as follows:**

1. Analog and discrete signal, terminate at numbered terminal blocks.
2. Special signals, terminated using manufacturer’s standard connectors.
3. Terminate field wiring associated with the control circuit at the panel terminal block for ease of troubleshooting. No daisy chains of power wiring or neutrals.
D. Identify wiring in accordance with requirements in Section 26 “Low-Voltage Electrical Power Conductors and Cables”.

E. Exposed Electrical Terminations: Control devices with exposed electrical terminals are not permitted.

F. Grounding of Enclosures:

1. Furnish isolated copper grounding bus for signal and shield ground connections.
2. Ground this ground bus at a common signal ground point within the panel enclosure in accordance with National Electrical Code requirements. This allows for verification that all shields are grounded at one point only.
3. Single Point Ground for Each Analog Loop:
   a. Locate at dc power supply for loop.
   b. Use to ground wire shields for loop.
   c. Group and connect shields in field panels.
   d. Provide one shield terminal for each shield wire to be terminated.
4. Ground terminal block rails to ground bus.
5. Connect the isolated ground bus, the electrical safety ground, and the surge suppressor grounds together at a single ground bus to create a single point grounding within the panel enclosures.

G. Ground panel devices in accordance with the manufacturer's recommendations.

H. Panel Raceways: Route control panel wiring within plastic ducts having slotted sides and snap-on plastic covers. Provide separate plastic ducts for incoming field wires and incoming tubing.

I. Wire Tagging System: Provide sequential numbering system at terminations. All wiring labeling standards must be adhered to. See Appendix at the end of this section for the wiring labeling standard.

J. Wiring Methods for Single Conductors:

1. Install no more than 2 wires under a single screw or pressure terminal.
2. Identify same physical conductor with the same tag throughout the circuit.
3. Tag panel terminal strip with the same number as the attached wire.
4. Shop drawings shall utilize the method and numbering system described.
5. Provide 5% spare wires in all raceways but not less than 1 spare wire.
6. Coordinate colors and identification for intrinsically-safe systems in accordance with NFPA 70, Article 504-80.

K. Provide surge protection device for control panel with conductors between suppressor and points of attachment as short and straight as possible. Do not exceed manufacturer's recommended lead length. Do not bond neutral and ground.

1. Provide circuit breaker as a dedicated disconnect for suppressors, unless otherwise indicated

L. Terminal Blocks for Enclosures:

1. Accommodate present and spare indicated needs.
2. One wire per terminal.
3. Wire spare and unused panel mounted elements to their panels' terminal blocks.
4. Spare Terminals: 20 percent of all connected terminals, but not less than 5 per terminal block.

M. External Service Outlet: Provide one three-wire, 120-volt, 20-ampere, heavy duty (with a strap across the back) duplex receptacle, with NEMA 4 box and cover. Provide adjacent to control panel. Receptacle shall be protected by a dedicated GFCI circuit breaker; integral GFCI/receptacle shall not be used and will be rejected.

3.2 EXAMINATION

A. Examine areas and surfaces to receive enclosed controllers for compliance with requirements, installation tolerances, and other conditions affecting performance.

1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION

A. Mount control panel on electrical stand or backboard fastened to electrical stand.
3.4 SYSTEM REQUIREMENTS

A. Control Systems: Provide control panel and related apparatus to operate the pump, the convenience outlet and the area light and control panel equipment.

B. Materials and Equipment: Provide standard products of a reputable manufacturer regularly engaged in the product production. Where more than one unit of an item is required, all shall be provided by the same manufacturer. Permanently affix manufacturer's nameplate indicating model number, serial number and performance data to equipment furnished under this Contract. Use manufacturer's latest model. Except as otherwise specified, all materials used in the fabrication or construction of the various parts of the equipment included in this Contract shall be made in accordance with standard specifications of the American Society for Testing Materials.

C. Protection: Deliver material and equipment to site in manufacturer's original, unopened, and labeled containers. Provide protective measures to allow on-site storage exposed to the weather, without damage to the equipment.

D. Codes and Standards: Provide materials, equipment design, supports, and testing to comply with local, county, state, and national codes, and be listed by Underwriter's Laboratory if available.

E. Quality Control: All products and/or materials shall meet ISO 9000 or higher criteria where acceptable.

3.5 COORDINATION

A. The control panel will be completely independent from the operating system in the Main Building Control Room.

3.6 FIELD QUALITY CONTROL

A. Preliminary System Test:
   1. Preparation: Adjust the completed system and then operate it long enough to assure that it is performing properly.
   2. Run a preliminary test for the purpose of:
      a. Determining whether the system is in a suitable condition to conduct an acceptance test.
      b. Checking and adjusting equipment.
      c. Training facility personnel.
B. System Acceptance Test:
   1. Preparation: Notify the SUEZ Plant Manager at least three working days prior to the test so arrangements can be made to have a Facility Representative witness the test.
   2. Make the following tests:
      a. Test system operational functions.
      b. Any test required by the SUEZ plant manager or the plant electrician.
   3. Prepare written report of test results signed by Contractor and the SUEZ Plant Manager. Submit original copy of the signed written report to SUEZ Plant Manager and include copies in the O&M manuals.

END OF SECTION 255020
SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Building wires and cables rated 600 V and less.
2. Connectors, splices, and terminations rated 600 V and less.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

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

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

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

2.2 CONNECTORS AND SPLICES

A. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.
B. Existing Conductors:
   1. Cut back and pigtail, or replace all damaged conductors.
   2. Straighten conductors that remain and remove corrosion and foreign matter.
   3. Pigtailing existing conductors is permitted, provided the outlet box is large enough.

2.3 SYSTEM DESCRIPTION

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

B. Comply with NFPA 70.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders: Copper for feeders smaller than No. 4 AWG; copper or aluminum for feeders No. 4 AWG and larger. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

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

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Exposed Feeders: Type THHN/THWN-2, single conductors in raceway or Type XHHW-2, single conductors in raceway.

B. Exposed Branch Circuits, Including in Crawlspace: Type THHN/THWN-2, single conductors in raceway.

C. Cord Drops and Portable Appliance Connections: Type SO, hard service cord with stainless-steel, wire-mesh, strain relief device at terminations to suit application.
3.3 INSTALLATION OF CONDUCTORS AND CABLES

A. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.

B. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

C. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

D. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.

E. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.

B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.

C. Wiring at Outlets: Install conductor at each outlet, with at least 12 inches (300 mm) of slack.

3.5 IDENTIFICATION

A. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:
1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.

B. Conductors and cables will be considered defective if they do not pass tests and inspections, and conductors and cables shall be replaced and retested for acceptance.

END OF SECTION 260519
SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes grounding and bonding systems and equipment.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans showing dimensioned locations of grounding features specified in "Field Quality Control" Article, including the following:

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For grounding to include in emergency, operation, and maintenance manuals.

   1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:
      a. Plans showing as-built, dimensioned locations of grounding features specified in "Field Quality Control" Article, including the following:
         1) Grounding for sensitive electronic equipment.
2.1 SYSTEM DESCRIPTION

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

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

2.2 CONDUCTORS

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

B. Bare Copper Conductors:
   4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch (6 mm) in diameter.
   5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
   6. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.
   7. Tinned Bonding Jumper: Tinned-copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.

C. Grounding Bus: Predrilled rectangular bars of annealed copper, 1/4 by 4 inches (6.3 by 100 mm) in cross section, with 9/32-inch (7.14-mm) holes spaced 1-1/8 inches (28 mm) apart. Stand-off insulators for mounting shall comply with UL 891 for use in switchboards, 600 V and shall be Lexan or PVC, impulse tested at 5000 V.

2.3 CONNECTORS

A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.
B. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

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

D. Bus-Bar Connectors: Compression type, copper or copper alloy, with two wire terminals.

E. Beam Clamps: Mechanical type, terminal, ground wire access from four directions, with dual, tin-plated or silicon bronze bolts.

F. Cable-to-Cable Connectors: Compression type, copper or copper alloy.

G. Cable Tray Ground Clamp: Mechanical type, zinc-plated malleable iron.

H. Conduit Hubs: Mechanical type, terminal with threaded hub.

I. Ground Rod Clamps: Mechanical type, copper or copper alloy, terminal with hex head bolt.

J. Ground Rod Clamps: Mechanical type, copper or copper alloy, terminal with hex head bolt.

K. Lay-in Lug Connector: Mechanical type, copper rated for direct burial terminal with set screw.

L. Service Post Connectors: Mechanical type, bronze alloy terminal, in short- and long-stud lengths, capable of single and double conductor connections.

M. Signal Reference Grid Clamp: Mechanical type, stamped-steel terminal with hex head screw.

N. Straps: Solid copper, cast bronze clamp. Rated for 600 A.

O. Tower Ground Clamps: Mechanical type, copper or copper alloy, terminal two piece clamp.

P. U-Bolt Clamps: Mechanical type, copper or copper alloy, terminal listed for direct burial.

Q. Water Pipe Clamps:

1. Mechanical type, two pieces with zinc plated bolts.
b. Listed for direct burial.

2. U-bolt type with malleable-iron clamp and copper ground connector rated for direct burial.

PART 3 - EXECUTION

3.1 APPLICATIONS

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

B. Grounding Bus: Install in electrical equipment rooms, in rooms housing service equipment, and elsewhere as indicated.

1. Install bus horizontally, on insulated spacers 2 inches (50 mm) minimum from wall, 6 inches (150 mm) above finished floor unless otherwise indicated.

2. Where indicated on both sides of doorways, route bus up to top of door frame, across top of doorway, and down; connect to horizontal bus.

C. Conductor Terminations and Connections:

1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.

2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.

3. Connections to Structural Steel: Welded connectors.

3.2 EQUIPMENT GROUNDING

A. Install insulated equipment grounding conductors with all feeders and branch circuits.

B. Install insulated equipment grounding conductors with the following items, in addition to those required by NFPA 70:

1. Feeders and branch circuits.
2. Lighting circuits.
3. Receptacle circuits.
5. Three-phase motor and appliance branch circuits.
6. Flexible raceway runs.
7. Armored and metal-clad cable runs.
8. Busway Supply Circuits: Install insulated equipment grounding conductor from grounding bus in the switchgear, switchboard, or distribution panel to equipment grounding bar terminal on busway.

C. Signal and Communication Equipment: In addition to grounding and bonding required by NFPA 70, provide a separate grounding system complying with requirements in TIA/ATIS J-STD-607-A.
   1. For telephone, alarm, voice and data, and other communication equipment, provide No. 4 AWG minimum insulated grounding conductor in raceway from grounding electrode system to each service location, terminal cabinet, wiring closet, and central equipment location.
   2. Service and Central Equipment Locations and Wiring Closets: Terminate grounding conductor on a 1/4-by-4-by-12-inch (6.3-by-100-by-300-mm) grounding bus.
   3. Terminal Cabinets: Terminate grounding conductor on cabinet grounding terminal.

3.3 INSTALLATION

A. Grounding Conductors: Route along shortest and straightest paths possible unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

B. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance except where routed through short lengths of conduit.
   1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
   2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install bonding so vibration is not transmitted to rigidly mounted equipment.
   3. Use exothermic-welded connectors for outdoor locations; if a disconnect-type connection is required, use a bolted clamp.
C. Grounding and Bonding for Piping:

1. Metal Water Service Pipe: Install insulated copper grounding conductors, in conduit, from building's main service equipment, or grounding bus, to main metal water service entrances to building. Connect grounding conductors to main metal water service pipes; use a bolted clamp connector or bolt a lug-type connector to a pipe flange by using one of the lug bolts of the flange. Where a dielectric main water fitting is installed, connect grounding conductor on street side of fitting. Bond metal grounding conductor conduit or sleeve to conductor at each end.

D. Connections: Make connections so possibility of galvanic action or electrolysis is minimized. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact are galvanically compatible.

1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
2. Make connections with clean, bare metal at points of contact.
5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

END OF SECTION 260526
SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Steel slotted support systems.
2. Conduit and cable support devices.
3. Restraints.
4. Mounting, anchoring, and attachment components, including powder-actuated fasteners, mechanical expansion anchors, concrete inserts, clamps, through bolts, toggle bolts, and hanger rods.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:

   a. Slotted support systems, hardware, and accessories.
   b. Clamps.
   c. Hangers.
   d. Sockets.
   e. Eye nuts.
   f. Fasteners.
   g. Anchors.
   h. Saddles.
   i. Brackets.

2. Include rated capacities and furnished specialties and accessories.
B. Shop Drawings: For fabrication and installation details for electrical hangers and support systems.

2. Slotted support systems.
3. Equipment supports.

1.4 INFORMATIONAL SUBMITTALS

A. Welding certificates.

1.5 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M.
2. AWS D1.2/D1.2M.

PART 2 - PRODUCTS

2.1 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

A. Steel Slotted Support Systems: Preformed steel channels and angles with minimum 13/32-inch- (10-mm-) diameter holes at a maximum of 8 inches (200 mm) o.c. in at least one surface.

1. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
2. Material for Channel, Fittings, and Accessories: Galvanized steel, Stainless steel, Type 316.
3. Channel Width: Selected for applicable load criteria.
4. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.

B. 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.

C. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M steel plates, shapes, and bars; black and galvanized.
D. 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, with tension, shear, and pullout capacities appropriate for supported loads and building materials where 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 where used.

3. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.

4. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.

5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.


PART 3 - EXECUTION

3.1 APPLICATION

A. Comply with the following standards for application and installation requirements of hangers and supports, except where requirements on Drawings or in this Section are stricter:

1. NECA 1.
2. NECA 101
3. NECA 102.
4. NECA 105.
5. NECA 111.

B. Comply with requirements for raceways and boxes specified in Section 260533 "Raceways and Boxes for Electrical Systems."

C. Maximum Support Spacing and Minimum Hanger Rod Size for Raceways: Space supports for EMT, IMC, and RMC as required by [scheduled in
NECA 1, where its Table 1 lists maximum spacings that are less than those stated in NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.

3.2 SUPPORT INSTALLATION

A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this article.

B. 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).

C. 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 Existing Concrete: Expansion anchor fasteners.
   2. 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.
   3. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts or Beam clamps (MSS SP-58, Type 19, 21, 23, 25, or 27), complying with MSS SP-69.

D. Drill holes for expansion anchors in concrete at locations and to depths that avoid reinforcing bars, and minimum 10 bolt diameters apart and from edges.

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 CONCRETE BASES

A. Construct concrete bases of dimensions indicated, but not less than 4 inches (100 mm) larger in both directions than supported unit, and so anchors will be a minimum of 10 bolt diameters from edge of the base.

B. Use 3000-psi (20.7-MPa), 28-day compressive-strength concrete. Concrete materials, reinforcement, and placement requirements are specified in Section 033053 "Miscellaneous Cast-in-Place Concrete."

C. Anchor equipment to concrete base as follows:
   1. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
   2. Install anchor bolts to elevations required for proper attachment to supported equipment.
   3. Install anchor bolts according to anchor-bolt manufacturer's written instructions.

3.5 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. Touchup: Comply with requirements in Section 09960 "High Performance Coatings" for cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal.

C. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 260529
SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:
   1. Metal conduits and fittings.
   2. Nonmetallic conduits and fittings.

1.3 DEFINITIONS

A. ARC: Aluminum rigid conduit.
B. GRC: Galvanized rigid steel conduit.
C. IMC: Intermediate metal conduit.

1.4 ACTION SUBMITTALS

A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
B. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

A. Metal Conduit:
1. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

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

3. ARC: Comply with ANSI C80.5 and UL 6A.

4. IMC: Comply with ANSI C80.6 and UL 1242.

5. PVC-Coated Steel Conduit: PVC-coated [rigid steel conduit] [IMC].
   a. Comply with NEMA RN 1.
   b. Coating Thickness: 0.040 inch (1 mm), minimum.

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

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

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

B. Metal Fittings:

1. Comply with NEMA FB 1 and UL 514B.

2. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

3. Fittings, General: Listed and labeled for type of conduit, location, and use.


5. Fittings for EMT:
   a. Material: Steel or die cast.
   b. Type: Setscrew or compression.

6. 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.

7. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch (1 mm), with overlapping sleeves protecting threaded joints.

C. Joint Compound for IMC, GRC, or ARC: 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.
2.2 NONMETALLIC CONDUITS AND FITTINGS

A. Nonmetallic Conduit:
1. Listing and Labeling: Nonmetallic conduit shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. ENT: Comply with NEMA TC 13 and UL 1653.
3. RNC: Type EPC-40-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.
4. LFNC: Comply with UL 1660.
5. Rigid HDPE: Comply with UL 651A.
6. Continuous HDPE: Comply with UL 651A.
7. Coilable HDPE: Preassembled with conductors or cables, and complying with ASTM D 3485.
8. RTRC: Comply with UL 2515A and NEMA TC 14.

B. Nonmetallic Fittings:
1. Fittings, General: Listed and labeled for type of conduit, location, and use.
2. Fittings for ENT and RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.
   a. Fittings for LFNC: Comply with UL 514B.
3. Solvents and Adhesives: As recommended by conduit manufacturer.

2.3 METAL WIREWAYS AND AUXILIARY GUTTERS

A. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 3R or Type 4 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.

B. 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.

C. Wireway Covers: Screw-cover type unless otherwise indicated.

D. Finish: Manufacturer's standard enamel finish.
2.4 BOXES, ENCLOSURES, AND CABINETS

A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.

B. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.

C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, aluminum, Type FD, with gasketed cover.

D. Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.

E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

F. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum with gasketed cover.

G. Box extensions used to accommodate new building finishes shall be of same material as recessed box.

H. Device Box Dimensions: 4 inches square by 2-1/8 inches deep or 4 inches by 2-1/8 inches by 2-1/8 inches deep to match device box.

I. Gangable boxes are allowed.

J. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 4X with continuous-hinge cover with flush latch unless otherwise indicated.
   1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
   3. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.

K. Cabinets:
   1. NEMA 250, Type 4X stainless steel box with removable interior panel and removable front, finished inside 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.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below unless otherwise indicated:
   1. Exposed: RMC. Raceway locations include the following:
      a. On control panel stand and backboard.
   2. Buried: RMC. Raceway locations include the following:
      a. To control panel stand and backboard.
      b. To area light.

B. Minimum Raceway Size: 1/2-inch (16-mm) trade size.

C. Raceway Fittings: Compatible with raceways and suitable for use and location.
   1. Rigid Metal 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. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.

D. Do not install non-galvanized or non-PVC coated or non-PVC conduits, boxes, or fittings in contact with concrete or earth or pressure treated wood backboard.

3.2 INSTALLATION

A. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.

B. 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.

C. Complete raceway installation before starting conductor installation.

D. 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 (300 mm) of changes in direction.

E. Make bends in raceway using large-radius preformed ells. Field bending shall be according to NFPA 70 minimum radii requirements. Use only equipment specifically designed for material and size involved.

F. Support conduit within 12 inches (300 mm) of enclosures to which attached.

G. 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.

H. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.

I. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.

J. 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 (35mm) trade size and insulated throat metal bushings on 1-1/2-inch (41-mm) trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.

K. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.

L. 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.

M. Cut conduit perpendicular to the length. For conduits 2-inch (53-mm) trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.
N. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire.

O. Surface Raceways:

1. Install surface raceway with a minimum 2-inch (50-mm) radius control at bend points.
2. Secure surface raceway with screws or other anchor-type devices at intervals not exceeding 48 inches (1200 mm) 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.
   a. Screws or other anchor-type devices shall be stainless steel or galvanized for attachment to metal.
   b. Screws or other anchor-type devices shall be compatible with the pressure treated wood for attachment to the backboard.

P. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound.

Q. 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. Conduit extending from interior to exterior of building.
4. Conduit extending into pressurized duct and equipment.
5. Conduit extending into pressurized zones that are automatically controlled to maintain different pressure set points.
6. Where otherwise required by NFPA 70.

R. Expansion-Joint Fittings:

1. Install in each run of aboveground RMC conduit that is located where environmental temperature change may exceed 100 deg F (55 deg C) and that has straight-run length that exceeds 100 feet (30 m).
2. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F (0.0115 mm
per meter of length of straight run per deg C) of temperature change for metal conduits.

3. Install expansion fittings at all locations where conduits cross building or structure expansion joints.

4. 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.

S. 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.

T. Locate boxes so that cover or plate will not span different building finishes.

U. Fasten junction and pull boxes to or support from metal support stand or backboard. Do not support boxes by conduits.

3.3 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 260533
SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Heavy duty grade receptacles, 125 V, 20 A.
2. Toggle switches, 120/277 V, 20 A.
3. Wall plates.

1.3 DEFINITIONS

A. GFCI: Ground-fault circuit interrupter.

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

PART 2 - PRODUCTS

2.1 GENERAL WIRING-DEVICE REQUIREMENTS

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

B. Comply with NFPA 70.

C. Comply with NEMA WD 1.

D. Device Color:

1. Wiring Devices Connected to Normal Power System: Gray unless otherwise indicated or required by NFPA 70 or device listing.
E. Source Limitations: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

2.2 HEAVY DUTY GRADE RECEPTACLES, 125 V, 20 A

A. Duplex Receptacles, 125 V, 20 A:
   1. Description: Two pole, three wire, and self-grounding.
   2. Configuration: NEMA WD 6, Configuration 5-20R.
   3. Standards: Comply with UL 498 and FS W-C-596.
   4. Receptacle shall have side wiring with binding-head screw terminals.

2.3 GFCI RECEPTACLE, 125 V, 20 A

A. Duplex GFCI Receptacle, 125 V, 20 A shall NOT be used and will be rejected. A separate GFCI breaker and a separate duplex receptacle shall be used.

2.4 TOGGLE SWITCHES, 120/277 V, 20 A

A. Single-Pole Switches, 120/277 V, 20 A:
   2. Switch shall have a short handle and a mounting strap to be compatible with waterproof wall plate.

2.5 WALL PLATES

A. Single Source: Obtain wall plates from same manufacturer of wiring devices.

B. Plate-Securing Screws: Metal with head color to match plate finish.

C. Wet-Location, Weatherproof Cover Plate for switch: NEMA 250, complying with Type 3R, weather-resistant, die-cast aluminum with gasket. Cover plate shall have a lever to actuate the enclosed switch.
   1. See also control cabinet specification: a panel cover mounted switch and pilot light for the area light will be an acceptable alternative.
D. Wet-Location, Weatherproof Cover Plate for duplex receptacle: NEMA 250, complying with Type 4X, weather-resistant, die-cast aluminum or polycarbonate with gasket.
  1. The receptacle shall not be integral with the control panel. The receptacle shall be mounted remote from the control panel.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.

B. Coordination with Other Trades:
   1. Protect installed devices and their boxes.
   2. Keep outlet boxes free of mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
   3. Install wiring devices after all backboard preparation, including painting, is complete.

C. Conductors:
   1. Do not strip insulation from conductors until right 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 comply with NFPA 70, Article 300, without pigtailed.

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 pigtailed 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, two-thirds to three-fourths of the way around terminal screw.
5. Use a torque screwdriver when a torque is recommended or required by manufacturer.
6. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
7. Tighten unused terminal screws on the device.
8. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:

1. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the right.

F. Device Plates: Do not use oversized or extra-deep plates.

G. Arrangement of Devices: Unless otherwise indicated, mount with long dimension vertical and with grounding terminal of receptacles on top.

3.2 GFCI RECEPTACLES

A. Do not even think of using these.

3.3 FIELD QUALITY CONTROL

A. Test Instruments: Use instruments that comply with UL 1436.

B. Test Instrument for Receptacles: Digital wiring analyzer with digital readout or illuminated digital-display indicators of measurement.

C. Tests for Receptacles:

1. Line Voltage: Acceptable range is 105 to 132 V.
2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is unacceptable.
3. Ground Impedance: Values of up to 2 ohms are acceptable.
4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
5. Using the test plug, verify that the device and its outlet box are securely mounted.
6. Tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault-current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.
D. Test straight-blade convenience outlets for the retention force of the grounding blade according to NFPA 99. Retention force shall be not less than 4 oz. (115 g).

E. Wiring device will be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

END OF SECTION 262726
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Cartridge fuses rated 600 V ac and less for use in the following:
   a. Control circuits.
   b. Motor-control centers.
   c. Panelboards.
   d. Switchboards.
   e. Enclosed controllers.
   f. Enclosed switches.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for spare-fuse cabinets. Include the following for each fuse type indicated:

1. Ambient Temperature Adjustment Information: If ratings of fuses have been adjusted to accommodate ambient temperatures, provide list of fuses with adjusted ratings.
   a. For each fuse having adjusted ratings, include location of fuse, original fuse rating, local ambient temperature, and adjusted fuse rating.
   b. Provide manufacturer's technical data on which ambient temperature adjustment calculations are based.

2. Dimensions and manufacturer's technical data on features, performance, electrical characteristics, and ratings.
4. Time-current coordination curves (average melt) and current-limitation curves (instantaneous peak let-through current) for each type and rating of fuse. Submit in electronic format suitable for use in coordination software and in PDF format.
5. Coordination charts and tables and related data.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fuses to include in emergency, operation, and maintenance manuals. In addition to items specified in Section 017700 "Closeout Procedures" and Section 017823 "Operation and Maintenance Data," include the following:

1. Ambient temperature adjustment information.
2. Current-limitation curves for fuses with current-limiting characteristics.
3. Time-current coordination curves (average melt) and current-limitation curves (instantaneous peak let-through current) for each type and rating of fuse used on the Project. Submit in electronic format suitable for use in coordination software and in PDF format.
4. Coordination charts and tables and related data.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Fuses: Equal to 10 percent of quantity installed for each size and type, but no fewer than four of each size and type.

1.6 FIELD CONDITIONS

A. Where ambient temperature to which fuses are directly exposed is less than 40 deg F (5 deg C) or more than 100 deg F (38 deg C), apply manufacturer's ambient temperature adjustment factors to fuse ratings.
PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain fuses, for use within a specific product or circuit, from single source from single manufacturer.

2.2 CARTRIDGE FUSES

A. Characteristics: NEMA FU 1, current-limiting, nonrenewable cartridge fuses with voltage ratings consistent with circuit voltages.

1. Type RK-1: 600-V, zero- to 600-A rating, 200 kAIC[, time delay].
2. Type RK-5: 600-V, zero- to 600-A rating, 200 kAIC[, time delay].
3. Type CC: 600-V, zero- to 30-A rating, 200 kAIC[, fast acting] [, time delay].
4. Type CD: 600-V, 31- to 60-A rating, 200 kAIC[, fast acting] [, time delay].
5. Type J: 600-V, zero- to 600-A rating, 200 kAIC[, time delay].
6. Type L: 600-V, 601- to 6000-A rating, 200 kAIC[, time delay].
7. Type T: 600-V, zero- to 800-A rating, 200 kAIC[, very fast acting] [, time delay].

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

C. Comply with NEMA FU 1 for cartridge fuses.

D. Comply with NFPA 70.

E. Coordinate fuse ratings with utilization equipment nameplate limitations of maximum fuse size and with system short-circuit current levels.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine fuses before installation. Reject fuses that are moisture damaged or physically damaged.
B. Examine holders to receive fuses for compliance with installation tolerances and other conditions affecting performance, such as rejection features.

C. Examine utilization equipment nameplates and installation instructions. Install fuses of sizes and with characteristics appropriate for each piece of equipment.

D. Evaluate ambient temperatures to determine if fuse rating adjustment factors must be applied to fuse ratings.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FUSE APPLICATIONS

A. Cartridge Fuses:
   1. Feeders: [Class L, fast acting] [Class L, time delay] [Class RK1, fast acting] [Class RK1, time delay] [Class RK5, fast acting] [Class RK5, time delay] [Class J, fast acting] [Class J, time delay].
   2. Motor Branch Circuits: [Class RK1] [Class RK5] [Class CC, motor duty], time delay.
   3. Large Motor Branch (601-4000 A): Class L, time delay.
   4. Power Electronics Circuits: [Class J, high speed] [Class T, fast acting].
   5. Other Branch Circuits: [Class RK1, time delay] [Class RK5, time delay] [Class J, fast acting] [Class J, time delay] [Class CC, fast acting].
   6. Control Transformer Circuits: Class CC, time delay, control transformer duty.
   7. Provide open-fuse indicator fuses or fuse covers with open fuse indication.

3.3 INSTALLATION

A. Install fuses in fusible devices. Arrange fuses so rating information is readable without removing fuse.

3.4 IDENTIFICATION

A. Install labels indicating fuse replacement information inside of door of each fused switch and adjacent to each fuse block, socket, and holder.

END OF SECTION 262813
CONTRACT NO. 2018-04

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