



water

CONTRACT AND SPECIFICATIONS

**RIVERHEAD WATER DISTRICT
TOWN OF RIVERHEAD
SUFFOLK COUNTY, NEW YORK**

INSTALLATION OF WELL NO. 3A
VFD

Project No: RDWD 16-08



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NOVEMBER 2018

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Notice is hereby given that SEALED PROPOSALS for:

Installation of Well No. 3A VFD
Contract E - Electrical Construction
Pulaski Road, Riverhead
H2M Project No.: RDWD 18-06

will be received by the Town Board of Riverhead at the office of the Town Clerk, Riverhead Town Hall, 200 Howell Avenue, Riverhead, New York 11901, until **2:00 P.M.**, Prevailing Time on Thursday, November 29, 2018, at which time and place they will be publicly opened and read aloud.

Plans and specifications may be examined on or after Thursday, November 15, 2018 by visiting the Town of Riverhead website: <<http://townofriverheadny.gov>> and click on "Bid Requests". Plans and specifications are available in electronic format only from the aforementioned website.

Each proposal submitted must be accompanied by a certified check or bid bond, made payable to the TOWN OF RIVERHEAD, in an amount equal to five percent (5%) of the total amount of the bid, as a commitment by the bidder that, if its bid is accepted, it will enter into a contract to perform the work and will execute such further security as may be required for the faithful performance of the contract.

The Owner reserves the right to reject any or all bids, waive any informalities and to accept such bid which, in the opinion of the Owner, is in the best interests of the Owner.

BY ORDER OF THE TOWN BOARD
TOWN OF RIVERHEAD
SUFFOLK COUNTY, NEW YORK

ACTING AS THE GOVERNING BODY OF
THE RIVERHEAD WATER DISTRICT

TOWN CLERK, TOWN OF RIVERHEAD

DATED: November 15, 2018

END OF SECTION

The BOARD OF COMMISSIONERS of the RIVERHEAD WATER DISTRICT (hereinafter called DISTRICT), will receive Sealed Proposals for:

**Installation of Well No. 3A VFD
Contract E - Electrical Construction
H2M PROJECT NO.: RDWD 1806**

TIME AND PLACE

Bids are to be submitted in sealed opaque envelopes, and will be received by the Town of Riverhead, at the Town Clerk's office, Town Hall, 200 Howell Avenue, Riverhead, New York, not later than 2:00 P.M. prevailing time, on Thursday, November 29, 2018 at which time and place they will be publicly opened and read aloud. Use of the mails shall be at the Bidder's own risk, and the Bidder shall be responsible for physical delivery of the bid at the time and place set for opening of bids..

ENVELOPES

All proposals and either the certified check or bid bond must be placed in a sealed opaque envelope bearing the Bidder's firm name and address and marked, "INSTALLATION OF WELL NO. 3A VFD FOR THE RIVERHEAD WATER DISTRICT, TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK", but otherwise unmarked. Bid package shall include Proposal sheets, Qualifications of Bidder sheets, Approval of Subcontractor sheets, and the New York State Uniform Contracting Questionnaire.

PLANS AND SPECIFICATIONS

Plans and specifications may be examined on or after Thursday, November 15, 2018 by visiting the Town of Riverhead website: <http://townofriverheadny.gov> and click on "Bid Requests".

Plans and specifications are available from the aforementioned Town of Riverhead website only. All contractors who intend to submit a bid package are required to register on the web site.

VERBAL ANSWERS

The Town Board, its agents, servants or employees, or the Engineer, will not be responsible in any manner for verbal answers to any inquiries regarding the meaning of the contract drawings or Specifications given prior to the awarding of the contract.

Bid document inquiries may be submitted in writing by the Contractor to the Town until 5:00 P.M. on Monday, November 26, 2018, after which they will no longer be accepted.

EXAMINATION OF SITE

Bidders must satisfy themselves by personal examination of the location of the proposed work and of the actual conditions and requirements of the work and shall not, at any time after the submission of a proposal, dispute or complain of such estimate or assert that there was any misunderstanding in regard to the depth or character of excavation to be made or the nature of the work to be done.

PROPOSAL

The Proposal contained herein shall be used in making out bids. Any proposal not in accordance with these instructions or containing bids not asked for may be rejected. While separate prices are required for various items under this contract, it is understood that the contract will be awarded as a whole.

As the estimates of quantities of items stated in the Proposal are approximate only, bidders are required to submit their proposal upon and in the following express conditions, which shall apply and become part of every proposal received.

Bids will be compared by total amounts, said total amount being the sum of the products of the quantities multiplied by the unit price bid for the various items, with due consideration being given to the lump sum prices bid for any contingent or optional items. Unbalanced bids will not be accepted.

Each bidder shall fill out in ink, in both words and figures, in the spaces provided, its unit or lump sum bid, as the case may be, for each item in said Proposal for which it is submitting a bid. If there is any discrepancy between the prices in words and figures, the prices in words shall govern as unit and lump sum prices.

A bid which does not include bids for all items in the Proposal may not be considered valid.

If the contract is not awarded by the Town Board within forty five (45) days after the receipt of bids, the obligation of the bidder under this Proposal may terminate at its option and it shall thereupon be entitled to a refund of its certified check or release of its bid bond furnished by it as security with its proposal.

BOND OR CERTIFIED CHECK

Each proposal from a Contractor shall be accompanied by a bid bond or certified check on a solvent bank of the STATE OF NEW YORK, in the amount of five percent (5%) of the total bid. Such check shall be made payable to TOWN OF RIVERHEAD, RIVERHEAD, NEW YORK, and the amount thereof shall be the measure of liquidated damages which the Town may sustain by failure, neglect or refusal of the bidder to execute and deliver the contract, should the contract be awarded to it. The checks of all unsuccessful bidders will be returned upon the rejection of bids and the awarding of the contract; also, the check of the successful bidder will be returned upon the execution of the contract and the furnishing of the required bond.

NAME OF BIDDER

Each bidder must state, in its proposal, its full name and business address, and the full name of every person, firm or corporation, interested in same, and the address of every person or firm, or president and secretary of every corporation, interested with it.

QUALIFICATIONS OF BIDDERS

The Town Board reserves the right to waive any informalities in, or reject any and all bids. The Board reserves the right to reject any and all bids which do not conform to the Proposal.

All bidders must prove to the satisfaction of the Town Board that they are reputable, reliable and responsible, and that they possess the necessary qualifications (financial, labor, equipment and otherwise) to complete successfully the proposed work.

In determining the qualifications of a bidder, the Town Board will consider its record in the performance of any contracts entered into by it for the work contemplated or of similar nature, may make such investigation as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish to the Board all such information and data for this purpose as the Town Board may request.

The Town Board shall be the sole judge of the qualifications of the bidders and of the merits thereof and reserves the right to reject any bid if the record of the bidder in the performance of contracts, payment of bills and meeting of obligations to subcontractors, material men or employees is not satisfactory to the Town Board, or if the evidence submitted by, or the investigation of, such bidders fails to satisfy the Town

Board that it is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein " .

PERFORMANCE AND MAINTENANCE BOND

The Contractor shall furnish a Performance Bond, Labor and Materials Bond, and a one (1) year Maintenance Bond each in an amount equal to one hundred (100%) percent of the total contract price as security for its faithful performance of this contract, for the payment of all persons performing labor or furnishing materials in connection with this contract. Such bonds shall also cover any penalties, interest charges and assessments levied by any governmental unit for failure to comply with laws and/or regulations governing public work. The Maintenance Bond shall be an assurance that all work and materials provided under this contract shall be maintained for a minimum period of one (1) year. The Maintenance Bond shall be furnished following final completion, and payment under the contract. The contractor shall be required to furnish all guarantees and warranties of manufacturers of products in connection with this contract, but no manufacturer's limitation of time shall act to limit the responsibility of the contractor or its surety hereunder.

The surety must be licensed in the State of New York and have a BEST A rating, or the surety shall present information satisfactory to the TOWN/DISTRICT to permit the TOWN/DISTRICT to accept the bond.

At the time of submission of bonds or at any time thereafter, the TOWN/DISTRICT may evaluate the surety or sureties proposed, and demand a change of surety if it determines that the financial position of such surety does not provide for a proper protection of the interests of the TOWN/DISTRICT. The TOWN/DISTRICT shall be guided by its legal counsel, and insurance industry consultants in determining proper sureties for TOWN/DISTRICT public works contracts. If the TOWN/DISTRICT notifies the contractor in writing that a surety is unacceptable for any reason, then the contractor shall replace the surety and the bond in question within five (5) business days with a surety and bond deemed suitable by the said TOWN/DISTRICT. The premiums charged for all such bonds shall be a cost of the contractor and not the TOWN/DISTRICT. Upon notice to change surety being forwarded to a contractor, no further payments shall be made until a new bond in proper form naming an acceptable surety is provided.

SIGNATURE OF CONTRACTOR

The bidder to whom a contract may be awarded shall attend at the office of the Town Board, with the sureties offered by it, within seven (7) days, Weekends and Holidays excepted, after date of notification of the acceptance of its proposal, and there sign the contract in quadripartite for the work and furnish approved security for its performance.

In case of failure to do so, the bidder shall be considered as having abandoned the same, and the check accompanying its proposal shall be forfeited to the Town Board, or the penalty of the bid bond shall be invoked.

CONTRACTOR'S INSURANCE

The Contractor shall not commence any work until it has obtained and had approved by the Town all of the insurance specified and required by the Contract.

The Contractor shall not permit any subcontractor to commence any operation on the site until satisfactory proof of carriage of the above required insurance has been posted with, and approved by, the Town Board.

RESPONSIBILITY OF BIDDER

Attention is hereby particularly directed to the provisions of the contract whereby the Contractor will be responsible for any loss or damage that may happen to the work or any part thereof during its progress; and also whereby the Contractor shall make good any defects or faults that may occur during the

progress of the work or within twelve (12) months after date of the Engineer's approval of the final payment request.

LABOR RATES

The Contractor shall pay not less than the minimum hourly wage rates on this contract as established in accordance with Section 220 of the Labor Law, as shown on the Wage Schedule and Prevailing Rate Schedule, either shown on the following pages or the current prevailing rates paid at the time of construction.

Each bidder shall submit with its bid a separate sealed list that names each subcontractor that the bidder will use to perform work on the contract, and the agreed-upon amount to be paid to each, for: (i) plumbing and gas fitting, (ii) steam heating, hot water heating, ventilating and air conditioning apparatus and (iii) electric wiring and standard illuminating fixtures. After the low bid is announced, the sealed list of subcontractors submitted with such low bid shall be opened and the names of such subcontractors shall be announced, and thereafter any change of subcontractor or agreed-upon amount to be paid to each shall require the approval of the owner, upon a showing presented to the owner of legitimate construction need for such change, which shall be open to public inspection. Legitimate construction need shall include, but not be limited to, a change in project specifications, a change in construction material costs, a change to subcontractor status as determined pursuant to paragraph (e) of subdivision two (2) of section two hundred twenty-two (222) of the labor law, or the subcontractor has become otherwise unwilling, unable or unavailable to perform the subcontract. The sealed lists of subcontractors submitted by all other bidders shall be returned to them unopened after the contract award.

APPRENTICESHIP PROGRAM

Pursuant to Section 816-(b) of the New York Labor Law, the Riverhead Water District has adopted a Resolution relating to approved apprenticeship programs. If the successful bidder's bid hereunder exceeds the sum of \$240,000.00 such bidder shall, prior to entering into a contract with the District, be required to have an appropriate apprenticeship agreement that has been registered with and approved by the Commissioner of the New York State Department of Labor pursuant to the requirements found in Article 23 of the New York Labor Law. Any subcontractors under this contract shall also, in all respects, comply with these provisions.

COMPLETION OF WORK

Work is required to be completed to the satisfaction of the Engineer, and in substantial accordance with the Specifications hereunto annexed and the Plans therein referred to and the Change Orders amended to the Contract.

RESPONSIBILITY OF CONTRACTOR

Attention is hereby particularly directed to the provisions of the contract whereby the Contractor will be responsible for any loss or damage that may happen to the work or any part thereof during its progress; and also whereby the Contractor shall make good any defects or faults that may occur during the progress of the work or within twelve (12) months after its completion and acceptance. Any progress payments made by the Town during the completion of this contract by the Contractor shall not be a waiver of the foregoing provision.

TOWN BOARD TOWN OF
RIVERHEAD
SUFFOLK COUNTY, NEW YORK

END OF SECTION

BIDDER'S DECLARATION:

The undersigned, as Bidder, declares that the only person or persons interested in this bid or proposal as principal or principals is or are named herein; and that no other person than herein named has any interest in this proposal or in the contract proposed to be taken; that this bid or proposal is made without any connections with any other person or persons making a bid or proposal for the same purpose; that the bid or proposal is in all respects fair and without collusion or fraud; that it has examined the site of the work and the Contract Documents; and fully understands all the same; and it proposes and agrees, if this proposal is accepted, it will contract with the XYZ Corporation in the Contract accompanying this bid to furnish all the material, implements, etc., and perform all the work required in accordance with the Contract Documents; and it will accept in full payment therefore the following sums to wit:

Acknowledgement that the foregoing Bidder's Declaration is true and factual.

SIGNATURE

PRINT NAME

TITLE

DATE

END OF SECTION

Board:

The undersigned hereby offers to furnish all labor, equipment, materials and appurtenances for **Installation of Well No. 3A VFD**, Contract E - Electrical Construction all in accordance with the plans and specifications prepared by H2M architects + engineers for the following unit and lump sum prices:

ITEM 1 - MOBILIZATION AND DEMOBILIZATION

For mobilization, demobilization, bonds, and insurances, as specified.
(Item not to exceed 5% of the total base bid)

LUMP SUM: _____ (\$ _____)
DOLLARS

ITEM [2] – ELECTRICAL WORK AT WELL NO. 3A AND ADMINISTRATION BUILDING

For all labor, materials, and equipment required for electrical work, as specified.

LUMP SUM: _____ (\$ _____)
DOLLARS

ITEM 3 – INSTRUMENTATION AND CONTROLS

For all labor, materials, and equipment required for instrumentation and controls work, as specified.

LUMP SUM: _____ (\$ _____)
DOLLARS

ITEM 4 - CONTROL MODIFICATIONS

Allowance for additional control modifications specified in Section 265012 – Description of Controls Section for hardware and software not included in base bid. Allowance shall be in accordance with Specification Section 012100 - Allowances and shall be paid on a per hour basis.

COST PER HOUR: _____ (\$ _____)
DOLLARS

LUMP SUM COST FOR 40HOURS: _____ (\$ _____)
DOLLARS

ITEM 5 - PROJECT RECORD DOCUMENTS

For furnishing all project record documents, as specified.
(Items not to be less than \$5,000.00)

LUMP SUM: _____ (\$ _____)
DOLLARS

ITEM 6 - NEW CHLORINE PUMP

For furnishing of new variable Chlorine Pump.

LUMP SUM: _____ (\$)
DOLLARS

ITEM 7 - NEW LIME PUMP

For furnishing of new variable Lime Pump.

LUMP SUM: _____ (\$)
DOLLARS

ITEM 8 - NEW PHOSPHATE PUMP

For furnishing of new variable Chlorine Pump.

LUMP SUM: _____ (\$)
DOLLARS

TOTAL BASE BID (Sum of Items 1-5)

_____ (\$)
DOLLARS

TOTAL ALTERNATE BID (Sum of All Items)

_____ (\$)
DOLLARS

The Town of Riverhead/Riverhead Water District reserves the right to award this contract based on either the total bid or any combination of bid items, as may be in the best interest of the Town/District. The award shall be made to the lowest responsible bidder based upon the bid items awarded. The Board reserves the right to reject any or all bids. The Town/District reserves the right to award this contract within forty-five (45) days of the bid opening.

Within ten (10) consecutive calendar days after the date of the Notice of Award (weekends and holidays included), the bidder shall execute the contract and furnish the required bonds and insurances. The Notice to Proceed will be issued after the contract has been executed by the Owner.

All work specified under this contract shall be substantially complete by May 15, 2019, and shall be ready for final payment by June 15, 2019. Substantially complete shall only be considered once all tank work is complete, including all disinfection, water quality sampling, and all associated Health Department approvals where the District will have beneficial use of the tank.

Failure of the contractor to complete all work within the specified time will subject him to liquidated damages as set forth in the contract, in the sum of Five Hundred dollars (\$500.00) per day, commencing with the respective day from the date of the Notice to Proceed.

In addition to liquidated damages, specific damages will be assessed and deducted from amounts otherwise due the contractor for additional inspection and contract management time required to be expended by the Engineer should the project be completed beyond the contract completion date. Such deduction shall be in accordance with the billing rates and fees established between H2M and the Town/District.

Each bidder shall submit with its bid a separate sealed list that names each subcontractor that the bidder will use to perform work on the contract, and the agreed-upon amount to be paid to each, for: I) plumbing and gas fitting, II) steam heating, hot water heating, ventilating and air conditioning apparatus, and III) electric wiring and standard illuminating fixtures. After the low bid is announced, the sealed list of subcontractors submitted with such low bid shall be opened and the names of such subcontractors shall be announced, and thereafter any change of subcontractor or agreed-upon amount to be paid to each shall require the approval of the Owner, upon a showing presented to the Owner of legitimate construction need for such change, which shall be open to public inspection. Legitimate construction need shall include, but not be limited to, a change in project specifications, a change in construction material costs, a change to subcontractor status as determined pursuant to paragraph (E) of subdivision two (2) of section two hundred twenty-two (222) of the labor law, or the subcontractor has become otherwise unwilling, unable, or unavailable to perform the subcontract. The sealed lists of subcontractors submitted by all other bidders shall be returned to them unopened after the contract award.

The contractor shall coordinate all work with the Owner to minimize disturbances to Owner operations.

The bidder represents herewith that he is aware of the working conditions, has carefully reviewed the proposal and specifications, has checked and certifies the accuracy of the bid.

The undersigned hereby acknowledges receipt of the following addenda (if any):

ADDENDUM NO.

DATED

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

Each proposal shall be accompanied by either a certified check drawn on a solvent bank with an office in the State of New York, or a bid bond equal to five percent (5%) of the total amount of the bid and payable to the District. The certified check or bid bond shall specify which contract it accompanies.

**SECURITY ENCLOSED FOR THIS SECTION
(BASE BID PLUS CONTINGENCY ITEMS)**

**YES / NO
(Circle One)**

PROPOSAL CERTIFICATION

This Bid is hereby submitted by:

BIDDER: _____

BIDDER'S ADDRESS: _____

SIGNED BY: _____ TITLE: _____

PRINT NAME: _____ DATE: _____

FEDERAL I.D. NO. OR
SOCIAL SECURITY NO.: _____

Telephone number where the contractor or a competent representative can accept a telephone message and provide a reasonable reply as soon as possible, but within 24 hours of being contacted.

DAY: _____ NIGHT: _____

EMERGENCY: _____ FAX: _____

EMAIL: _____

Acknowledgement that the Qualification of Bidders section has been fully completed/executed.

SIGNATURE PRINT NAME TITLE DATE

END OF SECTION

Enclosed is a certified check or bid bond for five percent (5%) of the total amount of the bid as required in the foregoing "Information for Bidders".

The Bidder hereby agrees to appear with its sureties at the office of the Town of Riverhead within ten (10) calendar days after due notice from the Town Board that the Contract has been awarded to it and is ready for signature; such notice to be given in writing within forty five (45) days of opening of the bids; and, on the signing of such Contract by the Bidder, to furnish the indemnifying bonds as provided in the Contract.

The Bidder hereby further agrees that in the event of its failure or refusal to enter into a contract in accordance with this bid within ten (10) days after due notice from the Board that the Contract has been awarded to it and is ready for signature, as given in accordance with the Contract Documents and/or its failure to execute and deliver the bond for the full amount of the Contract price, as provided in said Contract Documents, the Bidder's check or bid bond which is herewith deposited with the Board (at the option of said Board) become due and payable as ascertained and liquidated damages for such default; otherwise, said check or bid bond will be returned to the undersigned.

The full names and residences of all persons and parties interested in the foregoing bid as principals are as follows:

| <u>NAME</u> | <u>ADDRESS</u> |
|-------------|----------------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

NAME OF BIDDER: _____

BUSINESS ADDRESS OF BIDDER: _____

Telephone number where the bidder or a competent representative can accept a telephone message and provide a reasonable reply as soon as possible, but no later than twenty four (24) hours:

DAY: _____ EVENING: _____

DATED AT: _____ THE _____ DAY OF _____, 20____

END OF SECTION

1.0 - INDEMNITY

The Contractor and all subcontractors performing work in connection with this Contract shall HOLD HARMLESS, INDEMNIFY and DEFEND the Owner and Engineer, their consultants and each of their officers, agents and employees from any liability, claims, losses or damage including reasonable costs of defense arising out of or alleged to arise from the Contractor's or subcontractor's negligence in the performance of the work described in the Contract Documents, but not including liability that may be due to the sole negligence of the Owner, the Engineer or their officers, agents and employees.

2.0 - LIMITATION OF LIABILITY

The Contractor and all subcontractors agree to limit the liability of the Owner and the Engineer due to the Engineer's professional negligent errors or omissions such that the total aggregate liability of the Engineer to those named shall not exceed Fifty Thousand Dollars (\$50,000) or five percent (5%) of the Contract award amount, whichever is greater.

3.0 - NO CLAIM FOR DELAY

The Contractor and all subcontractors agree to HOLD HARMLESS from any and all claims for loss or damages of any nature against the Owner or Engineer for delays in commencement, performance or completion of the Contract, regardless of whether said delays are, or may be, caused by the Owner, Engineer or any governmental agency.

END OF SECTION

NON-COLLUSIVE BIDDING CERTIFICATE

Pursuant to Section 103-D of the General Municipal Law, the Contractor makes the following statement under penalty of perjury, and by submission of this bid or proposal, the Bidder certifies that:

(a) this bid or proposal has been independently arrived at without collusion with any other bidder or with any competitor or potential competitor; (b) this bid or proposal has not been knowingly disclosed and will not be knowingly disclosed prior to the opening of the bids or proposals for this project to any other bidder, competitor or potential competitor; (c) no attempt has been or will be made to induce any other person, partnership or corporation to submit or not to submit a bid or proposal; (d) the person signing this bid or proposal certified that he has fully informed himself regarding the accuracy of the statements contained in this certification, and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the Bidder as well as to the person signing in its behalf; (e) attached hereto (if a corporate bidder) is a certified copy of resolution authorizing the execution of this certificate by the signatory of the bid or proposal on behalf of the corporate bidder.

Resolved that _____
(Name of Corporation)

be authorized to sign and submit the bid or proposal of this corporation for the following project:

Installation of Well No. 3A VFD
Contract E - Electrical Construction

and to include in such bid or proposal the certificate as to non-collusion required by Section 103-D of the General Municipal Law as the act and deed of said corporation; and for any inaccuracies or misstatements in such certificate, this corporate bidder shall be liable under the penalties of perjury.

The foregoing is a true and correct copy of the resolution adopted by _____

at a meeting of its Board of Directors held on the _____ day of _____, 20__

(Seal of the Corporation) Secretary: _____

Respectfully submitted,

FIRM NAME: _____

FIRM ADDRESS: _____

SIGNED BY: _____

TITLE: _____

END OF SECTION

END OF SECTION

**Town of Riverhead / Riverhead Water District
Suffolk County, New York**

The District may make such investigation as the District deems necessary to determine the responsibility of any Bidder or to determine the ability of any Bidder to perform the Work. Bidders shall furnish to the District all information and data required by the District, including complete financial data, within the time and in the form and manner required by the District. The District reserves the right to reject any bid if the evidence required by the District is not submitted as required or if the evidence submitted by or the investigation of any Bidder fails to satisfy the District that the Bidder is responsible, or is able or qualified to carry out the obligations of the Contract or to complete the Work as contemplated. At the discretion of the District, any bidder may be required to complete and submit the enclosed New York State Vendor Responsibility Questionnaire to assist in determining the bidder's qualifications.

The following is a list showing the name of the Owner, Location, Date of Construction, General Description of Work, Amount of the Contract and Contract Period for projects of similar nature in size, construction method and construction procedure, which have been completed by the undersigned as the prime contractor, and which have been in operation for a period of not less than one year, (minimum of five such projects).

PROJECT NO. 1

Owner: _____

Contact Name and Phone Number: _____

Location: _____

General Description: _____

Contract Amount: _____

Contract Period: _____

PROJECT NO. 2

Owner: _____

Contact Name and Phone Number: _____

Location: _____

General Description: _____

Contract Amount: _____

Contract Period: _____

PROJECT NO. 3

Owner: _____

Contact Name and Phone Number: _____

Location: _____

General Description: _____

Contract Amount: _____

Contract Period: _____

PROJECT NO. 4

Owner: _____

Contact Name and Phone Number: _____

Location: _____

General Description: _____

Contract Amount: _____

Contract Period: _____

PROJECT NO. 5

Owner: _____

Contact Name and Phone Number: _____

Location: _____

General Description: _____

Contract Amount: _____

Contract Period: _____

The Riverhead Water District reserves the right to reject any and all bids which do not include a completed qualifications section and/or do not meet the necessary qualifications criteria, for both prime contractor and subcontractors, as described within this qualifications section, for construction work to be performed and completed as required by the contract documents.

BIDDER

FIRM NAME: _____

ADDRESS: _____

PREPARED BY: _____

SIGNED BY: _____

TITLE: _____

END OF SECTION

It is the Contractor's responsibility to inform the Engineer in advance when a situation arises that forces the Contractor to cancel work for a given day. For example, if the Contractor informs the Engineer that he will be on the job on a certain day and then has to cancel the appointment because he cannot obtain certain materials or equipment, it is the Contractor's responsibility to inform the Engineer of these latest developments and to let him know that construction observation services will not be needed for that day.

In the event that the Engineer is not given ample warning of such a cancellation and, as a result, unnecessary time is spent sending field personnel out to the project site to observe the previously scheduled construction, sufficient funds will be deducted from monies due the Contractor to reimburse the Engineer for his wasted time.

By the same token, sufficient funds will be deducted from monies due the Contractor to reimburse the Engineer for any services rendered in the field or in the office regarding work that had to be performed a second time due to substandard work on the part of the Contractor on the original work.

END OF SECTION

CONTRACT IN QUADRUPPLICATE FOR _____ AT TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK, DATED _____, 20____, BY AND BETWEEN THE TOWN BOARD OF THE TOWN OF RIVERHEAD, SUFFOLK COUNTY, NEW YORK, ACTING FOR AND IN BEHALF OF THE RIVERHEAD WATER DISTRICT (HEREIN CALLED THE TOWN DISTRICT), AND _____ (HEREIN CALLED THE CONTRACTOR).

1.01 WITNESSETH, THAT THE TOWN DISTRICT AND THE CONTRACTOR, IN CONSIDERATION OF THE PREMISES AND OF THE MUTUAL COVENANTS, CON-SIDERATIONS AND AGREEMENTS HEREIN CONTAINED, AGREE AS FOLLOWS:

1.02 THIS CONTRACT IS HEREBY AWARDED TO THE CONTRACTOR FOR THE WORK AND MATERIAL CALLED FOR UNDER HIS BID IN THE PROPOSAL SECTION OF THE CONTRACT AND DESIGNATED AS ITEMS:

1.03 AND IF REQUIRED BY THE DISTRICT ENGINEERS, ITEMS:

1.04 FOR THE SUM OF:

A.)

1.05 FOR THE UNIT AND/OR LUMP SUM PRICE(S) AS LISTED IN THE PROPOSAL HEREIN.

1.06 CONTRACT DOCUMENTS AND DEFINITIONS

- A. The Notice to Bidders, Information for Bidders, Proposal, General Conditions, Contract, Specifications and Plans, together with any Addenda, shall form part of this Contract, and the pro-visions thereof shall be as binding upon the parties hereto as if they were herein fully set forth. The titles, headings, head-lines and marginal notes contained herein are solely to facili-tate reference to the various provisions of the contract documents and in no way affect, limit or cast light upon the interpretation of the provisions to which they refer. Whenever the term "contract documents" is used, it shall mean and include this Contract, the Plans, Specifications, any Addenda, and the Notice to Bidders, Information for Bidders, General Conditions and Proposal. In case of any conflict or inconsistency between the provisions of the Contract and those of the Specifications, the provisions of the Contract shall govern.
- B. WORK: The term WORK, as used herein, refers to all of the work proposed to be accomplished at the site of the project and all such other work as is in any manner required to accomplish the completed project, and includes all plant, labor, materials, supplies, equipment and other facilities and acts necessary or proper for or incidental to the carrying out and completion of the terms of this Contract. The term WORK PERFORMED shall be construed to include material delivered to and suitably stored at the site of the project.
- C. EXTRA WORK: The term EXTRA WORK, as used herein, refers to and includes all work required by the TOWN DISTRICT which, in the judgment of the Engineer, with the Town's approval, involves changes in or additions to work required by the Plans, Specifications and any Addenda in their present form.
- D. SUBCONTRACTOR: The term SUBCONTRACTOR, as used herein, shall mean any person, firm or corporation applying labor and material for work at the site of the project, but not including the parties to this Contract.
- E. ENGINEER: In the performance of the work, the TOWN DISTRICT shall be represented by its Consulting Engineer H2M architects + engineers (herein called the ENGINEER).
- F. NOTICE: The term NOTICE, as used herein, shall mean and include written notice. Written notice shall be deemed to have been duly served when delivered to, or at the last known

business address of, the person, firm or corporation for whom intended or to his, their, or its duly authorized agents, representatives or officers, or when enclosed in a postage prepaid wrapper or envelope addressed to such person, firm, or corporation at his, their, or its last known business address and deposited in a United States Mail Box.

- G. DIRECTED, REQUIRED, APPROVED, ACCEPTABLE: Whenever they refer to the work, or its performance, "directed", "required", "permitted", "ordered", "designated", "prescribed", and words of like import shall imply the direction, requirement, permission, order, designation or prescription of the Engineer, and "approved", "satisfied", or "satisfactory", "in the judgment of", and words of like import, shall mean approved or acceptable to, or satisfactory to, in the judgment of the Engineer.

1.07 SCOPE OF THE WORK

- A. The Contractor will furnish all plant, labor, material, supplies, equipment and other facilities and things necessary or proper for or incidental to, the work contemplated by this Contract as required by, and in strict accordance with, the applicable Plans, Specifications and Addenda prepared by the Engineer and/or required by and in strict accordance with, such changes as are ordered and approved pursuant to this Contract, and will perform all other obligations imposed on him by the Contract.

1.08 COMPENSATION TO BE PAID TO THE CONTRACTOR

- A. Agreed Prices: It is understood and agreed that the Contractor will accept as payment in full the summation of products, of the actual quantities in place upon the completion of the work, as determined by the Engineer's measurements by the unit prices bid, no allowance being made for anticipated profit or for reason of variations from the estimated quantities set forth in the Proposal.
- B. Extra Work and/or Changes: The TOWN DISTRICT may, at any time, by a written order, and without notice to the sureties, require the performance of such extra work or changes in the work as it may find necessary or desirable. The amount of compensation to be paid to the Contractor for any extra work, as so ordered, shall be determined as follows:
- C. By such applicable unit prices, if any, as set forth in the contract; or
- D. If no such unit prices are set forth, then by unit prices or by a lump sum mutually agreed upon by the TOWN DISTRICT and the Contractor; or
- E. If no such unit prices are set forth, and if the parties cannot agree upon unit prices or a lump sum, then by actual net cost in money to the Contractor of the materials, permits, wages, or applied labor, premium for Workers' Compensation Insurance, payroll taxes required by law, rental for plant and equipment used (excluding small tools) to which total cost will be added 20 percent as full compensation for all other items of profit, costs and expenses, including administration, overhead, superintendence, insurance, insurance other than Workers' Compensation Insurance, material used in temporary structures, allowances made by the Contractor to subcontractors, additional premiums upon the Performance Bond of the Contractor and the use of small tools.

1.09 TIME OF ESSENCE

- A. Inasmuch as the provisions of this Contract relating to the time for performance and completion of the work are for the purpose of enabling the TOWN DISTRICT to proceed with the construction of a public improvement, in accordance with a predetermined program, such provisions are of the essence of this Contract.

1.10 COMMENCEMENT OF WORK

- A. The Contractor agrees that he will commence work within ten (10) consecutive calendar days after signing this Contract, and that the day he commences work shall constitute the first of the consecutive calendar days allowed for completion of the work.

1.11 TIME FOR COMPLETION

- A. The time for completion of this Contract shall be within the number of calendar days stated in the Bid Proposal and the date of such completion shall be the date of the certificate of completion hereinafter specified.
- B. The TOWN DISTRICT reserves the right to order the Contractor to suspend operations when, in the opinion of the Engineer, improper weather conditions make such action advisable, and to order the Contractor to resume operations when weather and ground conditions permit. The days during which such suspension of work is in force are not chargeable against the specified completion time.

1.12 LIQUIDATED DAMAGES FOR DELAY

- A. The time limit being essential to and of the essence of this Contract, the Contractor hereby agrees that the TOWN DISTRICT shall be, and is hereby authorized to deduct and retain out of the money which may be due or may become due to said Contractor under this agreement, the sum of FIVE HUNDRED DOLLARS (\$500.00) per day, which amount is hereby agreed upon, fixed and determined by the parties hereto as the LIQUIDATED DAMAGES, including overhead charges, services, inspector's wages, and interest on the money invested, that the TOWN DISTRICT will suffer by reason of such default, for each and every day during which the aforesaid work may be incomplete over and beyond the time herein stipulated for its completion, provided, however, that the TOWN DISTRICT shall have the right to extend the time for the completion of said work.

1.13 EXTENSIONS OF TIME - NO WAIVER

- A. If the Contractor shall be delayed in the completion of his work by reason of unforeseeable causes beyond his control and without his fault or negligence, including but not restricted to Acts of God or of any public enemy, acts or neglect of the TOWN DISTRICT, acts or neglect of any other Contractor, fires, floods, epidemics, quarantine restrictions, strikes, riots, civil commotion or freight embargoes, the period herein above specified for completion of his work shall be extended by such time as shall be fixed by the TOWN DISTRICT.
- B. No such extension of time shall be considered a waiver by the TOWN DISTRICT of its right to terminate the Contract for abandonment or delay by the Contractor as hereinafter provided or relieve the Contractor from full responsibility for performance of his obligations hereunder.

1.14 CONTRACT SECURITY

- A. The Contractor shall furnish a Performance Bond in an amount equal to one hundred percent (100%) of the total contract price as security for the faithful performance of this Contract, and for the payment of all persons performing labor or furnishing materials in connection with this Contract.
- B. Additional or Substitute Bond - If, at any time, the TOWN DISTRICT shall be or 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 to the TOWN DISTRICT, the Contractor shall, within five (5) days after notice from the TOWN DISTRICT, substitute an acceptable bond

in such form and sum, and signed by such other surety as may be satisfactory to the TOWN DISTRICT. The premiums on such 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.

- C. Prior to release of the Performance Bond, the Contractor shall deliver to the TOWN DISTRICT a Maintenance Bond equal to one hundred percent (100%) of the total Contract price, including all extras. This Maintenance Bond shall remain in full force and effect for a period of one (1) year after the date of the Engineer's approval of the final payment request and such bond, which shall be executed by the Contractor and issued by a reliable, solvent surety company authorized to do business in the State of New York shall guarantee to the TOWN DISTRICT that the Contractor shall promptly remedy any defects or faults that may occur within twelve (12) months after completion and acceptance of the work performed by the Contractor pursuant to this Contract.

1.15 CONTRACTOR'S INSURANCE

- A. The Contractor shall not commence any work until he has obtained and had approved by the TOWN DISTRICT all of the insurance required under this Contract, as enumerated herein:
- B. Compensation Insurance
- C. Public Liability and Property Damage Insurance
- D. Contractor's Protective Liability and Property Damage Insurance
- E. Owner's (TOWN DISTRICT) and Engineer's Protective Public Liability and Property Damage Insurance
- F. Automobile Public Liability and Property Damage Insurance
- G. The Contractor shall not permit any subcontractor to commence any operation on the site until satisfactory proof of carriage of the above required insurance has been posted with, and approved by, the TOWN DISTRICT.
- H. Compensation Insurance - The Contractor shall take out and maintain, during the life of this Contract, Workers' Compensation Insurance for all of his employees employed at the site of the project, and in any case of any of the work being sublet, the Contractor shall require the subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees, unless such employees are covered by the protection afforded by the Contractor.
- I. Public Liability and Property Damage Insurance - The Contractor shall take out and maintain during the life of this Contract such Public Liability and Property Damage Insurance as shall protect him and any subcontractor performing work covered by this Contract for claims for damages for personal injury, including accidental death, as well as from claims for property damage which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor, or by any one directly or indirectly employed by either of them, and the amounts of such insurance shall be as follows:
- J. Public Liability Insurance in the amount not less than FIVE HUNDRED THOUSAND DOLLARS (\$500,000.) for bodily injuries, including wrongful death to any one person, and subject to the same limit for each person in an amount not less than ONE MILLION DOLLARS (\$1,000,000.) on account of one accident.
- K. Property Damage Insurance in an amount not less than ONE HUNDRED THOUSAND DOLLARS (\$100,000.) for damages on account of any one accident and in an amount of not less than TWO HUNDRED THOUSAND DOLLARS (\$200,000.) for damages on account of all accidents.

1. Liability and Property Damage Insurance - The above policies for public liability and property damage insurance must be so written as to include Contractor's Protective Liability and Property Damage Insurance to protect the Contractor against claims arising from the operations of any subcontractor.
2. Owner's Protective Public Liability and Property Damage Insurance - (TOWN DISTRICT, and/or TOWN BOARD, TOWN OF RIVERHEAD as OWNER and/or H2M architects + engineers as ENGINEERS) - The Contractor shall furnish to the TOWN DISTRICT with respect to the operations he or any of his subcontractors perform, a regular Protective Public Liability Insurance Policy for and in behalf of the TOWN DISTRICT and/or TOWN BOARD, TOWN OF RIVERHEAD as OWNER and/or H2M architects + engineers, as ENGINEERS, providing for a limit of not less than FIVE HUNDRED THOUSAND DOLLARS (\$500,000.) for all damages arising out of bodily injuries to, or death of, one person and subject to that limit for each person, a total limit of ONE MILLION DOLLARS (\$1,000,000.) for all damages arising out of bodily injuries to, or death of, two or more persons in any one accident; and regular Protective Property Damage Insurance providing for a limit of not less than ONE HUNDRED THOUSAND DOLLARS (\$100,000.) for all damages arising out of injury to, or destruction of, property in any one accident and subject to that limit per accident a total (or aggregate) limit of TWO HUNDRED THOUSAND DOLLARS (\$200,000.) for all damages arising out of injury to, or destruction of property during the policy period. The insurance must fully cover the legal liability of the TOWN DISTRICT and/or TOWN BOARD, TOWN OF RIVERHEAD as OWNER and/or H2M architects + engineers, as ENGINEERS. The coverage provided under this policy must not be affected if the TOWN DISTRICT performs work in connection with the project either for, or in cooperation with, the Contractor or as an aid thereto, whether the same be a part of the Contract or separate therefrom, by means of its own employees or agents, or if the TOWN DISTRICT directs or supervises the work to be performed by the Contractor.
3. Automobile Public Liability and Property Damage Insurance - The Contractor shall take out and maintain during the life of the Contract such automobile public liability and property damage insurance as shall protect him and any subcontractor performing work covered by this Contract from claims for damages for personal injury, including accidental death as well as from claims for property damage which may arise from operations under this Contract, whether such operations be by himself or by any subcontractor, or by any one directly or indirectly employed by either of them and the amounts of such insurance shall be as follows:
 - L. Automobile Public Liability Insurance in an amount not less than FIVE HUNDRED THOUSAND DOLLARS (\$500,000.) for bodily injuries, including wrong-ful death by any one person, and subject to the same limit for each person in an amount not less than ONE MILLION DOLLARS (\$1,000,000.) on account of one accident.
 - M. Automobile Property Damage Insurance in an amount of not less than ONE HUNDRED THOUSAND DOLLARS (\$100,000.) for damages on account of any one accident and in an amount of not less than TWO HUNDRED THOUSAND DOLLARS (\$200,000.) for damages on account of all accidents.

1.16 PROOF OF CARRIAGE OF INSURANCE

- A. The Contractor shall furnish the TOWN DISTRICT with certificates of each insurer insuring the Contractor or any subcontractor under this Contract, except with respect to subdivision D. of paragraph 10. In respect to this paragraph, the Contractor shall furnish the TOWN DISTRICT with the original insurance policy and a copy to the Engineer.
- B. Both certificates, as furnished, and the insurance policy, as required, shall bear the policy numbers, the expiration date of the policy and the limit or limits of liability thereunder. Both the certificates and the policy shall be further endorsed to provide the TOWN DISTRICT and

Engineer with any notice of cancellation at least ten (10) days prior to the actual date of such cancellation.

1.17 COMPLIANCE WITH LABOR AND PENAL LAWS

- A. The Contractor hereby expressly agrees to comply with all the provisions of the Labor Law and any and all amendments thereto, insofar as the same are applicable to this Contract. The Labor Laws, as amended, provide that no laborer, worker or mechanic in the employ of the Contractor, subcontractor or other person doing or contracting to do the whole or a part of the work contemplated by this Contract, shall be permitted or required to work more than eight (8) hours in any one calendar day, except in cases of extraordinary emergency caused by fire, flood, or danger to life or property; that no such person shall be employed more than eight (8) hours in any day or more than five (5) days in any week, except in such emergency; that the wages to be paid for a legal day's work as hereinbefore defined, to laborers, workers, or mechanics upon the work called for under this Contract, or for any materials used upon or in connection therewith shall not be less than the prevailing rate for a day's work in the same trade or occupation in the locality within the State where such work is to be done and each laborer, worker, or mechanic employed by the Contractor, subcontractor, or other person about or upon the work shall be paid the wages herein provided; that employees engaged in the construction outside the limits of cities and villages are no longer exempt from the provisions of the Labor Laws which required the payment of the prevailing rate of wages and the eight (8) hour day.
- B. Section 220A of the Labor Law, as amended by Chapter 472 of the Laws of 1932, provides that before payment is made by or on behalf of the State or any City, County, Town or Village or other civil division of the State, of any sums due on account of a contract for a public improvement, it is the duty of the Comptroller or the financial officer of the Municipal Corporation to require the Contractor and each and every subcontractor to file a certified statement in writing, in satisfactory form, certifying to the amounts then due and owing to any and all laborers for daily or weekly wages on account of labor performed upon the work of the Contract, setting forth therein the names of the persons whose wages are unpaid and the amount due each, respectively.
- C. Section 220B of the Labor Law, as amended, provides that any interested person who shall have previously filed a protest in writing objecting to the payment to any Contractor or subcontractor to the extent of the amount or amounts due or to become due to him for daily or weekly wages for labor performed on the public improvement for which the Contract was entered into, or if, for any other reason, it may be deemed advisable, the Comptroller of the State or other financial officer of the Municipal Corporation may deduct from the whole amount of any payment on account thereof the sum or sums admitted by any Contractor or subcontractor in such statement or statements so filed to be due and owing by him on account of labor performed and may withhold the amount so deducted for the benefit of the laborers for daily or weekly wages, whose wages are unpaid as shown by the verified statements filed by any Contractor or subcontractor and may pay directly to any person the amount or amounts so shown to be due for such wages.
- D. Section 220C of the Labor Law, as amended, provides the penalty for making of a false oath or verification.
- E. Section 220D of the Labor Law provides that the advertised specifications for every Contract for the construction, reconstruction, maintenance and/or repair of highways to which the State, County, Town and/or Village is a party shall contain the provision stating the minimum rate of hourly wage that can be paid, as shall be designated by the Industrial Commissioner, to the laborers employed in the performance of the Contract, either by the Contractor, subcontractor or other person doing or contracting to do the whole or part of the work contemplated by the Contract, and the Contract shall contain a stipulation that such laborers shall be paid not less than such hourly minimum rate of wage. Any person or corporation that willfully pays after

entering into such Contract less than such stipulated minimum hourly wage scale shall be guilty of a misdemeanor and, upon conviction, shall be punished for a first offense by a fine of Five Hundred Dollars (\$500.) or by imprisonment for not more than thirty (30) days, or by both fine and imprisonment for a second offense by a fine of One Thousand Dollars (\$1,000.) and, in addition thereto, the Contract on which the violation has occurred shall be forfeited; and no such person or corporation shall be entitled to receive any sum or nor shall any officer, agent or employee of the State pay the same or authorize its payment from the funds under his charge or control to any person or corporation for work done upon any contract, on which the Contractor has been convicted of second offense in violation of the provisions of this Section.

- F. The minimum wage rates established by the Industrial Commissioner, State of New York, for this Contract, are as set forth in the INFORMATION FOR BIDDERS.
- G. All excavation shall be done in compliance with Article 36 of the General Business Law and notices given as provided by GBL Section 761.

1.18 PAYMENT OF EMPLOYEES

- A. The Contractor and each of his subcontractors shall pay each of his employees engaged in work on this project under this Contract in full (less deductions made mandatory by law) in cash and not less often than once each week.

1.19 ESTIMATES AND PAYMENTS

- A. Monthly: At the end of each calendar month during the progress of the work, the Contractor shall submit a payment requisition to the Engineer. The Engineer will review the requisition and prepare a payment request based on the estimated amount of work performed and the quantity of materials furnished, based on the prices set forth in the Proposal. In consideration of the work done and the materials furnished, the TOWN DISTRICT will pay or cause to be paid to the Contractor the amount estimated by the Engineer as due him less a sum equal to five percent (5%) of such amount and less such additional amount as may be necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. The making of any such estimate or payment made thereon shall not be taken or construed as an acceptance by the Engineer or the TOWN DISTRICT of any work so estimated and paid for. The amount of the monthly estimate remaining unpaid will be retained by the TOWN DISTRICT as a guarantee that the Contractor will faithfully and completely fulfill all obligations imposed by the Contract and Specifications, and against any damages incurred by the TOWN DISTRICT by reason of any failure on the part of the Contractor to fulfill all conditions and obligations herein contained. All partial payments are subject to correction in any subsequent payment. The retained amounts shall be paid as set forth in the following subsection B.
- B. Final: Thirty (30) days after the Contractor shall have substantially completed the work required of it under the Contract the Engineer will prepare an approval of Final Payment Request. Thereafter the TOWN DISTRICT will pay to the Contractor the remaining amount of the Contract balance less a sum equal to two (2) times the value of any remaining items to be completed and less an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. As the remaining items of work are satisfactorily completed or corrected, the TOWN DISTRICT shall promptly pay, upon receipt of a requisition for these items less an amount necessary to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. Any claims, liens and judgments referred to in this section shall pertain to the project and shall be filed in accordance with the terms of the applicable Contract and/or applicable laws.
- C. In order to secure the performance of the covenant of the Contractor, prior to release of the Performance Bond, the Contractor shall deliver to the TOWN DISTRICT a Maintenance Bond equal to one hundred percent (100%) of the total Contract price, including all extras. This

Maintenance Bond shall remain in full force and effect for a period of one (1) year after the date of the Engineer's approval of the Final Payment Request and such bond, which shall be executed by the Contractor and issued by a reliable, solvent surety company authorized to do business in the State of New York shall guarantee to the TOWN DISTRICT that the Contractor shall promptly remedy any defects or faults that may occur within twelve (12) months after completion and acceptance of the work performed by the Contractor pursuant to this Contract.

- D. Measurements for Payment: The Engineer shall make due measurement of the work done during the progress of the work and his estimate shall be final and conclusive evidence of the amounts of work performed by the Contractor under, and by virtue of, this agreement, and shall be taken as the full measure of compensation to be received by the Contractor. When requested by the Contractor, the Engineer shall measure, re-measure or re-estimate any portion of the work; but the expense of such re-measurement or re-estimating shall, unless material error be proved, be paid for by the Contractor.
- E. Should all work not be completed and final payment request not submitted within one (1) year after the punch list has been issued, the TOWN DISTRICT will be under no obligation to make final payment.

1.20 ACCEPTANCE OF FINAL PAYMENT CONSTITUTES RELEASE

- A. The acceptance by the Contractor of the final payment shall be, and shall operate as a release to the TOWN DISTRICT from all claims and all liabilities to the Contractor for all things done or furnished in connection with this work, and for every act and neglect of the TOWN DISTRICT and other relating to, or arising out of, this work, excepting the Contractor's claims for interest upon the final payment, if these payments be improperly delayed. 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.

1.21 CONSTRUCTION REPORTS

- A. The Contractor shall submit to the Engineer prior to the commencing of any work under this Contract a detailed schedule and plan of operation, indicating the manner in which the Contractor proposes to prosecute the work, and a time schedule therefore. Such schedules are not intended to bind the Contractor to a predetermined plan or procedure, but rather to enable the Engineer to coordinate the work of the Contractor with work required of and to be performed by others.
- B. The Contractor shall furnish the Engineer with periodic estimates for partial payments as required elsewhere in the contract documents and, in addition thereto, will furnish the Engineer with a detailed estimate for final payment. Prior to being eligible to receive final payment under this Contract, the Contractor shall furnish the Engineer with substantial proof that all bills for services rendered and materials supplied have been paid. The enumeration of the above reports in no way relieves the Contractor of his responsibility under existing Federal or State laws of filing such other reports with agencies other than the TOWN DISTRICT as may be required by such existing laws or regulations.

1.22 INSPECTION AND TESTS

- A. All material and workmanship shall be subject to inspection, examination and test by the Engineer and other representatives of the TOWN DISTRICT at any time during the construction and at any and all places where manufacturing of materials used and/or construction is carried on.
- B. Without additional charge, the Contractor shall furnish promptly all reasonable facilities, labor and materials necessary to make tests so required safe and convenient.

- C. If, at any time, before final acceptance of the entire work, the Engineer, with the TOWN DISTRICT's approval, considers necessary or advisable an examination of any portion of the work already completed, by removing or tearing out the same, the Contractor shall, upon request, furnish promptly all necessary facilities, labor and materials for such examination. If such work is found to be defective in any material respect, due to the fault of the Contractor or any subcontractor, or if any work shall be covered over without the approval or consent of the Engineer, with the TOWN DISTRICT's approval, whether or not the same shall be defective, the Contractor shall be liable for the expenses of such examination and of satisfactory reconstruction.
- D. If, however, such approval and consent shall have been given, and such work is found to meet the requirements of this Contract, the Contractor shall be recompensed for the expense of such examination and reconstruction in the manner herein provided for the payment of costs of extra work pursuant to a Change Order signed by the TOWN DISTRICT and the Contractor.
- E. The selection of laboratories and/or agencies for the inspection and tests of supplies, materials or equipment shall be subject to the approval of the Engineer. Satisfactory documentary evidence that the material has passed the required inspection and test must be furnished the Engineer prior to the incorporation of the material in the work.
- F. Any rejected work shall be removed from the site of the project completely at the expense of the Contractor.

1.23 PLANS AND SPECIFICATIONS - INTERPRETATIONS

- A. The Contractor shall keep at the site of the work one (1) copy of the Plans and Specifications signed and identified by the Engineer. Anything shown on the Plans and not mentioned in the Specifications or mentioned in the Specifications and not shown on the Plans shall have the same effect as if shown or mentioned respectively in both. In case of any conflict or inconsistency between the Plans and Specifications, the Plans shall govern. Any discrepancy between the figures and drawings shall be submitted to the Engineer, whose decision therein shall be conclusive.

1.24 SUBSURFACE CONDITIONS FOUND DIFFERENT

- A. Should the Contractor encounter subsurface conditions at the site materially differing from those shown on the Plans or indicated in the Specifications, he shall immediately give notice to the Engineer of such conditions before they are disturbed; the Engineer shall thereupon promptly investigate the conditions and if he finds that they materially differ from those shown on the Plans or indicated in the Specifications, he shall at once make such changes in the Plans and/or Specifications as he may find necessary.
- B. Any increase or decrease of cost resulting from such changes will be adjusted in the manner provided herein for adjustment as to extra and/or additional work and changes shall be by Change Order executed by the TOWN DISTRICT and Contractor.

1.25 CONTRACTOR'S TITLE TO MATERIALS

- A. No material or supplies for the work shall be purchased by the Contractor or by any subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that he has good title to all materials and supplies used by him in the work.

1.26 SUPERINTENDENCE BY CONTRACTOR

- A. At the site of the work the Contractor shall employ a Construction Superintendent or Foreman who shall have full authority to act for the Contractor. It is understood that such representative shall be acceptable to the Engineer and shall be one who can be continued in that capacity for the particular job involved unless he ceases to be on the Contractor's payroll.

1.27 PROTECTION OF WORK, PERSONS AND PROPERTY

- A. Precaution shall be exercised at all times for the proper protection of all persons, property and work. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery equipment and all hazards shall be guarded or eliminated in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable law. The Contractor shall furnish entirely at his own expense any and all additional safety measures deemed necessary by the TOWN DISTRICT or its Engineer to adequately safeguard the traveling public. The Contractor shall give notice to the owners of all utilities which may serve the area and request their assistance in pre-determining the location and depth of the various pipes, conduits, manholes and other underground facilities.
- B. The Contractor shall, at all hours of the day, safely guard and protect his own work and adjacent property from any damage and shall replace or make good any such damage, loss or injury unless such be caused directly by errors contained in the contract documents, or by the TOWN DISTRICT or its duly authorized representatives.
- C. The Contractor shall provide and maintain such watchers, barriers, lights, flares and other signals, at his own expense, as will effectively prevent any accident in consequence of his work for which the TOWN DISTRICT might be liable. The Contractor shall be liable for all injury or damage caused by his act or neglect, or that of his employees.

1.28 PATENT RIGHTS

- A. As part of his obligation hereunder and without any additional compensation, the Contractor will pay for any patent fees or royalties required in respect to the work or any part thereof and will fully indemnify the TOWN DISTRICT for any loss on account of any infringement of any patent rights, unless prior to his use in the work of a particular process or a product of a particular manufacturer, he notifies the TOWN DISTRICT in writing that such process or product is an infringement of a patent.

1.29 REPRESENTATIONS OF CONTRACTOR

- A. The Contractor represents and warrants:
- B. That he is financially solvent and that he is experienced in and competent to perform the type of work involved under this Contract and able to furnish the plan, materials, supplies and/or equipment to be furnished for the work; and
- C. That he is familiar with all Federal, State and Municipal Laws, ordinances and regulations which may in any way affect the work of those employed hereunder, including but not limited to any special acts relating to the work; and
- D. That such work required by these contract documents as is to be done by him can be satisfactorily constructed and used for the purpose for which it is intended and that such construction will not injure any person or damage any property; and

- E. That he has carefully examined the Plans, Specifications, and the site of the work, and that from his own investigation he has satisfied himself as to the nature and location of the work, the character, location, quality and quantity of surface and subsurface materials, structures and utilities likely to be encountered, the character of equipment, and other facilities needed for the performance of the work, the general local conditions which may in any way affect the work or its performance.

1.30 AUTHORITY OF THE ENGINEER

- A. In the performance of the work, the Contractor shall abide by all orders and directions and requirements of the Engineer and shall perform all work to the satisfaction of the Engineer, at such time and places, by such methods, and in such manner and sequence as he may require. The Engineer shall determine the amount, quality, acceptability and fitness of all parts of the work, shall interpret the plans, specifications, contract documents and any extra work orders and shall decide all other questions in connection with the work. Upon request, the Engineer shall confirm in writing any oral orders, directions, requirements or determinations. The enumeration herein or else-where in the contract documents of particular instances in which the opinion, judgment, discretion or determination of the Engineer shall control, or in which work shall be performed to his satisfaction or subject to his approval, or inspection, shall not imply that only matters similar to those enumerated shall be so governed and so performed, but without exception all the work shall be governed and so performed. Nothing herein shall be construed to give the Contractor a claim for extra work unless prior thereto an appropriate Change Order has been executed by the TOWN DISTRICT and Contractor for such work.

1.31 SURVEYS

- A. The Contractor shall provide all layouts, measurements, lines, and grades necessary for the execution of the work, and will furnish the necessary stakes and spikes for laying out such lines and grades and the unskilled labor necessary to place same and/or assist in measuring.

1.32 CHANGES AND ALTERATIONS

- A. The TOWN DISTRICT reserves the right to make alterations in the location, line, grade, plans, form or dimensions of the work, or any part thereof, either before or after the commencement of the construction. If such alterations diminish the amount of work to be done, no claim for damages or anticipated profits will be warranted on the work which may be dispensed with. If such alterations increase the amount of work, such increases shall be paid for according to the quantity of work actually done and at the unit prices for such work as contained in the schedule of prices.
- B. If such alterations decrease the amount of work, such decreases shall be a credit to the TOWN DISTRICT based on the quantity of work not performed as agreed to by the TOWN DISTRICT and the Contractor and at the unit prices for such work as contained in the Schedule of Prices.

1.33 CORRECTION OF WORK

- A. All work and all materials, whether incorporated into the work or not, all processes of manufacture and all methods of construction shall be, at all times and places, subject to the inspection of the Engineer who shall be the final judge of quality, materials, processes of manufacture and methods of construction suitable for the purpose for which they are used. Should they fail to meet his approval they shall be forthwith reconstructed, made good and replaced and/or corrected as the case may be, by the Contractor at his own expense. Rejected materials shall immediately be removed from the site.

- B. If, in the opinion of the Engineer, it is not desirable to replace any defective or damaged materials or to reconstruct or correct any portion of the work injured or not performed in accordance with the contract documents, the compensation to be paid to the Contractor hereunder shall be reduced by such amount as, in the judgment of the Engineer, shall be equitable.
- C. The Contractor expressly warrants that his work shall be free from any defects in materials or workmanship, and agrees to correct any defects, settlements, or shrinkages which may appear within one (1) year following the date of the final payment request. Neither the acceptance of the completed work nor payment therefor shall operate to release the Contractor or his sureties from any obligations under or upon this Contract or the Performance Bond.

1.34 WEATHER CONDITIONS

- A. The Contractor will and will cause his subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If any work or materials shall have been damaged or injured by reason of the failure on the part of the Contractor or any of his subcontractors to protect his, or their work, such work and materials shall be removed and replaced at the expense of the Contractor.

1.35 THE TOWN DISTRICT'S RIGHT TO WITHHOLD PAYMENTS

- A. The TOWN DISTRICT may withhold from the Contractor so much of any approved payments due him as may, in the judgment of the TOWN DISTRICT, be necessary;
- B. To assure the payment of just claims then due and unpaid of any persons supplying labor or materials for the work;
- C. To protect the TOWN DISTRICT from loss due to defective work not remedied; or
- D. To protect the TOWN DISTRICT from loss due to injury to persons or damage to the work or property of other contractors or subcontractors or others, caused by the act or neglect of the Contractor or any of his subcontractors. The TOWN DISTRICT shall have the right, as agent for the Contractor, to apply any such amount so withheld in such manner as the TOWN DISTRICT may deem proper to satisfy such claims or to secure such protection. Such application of such money shall be deemed payments for the account of the Contractor.

1.36 THE TOWN DISTRICT'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

- A. The Contractor shall file for any form of bankruptcy relief or make an assignment for the benefit of creditors; or
- B. A receiver or liquidator shall be appointed for the Contractor for any of his property and shall not be dismissed within twenty (20) days after such appointment, or the proceedings in connection therewith shall not be stayed on appeal within the said twenty (20) days; or
- C. The Contractor shall violate any provision of this Contract; or
- D. The Contractor shall fail or refuse to regard laws, ordinances, regulations, or the instructions of the Engineer and/or the TOWN DISTRICT;

1.37 THEN, AND IN ANY SUCH EVENT, THE TOWN DISTRICT WITHOUT PREJUDICE TO ANY OTHER RIGHTS OR REMEDY IT MAY HAVE, AND AFTER SEVEN (7) DAYS WRITTEN NOTICE TO THE CONTRACTOR AND CONTRACTOR'S SURETY MAY TERMINATE THE EMPLOYMENT OF THE CONTRACTOR AND TAKE POSSESSION OF THE PREMISES AND ALL MATERIAL, TOOLS AND APPLIANCES THEREIN, AND COMPLETE THE WORK BY CONTRACT OR OTHERWISE, AS THE TOWN DISTRICT SOLELY MAY DEEM EXPEDIENT. IN SUCH CASE, THE CONTRACTOR SHALL NOT BE ENTITLED TO RECEIVE ANY FURTHER PAYMENT UNTIL THE WORK IS FINISHED.

- A. If the unpaid balance of the compensation to be paid the Contractor hereunder shall exceed the expense of so completing the work (including compensation for additional managerial, engineering, administration, legal, testing and observation services and any damages for delay), such excess shall be paid to Contractor.
- B. If the expense shall exceed the unpaid balance, the Contractor and his sureties shall be liable to the TOWN DISTRICT for such excess.

1.38 CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

- A. If the work shall be stopped by order of the Court or any public authority, Federal or State agency, for a period of three (3) months through no act or fault of the Contractor or any of his agents, servants, employees, materialmen, or subcontractors, the Contractor may, upon ten (10) days notice to the TOWN DISTRICT, discontinue his performance of the work and/or terminate the Contract.
- B. Upon termination by the Contractor the TOWN DISTRICT may take possession of the work and complete the work by Contract or otherwise, as the TOWN DISTRICT solely may deem expedient.
- C. If the Contract is terminated by the Contractor, the liability of the TOWN DISTRICT to the Contractor shall be for all work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment, including reasonable profit and damages.

1.39 RESPONSIBILITY OF WORK

- A. The Contractor agrees to be responsible for the entire work embraced in this Contract until its completion and final acceptance, and that any unfaithful or imperfect work that may become damaged from any cause, either by act or commission or omission to properly guard and protect the work that may be discovered at any time before the completion and acceptance shall be removed and replaced by good and satisfactory work without any charge to the TOWN DISTRICT and that such removal and replacement will be performed immediately on the requirement of the Engineer, notwithstanding the fact that it may have been overlooked by the proper inspector, and partial payment made thereon. It is fully understood by the Contractor that the inspection of the work shall not relieve him of any obligation to do sound and reliable work as herein prescribed, and that any omission to disapprove of any work by the Engineer at or before the time of a partial payment or other estimate shall not be construed to be an acceptance of any defective work.

1.40 USES OF PREMISES AND REMOVAL OF DEBRIS

- A. The Contractor expressly undertakes at his own expense:
- B. To take every precaution against injury to persons or damages to property;

- C. To store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work of any of his subcontractors, or other contractors;
- D. To place upon any of the completed work only such superimposed loads as are consistent with the safety of that portion of the work;
- E. To frequently clean up all refuse, rubbish, scrap materials and debris caused by the operations to the end that at all times the site of the work shall present a neat and orderly and workmanlike appearance;
- F. Before the Engineer's approval of the Final Payment Request, to remove all surplus material, temporary structures, plants of any description and debris of any and every nature resulting from his operations and to put the site in a neat and orderly condition.

1.41 POWER OF THE CONTRACTOR TO ACT IN AN EMERGENCY

- A. In case of an emergency which threatens loss or injury to property and/or safety to life, the Contractor will be permitted to act as he sees fit without previous instructions from the TOWN DISTRICT. He shall notify the TOWN DISTRICT thereof immediately thereafter and any compensation claimed by the Contractor due to extra work made necessary because of his acts in such emergency shall be submitted to the TOWN DISTRICT for approval and Change Order executed by the TOWN DISTRICT and the Contractor.
- B. Where the Contractor has not taken action but has notified the Engineer of an emergency indicating injury to persons or damage to adjoining property or to the work being accomplished under this Contract, then upon authorization from the Engineer to prevent such threatened injury or damage, he shall act as instructed by the Engineer. The amount of reimbursement claimed by the Contractor on account of any such action shall be determined in the manner provided herein for the payment of extra work and shall be incorporated into a Change Order executed by the TOWN DISTRICT and Contractor.

1.42 SUITS AT LAW

- A. The Contractor shall indemnify and save harmless the TOWN DISTRICT from and against all suits, claims, demands or actions for any injury sustained or alleged to be sustained by any party or parties in connection with the construction of the work or any part thereof, or any commission or omission of the Contractor, his employees or agents or any subcontractors and in case any such action shall be brought against the TOWN DISTRICT, the Contractor shall immediately take care of and defend the same at his own cost and expense.

1.43 PROVISIONS REQUIRED BY LAW DEEMED INSERTED

- A. Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein, and, if through mistake or otherwise, any such provision is not inserted or is not correctly inserted, then upon the application of either party, the Contract shall forth-with be physically amended to make such insertion.

1.44 SUBLETTING, SUCCESSOR AND ASSIGNS

- A. The Contractor shall not sublet any part of the work under this Contract, nor assign any money due him hereunder without first obtaining the written consent of the TOWN DISTRICT. This Contract shall inure to the benefit of and shall be binding upon the parties hereunder and upon

their respective successors and assigns, but neither party shall assign or transfer his interest herein in whole or in part without consent of the other.

1.45 IN WITNESS WHEREOF, THE PARTIES HERETO HAVE SET THEIR HANDS AND SEALS THE DAY AND YEAR FIRST ABOVE WRITTEN.

1.46 RIVERHEAD WATER DISTRICT

1.47 BY: (TOWN SEAL)

1.48 LAURA JENS-SMITH, SUPERVISOR

A. CONTRACTOR

1.49 BY:

1.50 TITLE: (SEAL)

1.51 STATE OF NEW YORK)

A.) ss:

1.52 COUNTY OF SUFFOLK)

A. On the day of , 20 , before me personally came LARUA JENS-SMITH, to me known, who being by me duly sworn, did depose and say that she is the duly elected SUPERVISOR of the TOWN OF RIVERHEAD, COUNTY OF SUFFOLK, NEW YORK, and that at a meeting of the Town Board of the Town of Riverhead, duly held on the day of , 20 , the said Board, also acting in its capacity as the Governing Body of the Riverhead Water District, authorized the said SUPERVISOR to execute all and any contracts on behalf of the Board; that she knows the seal of said Town, and that the said Water District seal is also the seal of the Town of Riverhead; that the seal affixed to the foregoing instrument is its corporate seal; that it was affixed thereto by order of the said Board, and that she signed her name thereto and executed the said instrument on behalf of the said Water District by like order and authority.

B. NOTARY PUBLIC

1.53 ACKNOWLEDGMENT OF CONTRACTOR, IF A CORPORATION

1.54 STATE OF NEW YORK)

A.) ss:

1.55 COUNTY OF)

A. On this day of , 20 , before me personally came and appeared , to me known, who by me being duly sworn, did depose and say that he resides at that he is the of , the Corporation described in and which executed the foregoing instrument, that he knows the seal of said corporation, that one of the seals affixed to said instrument is such seal, that it was so affixed by order of the Directors of said Corporation, and that he signed his name thereto by like order.

B. NOTARY PUBLIC

1.56 ACKNOWLEDGMENT OF CONTRACTOR, IF A PARTNERSHIP

1.57 STATE OF NEW YORK)

A.) ss:

1.58 COUNTY OF)

A. On this day of , 20 , before me personally came and appeared , to me known, and known to me to be one of the members of the firm of , described in and who executed the foregoing instrument, and he acknowledged to me that he executed the same as and for the act and deed of said form.

B. NOTARY PUBLIC

END OF SECTION

IRAN DIVESTMENT ACT CERTIFICATION

1.01 BY SUBMISSION OF THIS BID, EACH BIDDER AND EACH PERSON SIGNING ON BEHALF OF ANY BIDDER CERTIFIES, AND IN THE CASE OF A JOINT BID EACH PARTY THERETO CERTIFIES AS TO ITS OWN ORGANIZATION, UNDER PENALTY OF PERJURY, THAT TO THE BEST OF ITS KNOWLEDGE AND BELIEF THAT EACH BIDDER IS NOT ON THE LIST CREATED PURSUANT TO PARAGRAPH (B) OF SUBDIVISION 3 OF SECTION 165-A OF THE STATE FINANCE LAW.

Dated: _____

(Name of corporation or partnership)

(Signature of Individual)

(Officer stating title) (Partner)

(Print Name of Individual)

END OF SECTION

GENERAL CONDITIONS

- 1.01 THE "GENERAL CONDITIONS" ARE HEREBY MADE A PART OF THESE SPECIFICATIONS AND ARE ATTACHED HEREIN.
- 1.02 WHERE ANY ARTICLE OF THE GENERAL CONDITIONS IS SUPPLEMENTED HEREBY, THE PROVISIONS OF SUCH ARTICLE SHALL REMAIN IN EFFECT. ALL THE SUPPLEMENTAL PROVISIONS SHALL BE CONSIDERED AS ADDED THERETO. WHERE ANY SUCH ARTICLE IS AMENDED, VOIDED OR SUPERSEDED THEREBY, THE PROVISIONS OF SUCH ARTICLE NOT SO SPECIFICALLY AMENDED, VOIDED OR SUPERSEDED SHALL REMAIN IN EFFECT.
- 1.03 WORK, MATERIALS, PLANT, LABOR AND OTHER REQUIREMENTS OF THE GENERAL CONDITIONS SHALL BE FURNISHED BY THE CONTRACTOR. NO DIRECT PAYMENT SHALL BE MADE FOR THESE GENERAL CONDITIONS, AND PAYMENT SHALL BE DEEMED TO BE INCLUDED IN THE CONTRACT PRICE OR VARIOUS ITEMS OF THE ENTIRE CONTRACT.

CONTRACT DOCUMENTS

- 2.01 THE CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO, THE GENERAL CONDITIONS, GENERAL SPECIFICATIONS, DETAILED SPECIFICATIONS, PLANS, PROPOSAL FORM, CONTRACT AND OTHER SECTIONS AS EITHER CITED ON THE INDEX PAGE(S) OR ACTUALLY INCLUDED IN THE BOUND DOCUMENTS.
- 2.02 EACH SECTION OF THE CONTRACT DOCUMENTS IS INTENDED TO BE COMPLEMENTARY TO THE OTHER SECTIONS. IT IS INTENDED THAT THEY INCLUDE ALL ITEMS OF LABOR AND MA-TERIALS AND EVERYTHING REQUIRED AND NECESSARY TO COMPLETE THE WORK, EVEN THOUGH SOME ITEMS OF WORK OR MATERIALS MAY NOT BE PAR-TICULARLY MENTIONED IN EVERY SECTION OR MAY HAVE BEEN INADVERTENTLY OMITTED FROM THE DRAWINGS OR SPECIFICATIONS OR BOTH.

APPROVAL OF SUBCONTRACTORS AND MATERIALS

- 3.01 PRIOR TO COMMENCING ANY WORK UNDER THIS CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF ALL THE SUBCONTRACTORS AND MATERIAL SUPPLIERS IT PROPOSES TO USE FOR THIS CONTRACT. NO SUBCONTRACTOR OR MATERIAL SUPPLIER WILL BE PERMITTED TO DELIVER MATERIALS OR PERFORM ANY WORK ON THIS CONTRACT UNTIL IT HAS BEEN APPROVED BY THE ENGINEER.

INTERPRETATION OF DRAWINGS, ETC.

- 4.01 IN THE EVENT OF DISCREPANCIES BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE FOLLOWING ORDER SHALL BE GIVEN PREFERENCE WHEN MAKING INTERPRETATIONS:
 - A. Addenda (later dates to take precedence over earlier dates).
 - B. Drawings (schedules or notes to take precedence over other data shown on Drawings).
 - C. Technical Specifications
 - D. General Specifications
 - E. General Conditions

- 4.02 ON ALL PLANS, DRAWINGS, ETC., THE FIGURE DIMENSIONS SHALL GOVERN IN THE CASE OF DISCREPANCY BETWEEN THE SCALES AND FIGURES.
- 4.03 THE CONTRACTOR SHALL TAKE NO ADVANTAGE OF ANY ERROR OR OMISSION IN THE PLANS, OR OF ANY DISCREPANCY BETWEEN THE PLANS AND SPECIFICATIONS, AND THE ENGINEER SHALL MAKE SUCH CORRECTIONS AND INTERPRETATIONS AS MAY BE DEEMED NECESSARY FOR THE FULFILLMENT OF THE INTENT OF THE SPECIFICATIONS AND OF THE PLANS AS CONSTRUED BY HIM, AND HIS DECISION SHALL BE FINAL.
- 4.04 ALL WORK THAT MAY BE CALLED FOR IN THE SPECIFICATIONS AND NOT SHOWN ON THE PLANS, OR SHOWN ON THE PLANS AND NOT CALLED FOR IN THE SPECIFICATIONS, SHALL BE FURNISHED AND EXECUTED BY THE CONTRACTOR AS IF DESIGNATED IN BOTH. SHOULD ANY WORK OR MATERIAL BE REQUIRED WHICH IS NOT DENOTED IN THE PLANS AND SPECIFICATIONS, EITHER DIRECTLY OR INDIRECTLY, BUT WHICH IS, NEVERTHELESS, NECESSARY FOR THE PROPER CARRYING OUT OF THE INTENT THEREOF, IT IS UNDERSTOOD AND AGREED THAT THE SAME IS IMPLIED AND REQUIRED, AND THAT THE CONTRACTOR SHALL PERFORM SUCH WORK AND FURNISH SUCH MATERIALS AS IF THEY WERE COMPLETELY DELINEATED AND DESCRIBED.

ADDITIONAL WORK

- 5.01 ADDITIONAL WORK, IF REQUIRED TO BE PERFORMED UNDER THIS CONTRACT, WILL BE IN ACCORDANCE WITH THE APPLICABLE PARAGRAPHS OF THE CONTRACT. THE ENGINEER SHALL BE THE SOLE JUDGE AS TO WHETHER SUCH WORK WAS INTENDED AS PART OF THE CONTRACT OR IS IN ADDITION THERETO.

SAFETY PROVISIONS

- 6.01 THE CONTRACTOR SHALL TAKE EVERY PRECAUTION AND SHALL PROVIDE SUCH EQUIPMENT AND FACILITIES AS ARE NECESSARY OR REQUIRED FOR THE SAFETY OF ITS EMPLOYEES. IN CASE OF AN ACCIDENT, FIRST AID SHALL BE ADMINISTERED TO ANY WHO MAY BE INJURED IN THE PROGRESS OF THE WORK. IN ADDITION, THE CONTRACTOR SHALL ALSO BE PREPARED FOR THE REMOVAL TO THE HOSPITAL FOR TREATMENT OF ANY EMPLOYEE EITHER SERIOUSLY INJURED OR ILL.

SANITARY REGULATIONS

- 7.01 IN ADDITION TO COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT, THE CONTRACTOR SHALL ERECT AND MAINTAIN NECESSARY SANITARY CONVENIENCES FOR THE USE OF EMPLOYEES ON THE WORK. SUCH CONVENIENCES SHALL BE PROPERLY SECLUDED FROM OBSERVATION, AND THEIR USE SHALL BE STRICTLY ENFORCED. SUCH SANITARY CONVENIENCES SHALL BE CONSTRUCTED IN COMPLIANCE WITH ALL LAWS, ORDINANCES OR REGULATIONS GOVERNING THESE FACILITIES. THE CONTENTS OF SAME SHALL BE REMOVED WITH SUFFICIENT FREQUENCY TO PREVENT NUISANCE, AND DISPOSED OF TO THE SATISFACTION OF THE ENGINEER.
- 7.02 THE CONTRACTOR SHALL OBEY AND ENFORCE SUCH OTHER SANITARY REGULATIONS AND ORDERS AND SHALL TAKE SUCH PRECAUTIONS AGAINST INFECTIOUS DISEASES AS MAY BE DEEMED NECESSARY. IN CASE ANY INFECTIOUS DISEASES OCCUR AMONG ITS EMPLOYEES, IT SHALL ARRANGE FOR THE IMMEDIATE REMOVAL OF THE PATIENT FROM THE WORK AND HIS ISOLA-TION FROM ALL PERSONS CONNECTED WITH THE WORK.

RESPONSIBILITY OF ENGINEER AND CONTRACTOR DURING CONSTRUCTION

- 8.01 BY MEANS OF THE ON-SITE OBSERVATIONS OF THE WORK IN PROGRESS, THE ENGINEER

WILL ENDEAVOR TO PROVIDE PROTECTION FOR THE OWNER AGAINST DEFECTS AND DEFICIENCIES IN THE CONTRACTOR'S WORK, BUT THE FURNISHING OF SUCH SERVICES SHALL NOT INCLUDE CONSTRUCTION REVIEW OF THE CONTRACTOR'S CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES, OR OF ANY SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.

- 8.02 THE CONTRACTOR IS RESPONSIBLE FOR COMPLETE CONFORMANCE TO THE PLANS AND SPECIFICATIONS, PROPER CONSTRUCTION PROCEDURES, COORDINATION WITH SUBCONTRACTORS, OTHER CONTRACTORS AND UTILITIES, AND SAFE WORKING CONDITIONS FOR ITS EMPLOYEES.

LABOR

- 9.01 ALL CONTRACTORS AND SUBCONTRACTORS EMPLOYED UPON THE WORK SHALL AND WILL BE REQUIRED TO CONFORM TO THE LABOR LAWS OF THE STATE OF NEW YORK AND THE VARIOUS ACTS AMENDATORY AND SUPPLEMENTARY THERETO; AND TO ALL OTHER LAWS, ORDINANCES AND LEGAL REQUIREMENTS APPLICABLE THERETO. ALL CONTRACTORS AND SUBCONTRACTORS SHALL SUBMIT ORIGINAL COPIES OF CERTIFIED PAYROLL RECORDS FOR EACH PERIOD WORKED AT THE SITE. IN ADDITION ALL CONTRACTORS AND SUBCONTRACTORS SHALL PROVIDE A COMPLETED AFFIDAVIT OF LABOR FORM 220 AND RIVERHEAD TOWN WAGE DISCLAIMER FORM FOR EACH PAYROLL WEEK PRIOR TO ISSUANCE OF ANY PARTIAL OR FINAL PAYMENT.
- 9.02 ALL LABOR SHALL BE PERFORMED IN THE BEST AND MOST WORK-MANLIKE MANNER BY MECHANICS SKILLED IN THEIR RESPECTIVE TRADES. THE STANDARDS OF THE WORK REQUIRED THROUGHOUT SHALL BE OF SUCH GRADE AS WILL BRING RESULTS OF THE FIRST CLASS ONLY.
- 9.03 PURSUANT TO SECTION 816-(B) OF THE NEW YORK LABOR LAW, THE RIVERHEAD WATER DISTRICT HAS ADOPTED A RESOLUTION RELATING TO APPROVED APPRENTICESHIP PROGRAMS. IF THE SUCCESSFUL BIDDER'S BID HEREUNDER EXCEEDS THE SUM OF \$250,000.00, SUCH BIDDER SHALL, PRIOR TO ENTERING INTO A CONTRACT WITH THE DISTRICT, BE REQUIRED TO HAVE AN APPROPRIATE APPRENTICESHIP AGREEMENT THAT HAS BEEN REGISTERED WITH AND APPROVED BY THE COMMISSIONER OF THE NEW YORK STATE DEPARTMENT OF LABOR PURSUANT TO THE REQUIREMENTS FOUND IN ARTICLE 23 OF THE NEW YORK LABOR LAW. ANY SUBCONTRACTORS UNDER THIS CONTRACT SHALL ALSO, IN ALL RESPECTS, COMPLY WITH THESE PROVISIONS.

CLAIMS OR PROTESTS

- 10.01 IF THE CONTRACTOR CONSIDERS ANY WORK REQUIRED OF HIM TO BE OUTSIDE THE REQUIREMENTS OF THE CONTRACT, OR CONSIDERS ANY RECORD OR RULING OF THE ENGINEERS OR INSPECTORS AS UNFAIR, HE SHALL ASK FOR WRITTEN INSTRUCTIONS OR DECISIONS IMMEDIATELY, AND THEN FILE A WRITTEN PROTEST WITH THE OWNER AGAINST THE SAME WITHIN FIVE DAYS THEREAFTER, OR BE CONSIDERED AS HAVING ACCEPTED THE RECORD OR RULING.

NOTIFICATION, INTERFERENCE AND INJURY TO UTILITIES

- 11.01 THE CONTRACTOR SHALL COOPERATE IN EVERY WAY WITH THE UTILITY COMPANIES. ALL EXCAVATION SHALL BE DONE IN COMPLIANCE WITH ARTICLE 36 OF THE GENERAL BUSINESS LAW AND NOTICES GIVEN AS PROVIDED BY GBL, SECTION 761.
- 11.02 ALL CONDUITS, WATER MAINS AND GAS MAINS ENCOUNTERED IN THE CONSTRUCTION SHALL BE PROPERLY AND SAFELY TAKEN CARE OF BY THE CONTRACTOR, WHO SHALL, UPON ENCOUNTERING SAME, NOTIFY THE PUBLIC CORPORATION TO WHOM THEY

BELONG, IN ORDER THAT THEY MAY BE CHANGED IN SUCH A MANNER AS NOT TO INTERFERE WITH THE FINAL CONSTRUCTION.

11.03 IN CASE ANY DAMAGE SHALL RESULT TO ANY SERVICE PIPE FOR WATER OR GAS, OR ANY PRIVATE OR PUBLIC SEWER OR CONDUIT BY REASON OF NEGLIGENCE ON THE PART OF THE CONTRACTOR, HE SHALL, WITHOUT DELAY AND AT HIS OWN EXPENSE, REPAIR SAME TO THE SATISFACTION OF THE ENGINEER, AND IN CASE SUCH REPAIRS ARE NOT MADE PROMPTLY OR SATISFACTORILY, THE OWNER MAY HAVE THE REPAIRS MADE BY ANOTHER CONTRACTOR OR OTHERWISE, AND DEDUCT THE COST OF SAME FROM ANY MONIES DUE OR TO BECOME DUE THE CONTRACTOR.

INFRINGEMENT OF PATENTS

12.01 THE CONTRACTOR FURTHER AGREES TO HOLD HIMSELF RESPONSIBLE FOR ANY CLAIMS MADE AGAINST THE OWNER FOR ANY INFRINGEMENT OF PATENTS BY THE USE OF PATENTED ARTICLES IN ANY ONE PHASE OF CONSTRUCTION OF THE WORK AND THE COMPLETION OF SAME, OR ANY PROCESS CONNECTED WITH THE WORK AGREED TO BE PERFORMED UNDER THIS CONTRACT, OR OF ANY MATERIALS USED UPON SAID WORK AND TO SAVE HARM-LESS AND INDEMNIFY THE OWNER FROM ALL COSTS, EXPENSES AND DAMAGES WHICH THE OWNER SHALL BE OBLIGED TO PAY BY REASON OF ANY INFRINGEMENT OR PATENTS USED IN THE CONSTRUCTION AND COMPLETION OF THE WORK.

DAMAGES

13.01 ALL DAMAGE, DIRECT OR INDIRECT, OF WHATEVER NATURE RESULTING FROM EITHER THE PERFORMANCE OF, OR RESULTING TO THE WORK UNDER, THIS CONTRACT DURING ITS PROGRESS FROM WHATEVER CAUSE, SHALL BE BORNE AND SUSTAINED BY THE CONTRACTOR, AND ALL WORK SHALL BE SOLELY AT HIS RISK UNTIL THE DATE OF THE FINAL PAYMENT REQUEST.

GUARANTEE/WARRANTY

14.01 THIS CONTRACTOR SHALL GUARANTEE AND WARRANT HIS WORK AND THAT OF HIS SUBCONTRACTORS AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL PAYMENT REQUEST BY THE ENGINEER, EXCEPT AS OTHERWISE SPECIFIED. UPON WRITTEN NOTIFICATION FROM THE ENGINEER, THE CONTRACTOR SHALL REPAIR, REPLACE OR RECONSTRUCT SUCH DEFECTS TO THE SATISFACTION OF THE ENGINEER AT NO COST TO THE OWNER.

STANDARDIZATION

15.01 THE GENERAL ITEMS SPECIFIED WITH THE TECHNICAL SPECIFICATIONS INDICATE SPECIFIC MANUFACTURERS AND/OR CATALOG NUMBERS ETC., FOR THE PURPOSE OF STANDARDIZATION WITHIN THE DISTRICT IN ORDER TO MINIMIZE THE STOCKPILING OF REPLACEMENT PARTS.

END OF SECTION

END OF SECTION



Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

Riverhead Water District
Victor Villegas, Sr. Project Engineer
H2M Group
538 Broad Hollow Road
Melville NY 11747

Schedule Year 2018 through 2019
Date Requested 10/03/2018
PRC# 2018012016

Location Plant No. 3
Project ID#
Project Type Installation of New Well No. 3A Variable Frequency Drive

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: _____

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

General Provisions of Laws Covering Workers on Article 8 Public Work Contracts

Introduction

The Labor Law requires public work contractors and subcontractors to pay laborers, workers, or mechanics employed in the performance of a public work contract not less than the prevailing rate of wage and supplements (fringe benefits) in the locality where the work is performed.

Responsibilities of the Department of Jurisdiction

A Department of Jurisdiction (Contracting Agency) includes a state department, agency, board or commission; a county, city, town or village; a school district, board of education or board of cooperative educational services; a sewer, water, fire, improvement and other district corporation; a public benefit corporation; and a public authority awarding a public work contract.

The Department of Jurisdiction (Contracting Agency) awarding a public work contract MUST obtain a Prevailing Rate Schedule listing the hourly rates of wages and supplements due the workers to be employed on a public work project. This schedule may be obtained by completing and forwarding a "Request for wage and Supplement Information" form (PW 39) to the Bureau of Public Work. The Prevailing Rate Schedule MUST be included in the specifications for the contract to be awarded and is deemed part of the public work contract.

Upon the awarding of the contract, the law requires that the Department of Jurisdiction (Contracting Agency) furnish the following information to the Bureau: the name and address of the contractor, the date the contract was let and the approximate dollar value of the contract. To facilitate compliance with this provision of the Labor Law, a copy of the Department's "Notice of Contract Award" form (PW 16) is provided with the original Prevailing Rate Schedule.

The Department of Jurisdiction (Contracting Agency) is required to notify the Bureau of the completion or cancellation of any public work project. The Department's PW 200 form is provided for that purpose.

Both the PW 16 and PW 200 forms are available for completion [online](#).

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project. There are very few exceptions to this rule. Complete information regarding these exceptions is available on the "[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, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed \$100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds \$25,000.00, payroll records and certifications must be kept on the project worksite.

The prime contractor is responsible for any underpayments of prevailing wages or supplements by any subcontractor.

All contractors or their subcontractors shall provide to their subcontractors a copy of the Prevailing Rate Schedule specified in the public work contract as well as any subsequently issued schedules. A failure to provide these schedules by a contractor or subcontractor is a violation of Article 8, Section 220-a of the Labor Law.

All subcontractors engaged by a public work project contractor or its subcontractor, upon receipt of the original schedule and any subsequently issued schedules, shall provide to such contractor a verified statement attesting that the subcontractor has received the Prevailing Rate Schedule and will pay or provide the applicable rates of wages and supplements specified therein. (See NYS Labor Laws, Article 8 . Section 220-a).

Determination of Prevailing Wage and Supplement Rate Updates Applicable to All Counties

The wages and supplements contained in the annual determination become effective July 1st whether or not the new determination has been received by a given contractor. Care should be taken to review the rates for obvious errors. Any corrections should be brought to the Department's attention immediately. It is the responsibility of the public work contractor to use the proper rates. If there is a question on the proper classification to be used, please call the district office located nearest the project. Any errors in the annual determination will be corrected and posted to the NYSDOL website on the first business day of each month. Contractors are responsible for paying these updated rates as well, retroactive to July 1st.

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. To the extent possible, the Department posts rates in its possession that cover periods of time beyond the July 1st to June 30th time frame covered by a particular annual determination. Rates that extend beyond that instant time period are informational ONLY and may be updated in future annual determinations that actually cover the then appropriate July 1st to June 30th time period.

Withholding of Payments

When a complaint is filed with the Commissioner of Labor alleging the failure of a contractor or subcontractor to pay or provide the prevailing wages or supplements, or when the Commissioner of Labor believes that unpaid wages or supplements may be due, payments on the public work contract shall be withheld from the prime contractor in a sufficient amount to satisfy the alleged unpaid wages and supplements, including interest and civil penalty, pending a final determination.

When the Bureau of Public Work finds that a contractor or subcontractor on a public work project failed to pay or provide the requisite prevailing wages or supplements, the Bureau is authorized by Sections 220-b and 235.2 of the Labor Law to so notify the financial officer of the Department of Jurisdiction (Contracting Agency) that awarded the public work contract. Such officer MUST then withhold or cause to be withheld from any payment due the prime contractor on account of such contract the amount indicated by the Bureau as sufficient to satisfy the unpaid wages and supplements, including interest and any civil penalty that may be assessed by the Commissioner of Labor. The withholding continues until there is a final determination of the underpayment by the Commissioner of Labor or by the court in the event a legal proceeding is instituted for review of the determination of the Commissioner of Labor.

The Department of Jurisdiction (Contracting Agency) shall comply with this order of the Commissioner of Labor or of the court with respect to the release of the funds so withheld.

Summary of Notice Posting Requirements

The current Prevailing Rate Schedule must be posted in a prominent and accessible place on the site of the public work project. The prevailing wage schedule must be encased in, or constructed of, materials capable of withstanding adverse weather conditions and be titled "PREVAILING RATE OF WAGES" in letters no smaller than two (2) inches by two (2) inches.

The "[Public Work Project](#)" notice must be posted at the beginning of the performance of every public work contract, on each job site.

Every employer providing workers. compensation insurance and disability benefits must post notices of such coverage in the format prescribed by the Workers. Compensation Board in a conspicuous place on the jobsite.

Every employer subject to the NYS Human Rights Law must conspicuously post at its offices, places of employment, or employment training centers, notices furnished by the State Division of Human Rights.

Employers liable for contributions under the Unemployment Insurance Law must conspicuously post on the jobsite notices furnished by the NYS Department of Labor.

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above, 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.



Andrew M. Cuomo, Governor

Roberta Reardon, Commissioner

Riverhead Water District
Victor Villegas, Sr. Project Engineer
H2M Group
538 Broad Hollow Road
Melville NY 11747

Schedule Year 2018 through 2019
Date Requested 10/03/2018
PRC# 2018012016

Location Plant No. 3
Project ID#
Project Type Installation of New Well No. 3A Variable Frequency Drive

Notice of Contract Award

New York State Labor Law, Article 8, Section 220.3a requires that certain information regarding the awarding of public work contracts, be furnished to the Commissioner of Labor. One "Notice of Contract Award" (PW 16, which may be photocopied), **MUST** be completed for **EACH** prime contractor on the above referenced project.

Upon notifying the successful bidder(s) of this contract, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

Contractor Information

All information must be supplied

| | | |
|---|--|------------|
| Federal Employer Identification Number: _____ | | |
| Name: _____ | | |
| Address: _____ _____ | | |
| City: _____ | State: _____ | Zip: _____ |
| Amount of Contract: \$ _____ | Contract Type: | |
| Approximate Starting Date: ____/____/____ | <input type="checkbox"/> (01) General Construction | |
| Approximate Completion Date: ____/____/____ | <input type="checkbox"/> (02) Heating/Ventilation | |
| | <input type="checkbox"/> (03) Electrical | |
| | <input type="checkbox"/> (04) Plumbing | |
| | <input type="checkbox"/> (05) Other : _____ | |

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

IMPORTANT NOTICE

FOR

CONTRACTORS & CONTRACTING AGENCIES

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 511 of the Laws of 1995 (as amended by Chapter 513 of the Laws of 1997, Chapter 655 of the Laws of 1999, Chapter 376 of the Laws of 2003 and Chapter 407 of the Laws of 2005) established the Fund.

3. Procedures and Agency Responsibilities:

The Fund is supported by transfers and deposits based on the value of contracts for construction and reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law, into which all State agencies and public benefit corporations enter.

Chapter 407 of the Laws of 2005 increased the amount required to be provided to this fund to .10 of one-percent of the total cost of each such contract, to be calculated at the time agencies or public benefit corporations enter into a new contract or if a contract is amended. The provisions of this bill became effective August 2, 2005.

**To all State Departments, Agency Heads and Public Benefit Corporations
IMPORTANT NOTICE REGARDING PUBLIC WORK ENFORCEMENT FUND**

OSC will report to DOL on all construction-related ("D") contracts approved during the month, including contract amendments, and then DOL will bill agencies the appropriate assessment monthly. An agency may then make a determination if any of the billed contracts are exempt and so note on the bill submitted back to DOL. For any instance where an agency is unsure if a contract is or is not exempt, they can call the Bureau of Public Work at the number noted below for a determination. Payment by check or journal voucher is due to DOL within thirty days from the date of the billing. DOL will verify the amounts and forward them to OSC for processing.

For those contracts which are not approved or administered by the Comptroller, monthly reports and payments for deposit into the Public Work Enforcement Fund must be provided to the Administrative Finance Bureau at the DOL within 30 days of the end of each month or on a payment schedule mutually agreed upon with DOL.

Reports should contain the following information:

- Name and billing address of State agency or public benefit corporation;
- State agency or public benefit corporation contact and phone number;
- Name and address of contractor receiving the award;
- Contract number and effective dates;
- Contract amount and PWEF assessment charge (if contract amount has been amended, reflect increase or decrease to original contract and the adjustment in the PWEF charge); and
- Brief description of the work to be performed under each contract.

Checks and Journal Vouchers, payable to the "New York State Department of Labor" should be sent to:

Department of Labor
Administrative Finance Bureau-PWEF Unit
Building 12, Room 464
State Office Campus
Albany, NY 12240

Any questions regarding billing should be directed to NYSDOL's Administrative Finance Bureau-PWEF Unit at (518) 457-3624 and any questions regarding Public Work Contracts should be directed to the Bureau of Public Work at (518) 457-5589.

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 .

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.*

| | | | |
|---------------|----------------|--------------|----------------|
| Albany | (518) 457-2744 | Patchogue | (631) 687-4882 |
| Binghamton | (607) 721-8005 | Rochester | (585) 258-4505 |
| Buffalo | (716) 847-7159 | Syracuse | (315) 428-4056 |
| Garden City | (516) 228-3915 | Utica | (315) 793-2314 |
| New York City | (212) 932-2419 | White Plains | (914) 997-9507 |
| Newburgh | (845) 568-5156 | | |

* For New York City government agency construction projects, please contact the Office of the NYC Comptroller at (212) 669-4443, or www.comptroller.nyc.gov – click on Bureau of Labor Law.

Contractor Name: _____

Project Location: _____

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.shtm

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: lsingletin@keene.edu

(800) 449-6742

www.keene.edu/courses/print/courses_osh.cfm

3. List of trainers and training schedules for OSHA outreach training at:

www.OutreachTrainers.org

Requirements for OSHA 10 Compliance

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



Bureau of Public Work Harriman
State Office Campus
Building 12, Room 130
Albany, New York 12240
Phone: (518) 457-5589 | Fax: (518) 485-1870
www.labor.ny.gov

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

| Job Classification | Tag # | Entire Counties | Partial Counties | Check Box |
|--------------------------------------|----------------|--|-------------------------|------------------|
| Carpenter – Building | 276B-All | 7 | 2 ,5 | |
| Carpenter – Building | 276B-Cat | 15 | 5 | |
| Carpenter – Building | 276-B-LIV | 26, 28, 35, 59 | 61 | |
| Carpenter – Building | 276B-Gen | 19, 32, 37 | 61 | |
| Carpenter – Heavy & Highway | 276HH-All | 2, 5, 7 | | |
| Carpenter – Heavy & Highway | 276HH-Erie | 15 | | |
| Carpenter – Heavy & Highway | 276HH- Gen | 19, 32, 37, 61 | | |
| Carpenter – Heavy & Highway | 276HH-Liv | 26, 28, 35, 59 | | |
| Carpenter – Residential | 276R-All | 7 | 2, 5 | |
| Carpenter – Building | 277B-Bro | 4, 54 | | |
| Carpenter – Building | 277B-CAY | 6, 50, 62 | | |
| Carpenter – Building | 277B-CS | 8, 12, 49, 51, 55 | 2 | |
| Carpenter – Building | 277 JLS | 23, 25, 45 | | |
| Carpenter – Building | 277 omh | 22, 27, 33 | | |
| Carpenter – Building | 277 On | 34 | | |
| Carpenter – Building | 277 Os | 38 | | |
| Carpenter – Building | 277CDO Bldg | 9, 13, 39 | | |
| Carpenter – Heavy & Highway | 277CDO HH | 9, 13, 39 | | |
| Carpenter – Heavy & Highway | 277HH-BRO | 4, 6, 8, 12, ,22, 23, 25, 27, 33, 34, 38, 45, 49, 50, 51, 54, 55, 62 | | |
| Carpenter – Building | 291B-Alb | 1, 18, 20, 29, 42, 47, 48 | | |
| Carpenter – Building | 291B-Cli | 10, 16, 17 | | |
| Carpenter – Building | 291B-Ham | 21, 57, 58 | | |
| Carpenter – Building | 291B-Sar | 46 | | |
| Carpenter – Heavy & Highway | 291HH-Alb | 1, 10, 16, 17,18, 20, 21, 29, 42, 46, 47, 48, 57, 58 | | |
| Electrician | 25m | 30, 52 | | |
| Electrician – Teledata Cable Splicer | 43 | 12, 22, 27, 33, 38 | 6, 9, 34, 39, 55, 59 | |

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****

| Job Classification | Tag # | Entire Counties | Partial Counties | Check Box |
|--------------------------|-------------------------|--|--------------------|-----------|
| Electrician | 86 | 26, 28 | 19, 35, 37, 59, 61 | |
| Electrician | 840 Teledata and 840 Z1 | 62 | 6, 34, 35, 50, 59 | |
| Electrician | 910 | 10, 16, 17, 23, 25, 45 | | |
| Electrical Lineman | 1049Line/Gas | 30, 41, 52 | | |
| Electrical Lineman | 1249a | 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36, 37, 38, 39, 40, 42, 44, 46, 47, 48, 49, 50, 45, 51, 53, 54, 55, 56, 57, 58, 59, 61, 62 | | |
| Electrical Lineman | 1249a West | 60 | | |
| Electrical Lineman | 1249a-LT | 1, 2, 4, 5, 6, 7, 8, 9, 10, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 32, 33, 34, 35, 37, 38, 39, 42, 46, 47, 48, 49, 50, 45, 51, 53, 54, 55, 57, 58, 59, 61, 62 | | |
| Electrical Lineman | 1249aREG8LT | 11, 14, 36, 40, 44, 56 | | |
| Electrical Lineman | 1249aWestLT | 60 | | |
| Elevator Constructor | 138 | 11, 14, 20, 36, 40, 53, 56 | 13, 44, 60 | |
| Elevator Constructor | 14 | 2, 5, 7, 15, 19, 32, 37, 61 | | |
| Elevator Constructor | 27 | 8, 26, 28, 35, 49, 50, 51, 59, 62 | | |
| Elevator Constructor | 35 | 1, 10, 16, 18, 21, 22, 29, 39, 42, 46, 47, 48, 57, 58 | | |
| Elevator Constructor | 62.1 | 4, 6, 9, 12, 23, 25, 27, 33, 34, 38, 45, 54, 55 | 13 | |
| Glazier | 201 | 1, 10, 11, 16, 17, 18, 20, 21, 29, 42, 46, 47, 48, 57, 58 | | |
| Glazier | 660r | 2, 5, 7, 15, 19, 32, 37, 61 | | |
| Glazier | 660 | 2, 5, 7, 15, 19, 32, 37, 61 | | |
| Glazier | 677.1 | 23, 25, 26, 28, 35, 45, 50, 59, 62 | | |
| Glazier | 677Z-2 | 6, 12, 22, 27, 33, 34, 38 | | |
| Glazier | 677z3 | 4, 8, 9, 13, 39, 49, 51, 54, 55 | | |
| Glazier | 677r.2 | 6, 12, 22, 27, 33, 34, 38 | | |
| Insulator – Heat & Frost | 30-Syracuse | 4, 6, 8, 9, 12, 22, 23, 25, 27, 33, 34, 38, 39, 49, 50, 45, 54, 55 | | |
| Laborer – Building | 621b | 2, 7 | 5 | |
| Laborer – Building | 633 bON | 34 | | |

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***

| Job Classification | Tag # | Entire Counties | Partial Counties | Check Box |
|--------------------------------|------------|---|------------------|-----------|
| Laborer – Building | 633b Cay | 6 | | |
| Laborer – Building | 633bOS | 38 | | |
| Laborer – Building | 785(7) | 4 | 9, 13, 54 | |
| Laborer – Building | 785B-CS | 8, 51 | 49 | |
| Laborer – Building | 7-785b | 12, 55 | 49, 54 | |
| Laborers – Heavy & Highway | 157h/h | 47 | 18, 29, 46 | |
| Laborers – Heavy & Highway | 190 h/h | 1, 42, 58 | 11, 20, 46 | |
| Laborers – Heavy & Highway | 35/2h | 21, 22, 27, 33 | 18, 29 | |
| Laborer – Residential | 621r | 2, 7 | 5 | |
| Laborers – Tunnel | 157 | 47 | 18, 29, 46 | |
| Laborers – Tunnel | 35T | 21, 22, 27, 33 | 18, 29 | |
| Laborers – Tunnel | 190 | 1, 42, 58 | 11, 20, 46 | |
| Mason – Building | 2TS.1 | 1, 10, 11, 16, 17, 18, 20, 21, 29, 42, 46, 47, 48, 57, 58 | | |
| Mason – Building | 2TS.2 | 22, 23, 25, 33, 45 | 27 | |
| Mason – Building | 2TS.3 | 6, 34, 38 | 27 | |
| Mason – Building | 2b-on | 34 | | |
| Mason – Building | 2b.1 | 1, 11, 18, 20, 21, 29, 42, 46, 47, 48, 58 | 57 | |
| Mason – Building | 2b.2 | 22, 33 | 25 | |
| Mason – Building | 2b.3 | 6, 34 | 27 | |
| Mason – Building | 2b.4 | 38 | | |
| Mason – Building | 2b.5 | 23 | 25 | |
| Mason – Building | 2b.6 | 45 | | |
| Mason – Building | 2b.8 | 10, 16, 17 | 57 | |
| Mason – Building | 3b-Co-Z2 | 8, 49, 51 | 2 | |
| Mason – Building | 3B-Z1 | 19, 26, 28, 35, 50, 59, 61, 62 | | |
| Mason – Building – Residential | 3B-Z1R | 19, 26, 28, 35, 50, 59, 61, 62 | | |
| Mason – Building | 3B-Bing-Z2 | 4, 9, 13, 39, 54 | | |
| Mason – Building | 3B-lth-Z2 | 12, 55 | | |

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****

| Job Classification | Tag # | Entire Counties | Partial Counties | Check Box |
|--------------------------------------|----------------|--|-------------------------|------------------|
| Mason – Building | 3B-Jam-Z2 | 7 | 2, 5 | |
| Mason – Building – Residential | 3B-Jam-Z2R | 2, 4, 8, 7, 9, 12, 39, 13, 49, 51, 54, 55 | 5 | |
| Mason – Building | 3B-Z3 | 15, 32 | 5 | |
| Mason – Building | 3B-Z3.Orleans | 37 | | |
| Mason – Residential | 3B-Z3R | 15, 32 | 5 | |
| Mason – Residential | 3B-z3R.Orleans | 37 | | |
| Mason - Heavy & Highway | 3h | 2, 4, 8, 7, 9, 12, 13, 19, 26, 28, 35, 37, 39, 49, 50, 51, 54, 55, 59, 61, 62 | 5, 15, 32 | |
| Mason – Tile Finisher | 3TF-Z1 | 19, 26, 28, 35, 50, 59, 61, 62 | | |
| Mason – Tile Finisher | 3TF-Z2 | 2, 4, 8, 7, 9, 12, 13, 39, 49, 51, 54, 55 | 5 | |
| Mason – Tile Finisher | 3TF-Z3 | 15, 32, 37 | 5 | |
| Mason – Tile Finisher | 3TF-Z1R | 19, 26, 28, 35, 50, 59, 61, 62 | | |
| Mason – Tile Finisher | 3TF-Z2R | 2, 4, 7, 9, 12, 13, 39, 49, 51, 54, 55 | 5 | |
| Mason – Tile Finisher | 3TF-Z3R | 15, 32, 37 | 5 | |
| Mason – Tile Setter | 3TS-Z1 | 19, 26, 28, 35, 50, 59, 61, 62 | | |
| Mason – Tile Setter Residential | 3TS-Z1R | 19, 26, 28, 35, 50, 59, 61, 62 | | |
| Mason – Tile Setter | 3TS-Z2 | 2, 4, 7, 8, 9, 12, 13, 39, 49, 51, 54, 55 | 5 | |
| Mason – Tile Setter Residential | 3TS-Z2R | 2, 4, 7, 8, 9, 12, 13, 39, 49, 51, 54, 55 | 5 | |
| Mason – Tile Setter | 3TS-Z3 | 15, 32, 37 | 5 | |
| Mason – Tile Setter Residential | 3TS-Z3R | 15, 32, 37 | 5 | |
| Mason – Building/Heavy & Highway | 780 | 3, 24, 30, 31, 41, 43, 52 | | |
| Operating Engineer - Heavy & Highway | 137H/H | 40, 60 | 14 | |
| Operating Engineer – Heavy & Highway | 158-832H | 2, 8, 26, 28, 35, 49, 51, 59, 62 | 19 | |
| Operating Engineer – Heavy & Highway | 158-H/H | 1, 4, 9, 10, 11, 14, 16, 17, 18, 20, 21, 22, 29, 39, 42, 46, 47, 48, 54, 57, 58 | | |
| Operating Engineer – Heavy & Highway | 158-545h | 6, 12, 23, 25, 27, 33, 38, 45, 50, 55 | | |
| Painter | 1456-LS | 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, 60 | | |
| Painter | 150 | 28, 59, 62 | 26, 35 | |

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****

| Job Classification | Tag # | Entire Counties | Partial Counties | Check Box |
|--------------------------------------|---------------------|---------------------------------------|-------------------------|------------------|
| Painter | 178 B | 4, 9, 54 | | |
| Painter | 178 E | 8, 49 | 51 | |
| Painter | 178 I | 12, 55 | | |
| Painter | 178 O | 13, 39 | | |
| Painter | 31 | 6, 22, 27, 33, 34, 50 | 25, 35, 38 | |
| Painter | 38.O | | 38 | |
| Painter | 38.W | 23, 45 | 25 | |
| Painter | 4- Buf,Nia,Olean | 2, 15, 19, 32, 37, 61 | 5, 7, 26, 51 | |
| Painter | 4-Jamestown | | 5, 7 | |
| Sheetmetal Worker | 46 | 26, 28, 35, 50, 59, 62 | | |
| Sheetmetal Worker | 46r | 26, 28, 35, 50, 59, 62 | | |
| Teamsters – Heavy & Highway | 294h/h | 1, 11, 18, 20, 29, 42, 46, 47, 48, 58 | 57 | |
| Teamsters – Heavy & Highway | 317bhh | 6, 12, 50, 51, 55, 62 | 2 | |
| Teamsters - Building/Heavy & Highway | 456 | 40, 60 | | |

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

This information is provided to assist you in the interpretation of particular requirements for each classification of worker contained in the attached Schedule of Prevailing Rates.

Classification

It is the duty of the Commissioner of Labor to make the proper classification of workers taking into account whether the work is heavy and highway, building, sewer and water, tunnel work, or residential, and to make a determination of wages and supplements to be paid or provided. It is the responsibility of the public work contractor to use the proper rate. If there is a question on the proper classification to be used, please call the district office located nearest the project. District office locations and phone numbers are listed below.

Prevailing Wage Schedules are issued separately for "General Construction Projects" and "Residential Construction Projects" on a county-by-county basis.

General Construction Rates apply to projects such as: Buildings, Heavy & Highway, and Tunnel and Water & Sewer rates.

Residential Construction Rates generally apply to construction, reconstruction, repair, alteration, or demolition of one family, two family, row housing, or rental type units intended for residential use.

Some rates listed in the Residential Construction Rate Schedule have a very limited applicability listed along with the rate. Rates for occupations or locations not shown on the residential schedule must be obtained from the General Construction Rate Schedule. Please contact the local Bureau of Public Work office before using Residential Rate Schedules, to ensure that the project meets the required criteria.

Payrolls and Payroll Records

Contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records.

Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury.

Paid Holidays

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

Overtime

At a minimum, all work performed on a public work project in excess of eight hours in any one day or more than five days in any workweek is overtime. However, the specific overtime requirements for each trade or occupation on a public work project may differ. Specific overtime requirements for each trade or occupation are contained in the prevailing rate schedules.

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays.

The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Supplemental Benefits

Particular attention should be given to the supplemental benefit requirements. Although in most cases the payment or provision of supplements is straight time for all hours worked, some classifications require the payment or provision of supplements, or a portion of the supplements, to be paid or provided at a premium rate for premium hours worked. Supplements may also be required to be paid or provided on paid holidays, regardless of whether the day is worked. The Overtime Codes and Notes listed on the particular wage classification will indicate these conditions as required.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.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 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

Please call Apprentice Training Central Office at (518) 457-6820 if you have any questions.

| Title (Trade) | Ratio |
|--|---------|
| Boilermaker (Construction) | 1:1,1:4 |
| Boilermaker (Shop) | 1:1,1:3 |
| Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder) | 1:1,1:4 |
| Carpenter (Residential) | 1:1,1:3 |
| Electrical (Outside) Lineman | 1:1,1:2 |
| Electrician (Inside) | 1:1,1:3 |
| Elevator/Escalator Construction & Modernizer | 1:1,1:2 |
| Glazier | 1:1,1:3 |
| Insulation & Asbestos Worker | 1:1,1:3 |
| Iron Worker | 1:1,1:4 |
| Laborer | 1:1,1:3 |
| Mason | 1:1,1:4 |
| Millwright | 1:1,1:4 |
| Op Engineer | 1:1,1:5 |
| Painter | 1:1,1:3 |
| Plumber & Steamfitter | 1:1,1:3 |
| Roofer | 1:1,1:2 |
| Sheet Metal Worker | 1:1,1:3 |
| Sprinkler Fitter | 1:1,1:2 |

If you have any questions concerning the attached schedule or would like additional information, please contact the nearest BUREAU of PUBLIC WORK District Office or write to:

New York State Department of Labor
 Bureau of Public Work
 State Office Campus, Bldg. 12
 Albany, NY 12240

| District Office Locations: | Telephone # | FAX # |
|--|--------------|--------------|
| Bureau of Public Work - Albany | 518-457-2744 | 518-485-0240 |
| Bureau of Public Work - Binghamton | 607-721-8005 | 607-721-8004 |
| Bureau of Public Work - Buffalo | 716-847-7159 | 716-847-7650 |
| Bureau of Public Work - Garden City | 516-228-3915 | 516-794-3518 |
| Bureau of Public Work - Newburgh | 845-568-5287 | 845-568-5332 |
| Bureau of Public Work - New York City | 212-932-2419 | 212-775-3579 |
| Bureau of Public Work - Patchogue | 631-687-4882 | 631-687-4902 |
| Bureau of Public Work - Rochester | 585-258-4505 | 585-258-4708 |
| Bureau of Public Work - Syracuse | 315-428-4056 | 315-428-4671 |
| Bureau of Public Work - Utica | 315-793-2314 | 315-793-2514 |
| Bureau of Public Work - White Plains | 914-997-9507 | 914-997-9523 |
| Bureau of Public Work - Central Office | 518-457-5589 | 518-485-1870 |

Suffolk County General Construction

Asbestos Worker **10/01/2018**

JOB DESCRIPTION Asbestos Worker **DISTRICT 4**

ENTIRE COUNTIES
 Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES
 Per Hour: 07/01/2018

Asbestos Worker \$ 44.00
 Removal & Abatement Only*

NOTE: *On Mechanical Systems that are NOT to be SCRAPPED.

SUPPLEMENTAL BENEFITS

Per Hour:
 Asbestos Worker \$ 8.70
 Removal & Abatement Only

OVERTIME PAY
 See (B, B2, *E, J) on OVERTIME PAGE
 Hours worked on Saturdays are paid at time and one half only if forty hours have been worked during the week.

HOLIDAY
 Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 8) on HOLIDAY PAGE

REGISTERED APPRENTICES
 Apprentice Removal & Abatement Only:
 1000 hour terms at the following percentage of Journeyman's rates.

| | | | |
|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th |
| 78% | 80% | 83% | 89% |

SUPPLEMENTAL BENEFIT

Per Hour:
 Apprentice Removal & Abatement \$ 8.70 4-12a - Removal Only

Boilermaker **10/01/2018**

JOB DESCRIPTION Boilermaker **DISTRICT 4**

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

WAGES
 Per Hour: 07/01/2018 01/01/2019

Boilermaker \$ 57.17 \$ 59.17
 Repairs & Renovations \$ 57.17 \$ 59.17

SUPPLEMENTAL BENEFITS
 Per Hour: 07/01/2018 01/01/2019
 Boilermaker 32% of hourly 32% of hourly
 Repair \$ Renovations Wage Paid Wage Paid
 + \$ 25.32 + \$ 25.35

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

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th |
| 65% | 70% | 75% | 80% | 85% | 90% | 95% |

Supplemental Benefits Per Hour:

| Apprentice(s) | 07/01/2018 | 01/01/2019 |
|---------------|---|---|
| | 32% of Hourly Wage Paid Plus Amount Below | 32% of Hourly Wage Paid Plus Amount Below |
| 1st Term | \$ 19.37 | \$ 19.38 |
| 2nd Term | 20.22 | 20.24 |
| 3rd Term | 21.06 | 21.08 |
| 4th Term | 21.92 | 21.94 |
| 5th Term | 22.77 | 22.79 |
| 6th Term | 23.62 | 23.65 |
| 7th Term | 24.46 | 24.49 |

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

4-5

Carpenter **10/01/2018**

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

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

WAGES

Per hour: 07/01/2018

| | |
|-------------|----------|
| Piledriver | \$ 53.63 |
| Dockbuilder | \$ 53.63 |

SUPPLEMENTAL BENEFITS

Per hour:

| | |
|---------------|----------|
| Journeyworker | \$ 50.62 |
|---------------|----------|

OVERTIME PAY

See (B, E2, O) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.

Apprentices See (5,6,11,13,25)

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

REGISTERED APPRENTICES

Wages per hour

(1)year terms:

| | | | |
|---------|---------|---------|---------|
| 1st | 2nd | 3rd | 4th |
| \$21.45 | \$26.82 | \$34.86 | \$42.90 |

Supplemental benefits per hour:

| | |
|------------|----------|
| All Terms: | \$ 33.49 |
|------------|----------|

8-1556 Db

Carpenter **10/01/2018**

JOB DESCRIPTION Carpenter **DISTRICT 8**

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2018

Carpet/Resilient

Floor Coverer \$ 50.50

INCLUDES HANDLING & INSTALLATION OF ARTIFICIAL TURF AND SIMILAR TURF INDOORS/OUTDOORS.

SUPPLEMENTAL BENEFITS

Per hour: \$ 45.85

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

Wage per hour - (1) year terms:

| | 1st | 2nd | 3rd | 4th |
|--|---------|---------|---------|---------|
| | \$20.20 | \$25.25 | \$32.83 | \$40.40 |

Supplemental benefits per hour - all apprentice terms:

\$ 31.11

8-2287

Carpenter **10/01/2018**

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:

Marine Diver \$ 67.94

Marine Tender 48.24

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.

1st year \$ 21.45

2nd year 26.82

3rd year 34.86

4th year 42.90

Supplemental Benefits
Per Hour:

All terms \$ 33.49

8-1456MC

Carpenter **10/01/2018**

JOB DESCRIPTION Carpenter **DISTRICT 8**

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES
Per hour: 07/01/2018

Building
Millwright \$ 52.70

SUPPLEMENTAL BENEFITS
Per hour:

Millwright \$ 53.16

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

HOLIDAY
Paid: See (18,19) on HOLIDAY PAGE.

Overtime See (5,6,8,11,13,18,19,25) on HOLIDAY PAGE.

REGISTERED APPRENTICES
Wages per hour:

One (1) year terms:

| 1st. | 2nd. | 3rd. | 4th. |
|---------|---------|---------|---------|
| \$28.33 | \$33.48 | \$38.63 | \$48.93 |

Supplemental benefits per hour:

One (1) year terms:

| 1st. | 2nd. | 3rd. | 4th. |
|---------|---------|---------|---------|
| \$34.23 | \$37.83 | \$42.08 | \$48.64 |

8-740.1

Carpenter **10/01/2018**

JOB DESCRIPTION Carpenter **DISTRICT 8**

ENTIRE COUNTIES
Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES
Per Hour:

07/01/2018

Timberman \$ 49.10

SUPPLEMENTAL BENEFITS
Per Hour:

07/01/2018

\$ 49.92

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

HOLIDAY
Paid: See (1) on HOLIDAY PAGE.

Paid: for 1st & 2nd yr.
 Apprentices See (5,6,11,13,25)

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

REGISTERED APPRENTICES

Wages per hour:

One (1) year terms:

| | 1st | 2nd | 3rd | 4th |
|--|---------|---------|---------|---------|
| | \$19.64 | \$24.55 | \$31.92 | \$39.28 |

Supplemental benefits per hour:
 All terms \$ 33.14

8-1556 Tm

Carpenter **10/01/2018**

JOB DESCRIPTION Carpenter **DISTRICT 8**

ENTIRE COUNTIES
 Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Westchester

PARTIAL COUNTIES
 Orange: South of but including the following, Waterloo Mills, Slate Hill, New Hampton, Goshen, Blooming Grove, Mountainville, east to the Hudson River.
 Putnam: South of but including the following, Cold Spring, TompkinsCorner, Mahopac, Croton Falls, east to Connecticut border.
 Suffolk: West of Port Jefferson and Patchogue Road to Route 112 to the Atlantic Ocean.

WAGES
 Per hour: 07/01/2018

Core Drilling:
 Driller \$ 39.69

Driller Helper 31.62

Note: Hazardous Waste Pay Differential:
 For Level C, an additional 10% above wage rate per hour
 For Level B, an additional 10% above wage rate per hour
 For Level A, an additional 10% above wage rate per hour
 Note: When required to work on water: an additional \$ 0.50 per hour.

SUPPLEMENTAL BENEFITS
 Per hour: 07/01/2018

Driller and Helper \$ 25.45

OVERTIME PAY
 OVERTIME: See (B,E,K*,P,R**) on OVERTIME PAGE.

HOLIDAY
 Paid: See (5,6) on HOLIDAY PAGE.
 Overtime: * See (5,6) on HOLIDAY PAGE.
 ** See (8,10,11,13) on HOLIDAY PAGE.

8-1536-CoreDriller

Carpenter - Building / Heavy&Highway **10/01/2018**

JOB DESCRIPTION Carpenter - Building / Heavy&Highway **DISTRICT 4**

ENTIRE COUNTIES
 Nassau, Suffolk

WAGES
 Per Hour: 07/01/2018
 Carpenter (Building) \$ 49.38
 Carpenter (Heavy Highway) \$ 49.38

"NOTE" ADD 15% to straight time hourly wage for NEW YORK STATE D.O.T. and other GOVERNMENTAL MANDATED Off-Shift Work.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday, with one-half (1/2) hour allowed for a lunch period.

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:

Both Carpenter
 Categories \$ 32.11

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

One(1) Year Terms at the following:

Per Hour:

| | | | |
|----------|----------|----------|----------|
| 1st | 2nd | 3rd | 4th |
| \$ 23.73 | \$ 27.86 | \$ 29.93 | \$ 34.06 |

Supplemental Benefits

Per Hour:

All Terms: \$ 18.10

4-Reg.Council Nass/Suff

Electrician **10/01/2018**

JOB DESCRIPTION Electrician

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

| | | |
|--|------------|------------|
| Per Hour: | 07/01/2018 | 04/27/2019 |
| Telephone and Intergrated Tele-Data System Electrician | \$ 37.48 | \$ 37.83 |

This rate classification applies to ALL Voice, Data & Video work.: Excluding Fire Alarm Systems and Energy Managment Systems (HVAC Controls), in those cases the regular Electrician rate applies. To ensure proper use of this rate please call Nassau Offices at (516)228-3912 or Suffolk Offices at (631)687-4882.

SUPPLEMENTAL BENEFITS

Per Hour:

| | | |
|--------------------------|---|---|
| Tele-Data Electrician | 16% of Hourly Wage Paid + \$18.49 | 16% of Hourly Wage Paid + \$19.01 |
|--------------------------|---|---|

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

OVERTIME PAY

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

HOLIDAY

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

4-25tela

Electrician **10/01/2018**

JOB DESCRIPTION Electrician

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

| Per Hour: | 07/01/2018 | 03/30/2019 |
|---------------------------------------|------------|------------|
| Electrician Electrical Maintenance | \$ 43.20 | \$ 43.70 |
| Traffic Signal | \$ 44.10 | \$ 44.60 |

"PLEASE NOTE"

Applicable to "EXISTING ELECTRICAL SYSTEMS" including, but not limited to TRAFFIC SIGNALS & STREET LIGHTING. Not used for add-ons.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday, with one-half (1/2) hour allowed for a lunch period.

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:

| | | |
|-------------|--------------------------------------|--------------------------------------|
| Electrician | 12% of Hourly Wage Paid + \$17.61 | 12% of Hourly Wage Paid + \$18.37 |
|-------------|--------------------------------------|--------------------------------------|

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

OVERTIME PAY

See (B, E2, K, P) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

One(1) Year Term(s) at the following Percentage of Journeyman(s) Wage:

| 1st | 2nd | 3rd | 4th | 5th | 6th |
|-----|-----|-----|-----|-----|-----|
| 40% | 50% | 60% | 70% | 80% | 90% |

Supplemental Benefits:

| | 07/01/2018 | 03/30/2019 |
|-----|---------------|---------------|
| 1st | 3% + \$3.50 | 3% + \$3.50 |
| 2nd | 8% + \$4.04 | 8% + \$4.04 |
| 3rd | 9% + \$5.05 | 9% + \$5.05 |
| 4th | 10% + \$ 6.81 | 10% + \$ 6.81 |
| 5th | 11% + \$10.76 | 11% + \$10.76 |
| 6th | 12% + \$13.86 | 12% + \$13.86 |

NOTE: Percentages are on "Hourly Wage Paid"

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

4-25m

Electrician

10/01/2018

JOB DESCRIPTION Electrician

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

| | |
|----------------------------|------------|
| Per Hour: | 07/01/2018 |
| Electrician Pump & Tank | \$ 41.65 |

SUPPLEMENTAL BENEFITS

Per Hour:

| | |
|----------------------------|--------|
| Electrician Pump & Tank | 65.25% |
|----------------------------|--------|

of *Wage
 Paid

*Wage Paid includes any and all Premiums

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

1 Year Terms at the Following:

Per Hour:

| | |
|----------|----------|
| 1st Term | \$ 12.50 |
| 2nd Term | \$ 14.58 |
| 3rd Term | \$ 16.66 |
| 4th Term | \$ 18.74 |
| 5th Term | \$ 24.99 |
| 6th Term | \$ 29.16 |

SUPPLEMENTAL BENEFITS

Per Hour:

| | |
|-----------|----------|
| All Terms | 65.25% |
| | of *Wage |
| | Paid |

*Wage Paid includes any and all Premiums

4-25 Pump & Tank

Electrician **10/01/2018**

JOB DESCRIPTION Electrician

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

| | | |
|---------------------|------------|------------|
| Per Hour: | 07/01/2018 | 10/27/2018 |
| Electrician/Wireman | \$ 51.75 | \$ 52.00 |
| HVAC Controls | 51.75 | 52.00 |
| Fire Alarms | 51.75 | 52.00 |

SUPPLEMENTAL BENEFITS

| | | |
|---|--------------------------------------|--------------------------------------|
| Per Hour: | 07/01/2018 | 10/27/2018 |
| Electrician/Wireman (all categories) | 16% of Hourly Wage Paid + \$25.26 | 16% of Hourly Wage Paid + \$25.83 |

NOTE: "Hourly Wage Paid" shall include any and all premium[s]

OVERTIME PAY

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

HOLIDAY

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

REGISTERED APPRENTICES

One(1) Year Terms at the following Percentage of Journeyman(s) Wage:

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th |
| 35% | 35% | 40% | 45% | 60% | 75% |

Supplemental Benefits Per Hour:

07/01/2018

10/27/2018

| | | |
|-----|---------------|---------------|
| 1st | 3% + \$2.71 | 3% + \$2.71 |
| 2nd | 8% + \$4.68 | 8% + \$4.68 |
| 3rd | 9% + \$5.85 | 9% + \$5.85 |
| 4th | 10% + \$7.99 | 10% + \$7.99 |
| 5th | 13% + \$10.82 | 13% + \$10.82 |
| 6th | 14% + \$17.08 | 14% + \$17.08 |

NOTE: Percentages are on "Hourly Wage Paid"
 NOTE: "Hourly Wage Paid" shall include any and all premium(s).

4-25

Electrician **10/01/2018**

JOB DESCRIPTION Electrician **DISTRICT 4**

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour: 07/01/2018

Tree Trimmer/Remover
 Line Clearance Specialist \$ 32.72

Groundman* \$19.63

These rates apply to all tree trimming/removal contracts including but not limited to "Electrical Line Clearance"/"Long Island Railroad Right of Ways".

All tree removal for heavy highway or building construction contracts MUST use Heavy Highway Laborer and Operating Engineer classifications.

* Note: Groundman is not to exceed 20% of the total company workforce

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2018

Tree Trimmer/Remover
 Line Clearance Specialist
 and Groundman 19.75% of Hourly
 Wage Paid +
 \$9.82

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

OVERTIME PAY

See (B, E, P, S) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 8, 16, 23, 24, 25, 26) on HOLIDAY PAGE
 Overtime: See (5, 6, 8, 16, 23, 24, 25, 26) on HOLIDAY PAGE

4-1049/Tree

Electrician Lineman **10/01/2018**

JOB DESCRIPTION Electrician Lineman **DISTRICT 4**

ENTIRE COUNTIES

Nassau, Queens, Suffolk

WAGES

For Utility Distribution & Transmission Line Construction:
 Per Hour: 07/01/2018 04/01/2019

| | | |
|-----------------------|----------|----------|
| Lineman/Splicer | \$ 55.60 | \$ 57.41 |
| Material Man | 48.37 | 49.95 |
| Heavy Equip. Operator | 44.48 | 45.93 |
| Groundman | 33.36 | 34.45 |
| Flagman | 25.02 | 25.83 |

For Natural Gasline Construction:
 Per Hour: 07/01/2018 06/01/2019
 Journeyman U.G.Mech. \$ 46.99 \$48.52

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday.

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:

Utility Distribution & Transmission Line Construction:

| | | |
|---------------------|--|--|
| | 07/01/2018 | 04/01/2019 |
| All Classifications | 32% of Hourly Wage Paid + \$ 12.43 | 32% of Hourly Wage Paid + \$ 13.09 |

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

Natural Gasline Construction:

| | | |
|----------------------|---|---|
| Per Hour: | 07/01/2018 | 06/01/2019 |
| Journeyman U.G.Mech. | 26.0% of Hourly Wage Paid + \$12.62 | 27% of Hourly Wage Paid + \$13.28 |

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

OVERTIME for Natural Gas Mechanic:(B,G,P)

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 8, 16, 23, 25, 26) on HOLIDAY PAGE
 Same as Above for Natural Gas Mechanic.

REGISTERED APPRENTICES

1000 hour Terms at the following Percentage of Journeyman's Wage.
 (Lineman Only)

| | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th |
| 60% | 65% | 70% | 75% | 80% | 85% | 90% |

| | | |
|-----------------------|---|---|
| SUPPLEMENTAL BENEFIT: | 07/01/2018 | 04/01/2019 |
| All Terms | 31% of Hourly Wage Paid + \$12.43 | 31% of Hourly Wage Paid + \$13.09 |

4-1049 Line/Gas

Elevator Constructor **10/01/2018**

JOB DESCRIPTION Elevator Constructor

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

PARTIAL COUNTIES

Rockland: Entire County except for the Township of Stony Point
 Westchester: Entire County except for the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

WAGES

| | |
|-----------------------------------|------------|
| Per hour: | 07/01/2018 |
| Elevator Constructor | \$ 64.48 |
| Modernization & Service/Repair | 50.49 |

SUPPLEMENTAL BENEFITS

Per Hour:

| | |
|--------------------------------|-----------|
| Elevator Constructor | \$ 39.922 |
| Modernization & Service/Repair | 38.966 |

OVERTIME PAY

Constructor. See (D, M, T) on OVERTIME PAGE.

Modern./Service See (B, F, S) on OVERTIME PAGE.

HOLIDAY

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

REGISTERED APPRENTICES

WAGES PER HOUR:

*Note:1st Term is based on Average wage of Constructor & Modernization.
 Terms 2 thru 4 Based on Journeyman's wage of classification Working in.

1 YEAR TERMS:

| | | | |
|-----------|----------|----------|----------|
| 1st Term* | 2nd Term | 3rd Term | 4th Term |
| 50% | 55% | 65% | 75% |

SUPPLEMENTAL BENEFITS

| | |
|----------------------|----------|
| Elevator Constructor | |
| 1st Term | \$ 32.04 |
| 2nd Term | 32.80 |
| 3rd Term | 34.038 |
| 4th Term | 35.277 |

| | |
|--------------------------------|-----------|
| Modernization & Service/Repair | |
| 1st Term | \$ 31.965 |
| 2nd Term | 32.406 |
| 3rd Term | 33.578 |
| 4th Term | 34.745 |

4-1

| | |
|----------------|-------------------|
| Glazier | 10/01/2018 |
|----------------|-------------------|

JOB DESCRIPTION Glazier

DISTRICT 8

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 |
| Glazier | \$ 54.75 | + additional |
| *Scaffolding | 55.75 | \$ 1.25 |
| Glass Tinting & Window Film | 28.16 | |
| **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: | |
| Journeyworker | \$ 32.39 |
| Glass tinting & Window Film | 18.64 |
| Repair & Maintenance | 18.64 |

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:

| | 07/01/2018 | 11/01/2018 |
|----------|------------|------------|
| 1st term | \$ 18.54 | TBD |
| 2nd term | 26.84 | |
| 3rd term | 32.45 | |
| 4th term | 43.57 | |

Supplemental Benefits:

(Per hour)

| | |
|----------|----------|
| 1st term | \$ 15.76 |
| 2nd term | 21.61 |
| 3rd term | 23.81 |
| 4th term | 27.96 |

8-1281 (DC9 NYC)

Insulator - Heat & Frost

10/01/2018

JOB DESCRIPTION Insulator - Heat & Frost

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

| Per Hour: | 07/01/2018 | 01/01/2019 |
|----------------------------|------------|--------------------------------------|
| Insulators Heat & Frost | \$ 67.11 | Additional \$1.25 to be allocated |

SUPPLEMENTAL BENEFITS

Per Hour:

| | |
|----------------------------|----------|
| Insulators Heat & Frost | \$ 33.56 |
|----------------------------|----------|

OVERTIME PAY

See (*C, **O, V) on OVERTIME PAGE

* 8th Hour paid at time and one half

** Triple time for Labor Day (If worked)

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages:

1 year terms Per Hour:

| Hired prior to 08/21/2017 | 1st | 2nd | 3rd | 4th |
|---------------------------|---------|---------|---------|---------|
| | \$26.84 | \$33.55 | \$40.27 | \$50.33 |
| Hired after 8/21/2017 | \$23.49 | \$30.20 | \$36.91 | \$43.62 |

Supplemental Benefits:

| | | | | |
|---------------------------|---------|---------|---------|---------|
| Hired prior to 08/21/2017 | \$13.42 | \$16.78 | \$20.14 | \$25.17 |
| Hired after 08/21/2017 | | | | |

\$11.75 \$15.10 \$18.45 \$21.81

4-12

Ironworker **10/01/2018**

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

PARTIAL COUNTIES

Rockland: Southern section - south of Convent Road and east of Blue Hills Road.

WAGES

| | | |
|-----------------------------|------------|--------------------------------|
| Per hour: | 07/01/2018 | 07/01/2019 |
| Reinforcing & Metal Lathing | \$ 56.28 | \$ 2.00/Hr. to be Allocated |
| "Basic" Wage | \$ 54.65** | |

**Overtime to be calculated on "Basic" wage

SUPPLEMENTAL BENEFITS

Per hour:

| | |
|-----------------------------|----------|
| Reinforcing & Metal Lathing | \$ 35.30 |
|-----------------------------|----------|

OVERTIME PAY

See (B, E, Q, *X) on OVERTIME PAGE

*Only \$22.00 per Hour for non worked hours

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 11, 13, 18, 19, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following wage rates:

Wages Per Hour:

| | | | |
|----------|----------|----------|----------|
| 1st term | 2nd term | 3rd term | 4th Term |
| \$ 26.38 | \$ 30.38 | \$ 35.38 | \$ 37.38 |

SUPPLEMENTAL BENEFITS

Per Hour:

| | | | |
|----------|----------|----------|----------|
| 1st term | 2nd term | 3rd term | 4th Term |
| \$ 15.37 | \$ 17.37 | \$ 19.33 | \$ 20.33 |

4-46Reinf

Ironworker **10/01/2018**

JOB DESCRIPTION Ironworker

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

| | |
|-----------------------------|------------|
| Per Hour: | 07/01/2018 |
| Ironworker Rigger | \$ 62.84 |
| Ironworker Stone Derrickman | \$ 62.84 |

SUPPLEMENTAL BENEFITS

Per hour:

| | |
|--|----------|
| | \$ 39.79 |
|--|----------|

OVERTIME PAY

See (B, D1, *E, Q, **V) on OVERTIME PAGE

*Time and one-half shall be paid for all work on Saturday up to eight (8) hours and double time shall be paid for all work thereafter.

** Benefits same premium as wages on Holidays only

HOLIDAY

Paid: See (18) on HOLIDAY PAGE
 Overtime: See (5, 6, 8, 25) on HOLIDAY PAGE

*Work stops at schedule lunch break with full day's pay.

REGISTERED APPRENTICES

Wage per hour:

1/2 year terms at the following hourly wage rate:

| | 1st | 2nd | 3rd | 4th | 5th | 6th |
|------------|---------|---------|---------|---------|---------|---------|
| 07/01/2018 | \$31.42 | \$31.42 | \$44.54 | \$43.07 | \$54.41 | \$54.41 |

Supplemental benefits:

| | | | | | | |
|-----------|---------|---------|---------|---------|---------|---------|
| Per hour: | \$19.97 | \$19.97 | \$30.02 | \$30.02 | \$30.02 | \$30.02 |
|-----------|---------|---------|---------|---------|---------|---------|

9-197D/R

Ironworker

10/01/2018

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

| Per Hour: | 07/01/2018 | 01/01/2019 |
|------------------|------------|-----------------|
| Ornamental | \$44.65 | \$1.25/hr. |
| Chain Link Fence | 44.65 | to be Allocated |
| Guide Rail | 44.65 | |

SUPPLEMENTAL BENEFITS

| | |
|----------------|----------|
| Per hour: | |
| Journeyworker: | \$ 54.05 |

OVERTIME PAY

See (B, B1, E2, Q, V) on OVERTIME PAGE

HOLIDAY

| | |
|-----------|--------------------------------|
| Paid: | See (1) on HOLIDAY PAGE |
| Overtime: | See (5, 6, 25) on HOLIDAY PAGE |

REGISTERED APPRENTICES

1st term represents first 1-10 months, thereafter (1/2) year terms at the following percentage of Journeyman's wage.

| 1st | 2nd | 3rd | 4th | 5th |
|-----|-----|-----|-----|-----|
| 50% | 55% | 60% | 70% | 80% |

Supplemental Benefits per hour:

| | |
|----------|----------|
| 1st Term | \$ 41.37 |
| 2nd Term | 42.67 |
| 3rd Term | 43.91 |
| 4th Term | 46.44 |
| 5th Term | 48.98 |

4-580-Or

Ironworker

10/01/2018

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

| PER HOUR: | 07/01/2018 | 01/01/2019 | 07/01/2019 |
|-------------|------------|-----------------|-----------------|
| Ironworker: | | Additional | Additional |
| Structural | \$ 50.70 | \$1.82/Hr. | \$1.93/Hr. |
| Bridges | | to be allocated | to be allocated |
| Machinery | | | |

SUPPLEMENTAL BENEFITS

| | |
|------------|----------|
| PER HOUR: | |
| Journeyman | \$ 73.93 |

OVERTIME PAY

See (B, B1, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 18, 19) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES PER HOUR:

6 month terms at the following rate:

| | |
|-----------|----------|
| 1st | \$ 26.44 |
| 2nd | 27.04 |
| 3rd - 6th | 27.65 |

Supplemental Benefits

PER HOUR:

| | |
|-----------|-------|
| All Terms | 52.68 |
|-----------|-------|

4-40/361-Str

Laborer - Building

10/01/2018

JOB DESCRIPTION Laborer - Building

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

WAGES

Per Hour: 07/01/2018

Building Laborer \$ 39.40

Asbestos Abatement Workers 36.00
 (Re-Roofing Removal see Roofer)

SUPPLEMENTAL BENEFITS

Per Hour:

Building Laborer \$ 29.56
 Asbestos Abatement Worker 16.45

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE
 See also(H)for Fire Watch on OVERTIME PAGE
 Asbestos Worker See (B, H)

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 25) on HOLIDAY PAGE
 Asbestos Worker see (5,6,8 & 28)

REGISTERED APPRENTICES

Regular Hours Work Terms

| | |
|---------|--------------------|
| Term #1 | 1 hr to 1000hrs |
| Term #2 | 1001hrs to 2000hrs |
| Term #3 | 2001hrs to 3000hrs |
| Term #4 | 3001hrs to 4000hrs |

Wages per hour:

| | |
|----------|----------|
| 1st Term | \$ 17.46 |
| 2nd Term | 20.55 |
| 3rd Term | 25.43 |
| 4th Term | 30.41 |

Benefits per hour

| | |
|----------|----------|
| 1st Term | \$ 19.65 |
| 2nd Term | 22.44 |
| 3rd Term | 22.44 |
| 4th Term | 22.44 |

Laborer - Heavy&Highway **10/01/2018**

JOB DESCRIPTION Laborer - Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Laborer (Heavy/Highway):

GROUP # 1: Asphalt Rakers, Concrete Curb Formsetters.

GROUP # 2: Asphalt Shovelers, Roller Boys and Tampers.

GROUP # 3: Basic Laborer, Power Tool(Jackhammer), Landscape Construction, Traffic Control Personnel(flaggers)

WAGES PER HOUR:

| | 07/01/2018 | 06/01/2019 |
|-----------------|------------|------------|
| GROUP # 1 | | |
| Total Wage Paid | \$ 51.43 | Additional |
| "Base Wage" | 44.68 | \$ 2.45 |
| GROUP # 2 | | |
| Total Wage Paid | \$ 50.11 | Additional |
| "Base Wage" | 43.36 | \$ 2.45 |
| GROUP # 3 | | |
| Total Wage Paid | \$ 46.10 | Additional |
| "Base Wage" | 39.35 | \$ 2.29 |

NOTE: "Base Wage" for Premium/Overtime calculation Only. \$6.75 is difference between "Base" and "Total"

SUPPLEMENTAL BENEFITS

Per Hour:

ALL GROUPS \$ 29.87

After Forty (40)paid hours in a work week

OVERTIME PAY \$ 18.74

OVERTIME PAY

OVERTIME PAY

See (B, E2, F) on OVERTIME PAGE

NOTES: Premium/Overtime Pay to be calculated on "Base Wage" ONLY

Example Group# 3: \$39.35 X Time and One Half = \$59.02 + \$6.75 = \$65.77

Premium Pay of 30% of base wage for all Straight time hours on all New York State, D.O.T. and other Government Mandated Off-Shift Work.

Hazardous Material Work add an Additional 10% of base wage

HOLIDAY

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (1) on HOLIDAY PAGE

REGISTERED APPRENTICES

1000 hour(s) Terms at the following Percentage of the "Base Wage" except

4th Term calculate at Total Wage Paid.

| | |
|--------------------|-----|
| 1st 0-1000/Hrs. | 60% |
| 2nd 1001-2000/Hrs. | 70% |
| 3rd 2001-3000/Hrs. | 80% |
| 4th 3001-4000/Hrs. | 90% |

Supplemental Benefits per hour:

| | |
|---|----------|
| All APPRENTICES | \$ 29.87 |
| After Forty(40) paid hours in a work Week | \$ 18.74 |

4-1298

Mason **10/01/2018**

JOB DESCRIPTION Mason

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour: 07/01/2018

Brick/Blocklayer \$ 61.12

SUPPLEMENTAL BENEFITS

Per Hour:

Brick/Block Layer \$ 27.30

OVERTIME PAY

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

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

REGISTERED APPRENTICES

(800 hour) Terms at the following Percentage of Journeyworkers Wage:

| | | | | |
|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th |
| 50% | 60% | 70% | 80% | 90% |

Supplemental Benefits per hour:

All Apprentices \$ 16.90

4-1Brk

Mason - Building

10/01/2018

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2018

Tile Finisher \$ 43.36

SUPPLEMENTAL BENEFITS

Per Hour: \$ 28.99

OVERTIME PAY

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

Work beyond 10 hours on a Saturday shall be paid at double the hourly wage rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

9-7/88A-tf

Mason - Building

10/01/2018

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Building: 07/01/2018

Wages per hour:

Mosaic & Terrazzo Mechanic \$ 52.46

Mosaic & Terrazzo Finisher \$ 50.86

SUPPLEMENTAL BENEFITS

Per hour:
Mosaic & Terrazzo Mechanic \$ 34.06
Mosaic & Terrazzo Finisher \$ 34.04

OVERTIME PAY

See (A, *E, Q) on OVERTIME PAGE

HOLIDAY

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

Easter Sunday is an observed holiday. Holidays falling on a Saturday will be observed on that Saturday. Holidays falling on a Sunday will be celebrated on the Monday.

REGISTERED APPRENTICES

Wages per hour:
 (750 Hour) terms at the following wage rate.

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|------------|----------|----------|----------|----------|----------|----------|----------|----------|
| 07/01/2018 | \$ 26.23 | \$ 28.85 | \$ 31.48 | \$ 34.10 | \$ 36.72 | \$ 39.35 | \$ 44.59 | \$ 49.84 |

Supplemental benefits per hour:

| | | | | | | | | |
|------------|----------|----------|----------|----------|----------|----------|----------|-------------------|
| 07/01/2018 | \$ 17.05 | \$ 18.74 | \$ 20.43 | \$ 22.15 | \$ 23.85 | \$ 25.55 | \$ 28.96 | \$ 32.37 9-7/3 |
|------------|----------|----------|----------|----------|----------|----------|----------|-------------------|

Mason - Building **10/01/2018**

JOB DESCRIPTION Mason - Building **DISTRICT 9**

ENTIRE COUNTIES
 Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES
 Per hour: 07/01/2018

Building-Marble Restoration:

Marble, Stone &
 Terrazzo Polisher, etc \$ 40.99

SUPPLEMENTAL BENEFITS

Per Hour:
 Journeyworker:

Building-Marble Restoration:
 Marble, Stone &
 Polisher \$ 26.59

OVERTIME PAY
 See (B, *E, Q, V) on OVERTIME PAGE
 *ON SATURDAYS, 8TH HOUR AND SUCCESSIVE HOURS PAID AT DOUBLE HOURLY RATE.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 8, 11, 15, 25) on HOLIDAY PAGE
 1ST TERM APPRENTICE GETS PAID FOR ALL OBSERVED HOLIDAYS.

REGISTERED APPRENTICES

WAGES per hour:

2701 hour term at the following wage:

| | 1st 1- 900 | 2nd 901- 1800 | 3rd 1801- 2700 | 4th 2701 |
|------------|------------------|---------------------|----------------------|-------------|
| 07/01/2018 | \$28.63 | \$32.75 | \$36.87 | \$40.99 |

Supplemental Benefits Per Hour:

| | | | | | |
|------------|----------|----------|----------|----------|-----------|
| 07/01/2018 | \$ 24.24 | \$ 25.02 | \$ 25.81 | \$ 26.59 | 9-7/24-MP |
|------------|----------|----------|----------|----------|-----------|

Mason - Building **10/01/2018**

JOB DESCRIPTION Mason - Building **DISTRICT 9**

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:

Journeyworker \$ 36.12

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.

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
|-----------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1-750 | 751-1500 | 1501-2250 | 2251-3000 | 3001-3750 | 3751-4500 | 4501-5250 | 5251-6000 | 6001-6751 | 6751-7500 |
| 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:

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------------|
| \$25.69 | \$26.55 | \$27.44 | \$28.30 | \$29.16 | \$30.03 | \$30.91 | \$31.77 | \$33.50 | \$35.26 9-7/4 |

Mason - Building

10/01/2018

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour: 07/01/2018

Marble, Stone, etc.
 Maintenance Finishers: \$ 22.77

Note 1: An additional \$2.00 per hour for time spent grinding floor using "60 grit" and below.

Note 2: Flaming equipment operator shall be paid an additional \$25.00 per day.

SUPPLEMENTAL BENEFITS

Per Hour:

Marble, Stone, etc
 Maintenance Finishers: \$ 13.24

OVERTIME PAY

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

*Double hourly rate after 8 hours on Saturday

HOLIDAY

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

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

1st term apprentice gets paid for all observed holidays.

REGISTERED APPRENTICES

WAGES per hour:
 (750 hour)terms at the 07/01/2018
 following percentage
 of journeyman's wage

rate:

| | |
|----------|---------|
| 1st term | \$15.90 |
| 2nd term | \$16.82 |
| 3rd term | \$17.73 |
| 4th term | \$18.65 |
| 5th term | \$20.02 |
| 6th term | \$21.85 |
| 7th term | \$22.77 |

Supplemental Benefits:
 Per hour:

| | |
|----------|----------|
| 1st term | \$ 13.14 |
| 2nd term | \$ 13.15 |
| 3rd term | \$ 13.17 |
| 4th term | \$ 13.18 |
| 5th term | \$ 13.20 |
| 6th term | \$ 13.20 |
| 7th term | \$ 13.24 |

9-7/24M-MF

Mason - Building

10/01/2018

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2018

Tile Setters \$ 56.13

SUPPLEMENTAL BENEFITS

Per Hour: \$ 33.29

OVERTIME PAY

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

* This portion of benefits subject to same premium rate as shown for overtime wages.

Work beyond 10 hours on Saturday shall be paid at double the hourly wage rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

REGISTERED APPRENTICES

Wage per hour:

Tile Setters:

(750 hour) term at the following wage rate:

| Term: | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|-------|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 1-750 | 751-1500 | 1501-2250 | 2251-3000 | 3001-3750 | 3751-4500 | 4501-5250 | 5251-6000 |
| | \$29.13 | \$33.57 | \$36.69 | \$40.13 | \$43.77 | \$47.22 | \$50.15 | \$53.93 |

Supplemental Benefits per hour:

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|----------|----------|----------|----------|----------|----------|----------|----------|
| \$ 15.70 | \$ 15.75 | \$ 17.70 | \$ 18.15 | \$ 18.98 | \$ 20.03 | \$ 21.57 | \$ 26.76 |

9-7/52A

Mason - Building / Heavy&Highway

10/01/2018

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

NOTE: Shall include but not limited to Precast concrete slabs (London Walks)Marble and Granite pavers 2'x 2' or larger.

Per Hour:

07/01/2018

Stone Setter \$ 64.42

Stone Tender \$ 44.89

SUPPLEMENTAL BENEFITS

Per Hour:

Stone Setter \$ 33.30

Stone Tender \$ 19.40

OVERTIME PAY

See (*C, **E, Q) on OVERTIME PAGE

* On weekdays the eighth (8th) and ninth (9th) hours are time and one-half all work thereafter is paid at double the hourly rate.

** The first nine (9) hours on Saturday is paid at time and one-half all work thereafter is paid at double the hourly rate.

HOLIDAY

Paid: See (*18) on HOLIDAY PAGE

Overtime: See (5, 6, 10) on HOLIDAY PAGE

Paid: *Must work first 1/2.

REGISTERED APPRENTICES

Per Hour:

Stone Setter(800 hour) terms at the following Percentage of Stone Setters wage rate per hour:

| 1st | 2nd | 3rd | 4th | 5th | 6th |
|-----|-----|-----|-----|-----|------|
| 50% | 60% | 70% | 80% | 90% | 100% |

Supplemental Benefits:

All Apprentices \$ 20.44

4-1Stn

Mason - Building / Heavy&Highway

10/01/2018

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk, Westchester

WAGES

Per hour: 07/01/2018

Marble-Finisher \$ 46.76

SUPPLEMENTAL BENEFITS

Journeyworker:
per hour

Marble- Finisher \$ 33.93

OVERTIME PAY

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

HOLIDAY

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

* Work beyond 8 hours on a Saturday shall be paid at double the rate.

** When an observed holiday falls on a Sunday, it will be observed the next day.

9-7/20-MF

Mason - Building / Heavy&Highway

10/01/2018

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour: 07/01/2018
 Cement Mason \$ 51.97

SUPPLEMENTAL BENEFITS

Per Hour:

Cement Mason \$ 33.71
 Overtime Rate* \$ 54.42

OVERTIME PAY

See (*B1, Q, V) on OVERTIME PAGE

* Applies to 9th and 10th hours and up to the 10th hour on Saturday

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 8, 11, 13, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following Percentage of Journeyworkers Wage.

1st Term 50%
 2nd Term 60%
 3rd Term 70%

Supplement Benefits per hour paid:

1st Term \$ 16.86 OT Rate \$ 27.22
 2nd Term \$ 20.23 OT Rate \$ 32.66
 3rd Term \$ 23.60 OT Rate \$ 38.10

4-780

Mason - Heavy&Highway

10/01/2018

JOB DESCRIPTION Mason - Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour: 07/01/2018

Pointer, Caulkers & Cleaners \$ 53.67

SUPPLEMENTAL BENEFITS

Per Hour:

Pointer, Cleaners & Caulkers \$ 27.14

OVERTIME PAY

See (B, E2, H) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

One (1) year terms at the following wage rates.

| | | | | |
|--|----------|----------|----------|----------|
| | 1st | 2nd | 3rd | 4th |
| | \$ 26.36 | \$ 29.42 | \$ 34.80 | \$ 41.93 |

Apprentices Supplemental Benefits:
 (per hour paid)

| | | | | |
|--|----------|----------|----------|----------|
| | \$ 14.30 | \$ 18.24 | \$ 20.99 | \$ 21.99 |
|--|----------|----------|----------|----------|

4-1PCC

Operating Engineer - Building

10/01/2018

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

BUILDING CATEGORIES:

CLASS "AA "CRANES:

ABI Machine (150,000lbs and over or 149,999lbs and under when driving steel sheet piles),Crane, Truck Crane, Derrick, Dragline, Dredge, Crawler Crane, Tower Crane & Pile Driver, Vertical Drill Rig (115,000lbs and over and 114,999lbs and under).

CLASS "A":

ABI Machine (149,999 and under used for augering and drilling), Asphalt Spreader, Backhoe Crawler(360 swing), Barrier Machine, CAP (ice machine), Cherrypicker CAP (over 70 tons), CMI or Maxim Spreader, Concrete Pump, Directional Boring, GradAll, Grader, Hydraulic Cherrypicker/Crane (2seats), Hoist (3drum or multi platform), Laser Screed, Loading Machine (Bucket/CAP 10yrds or more), Milling Machine (Large), Pipeline Welder, Plant Engineer, Power Winch (stone setting/structural steel), Powerhouse, Scoop Carry-All Scraper (in tandem), Sideboom Tractor (includes tank work), Track Alignment Machine, Stone Spreader (self propelled), Striping Machine (long line/truck mounted), Tree Grapple, Zamboni.

CLASS "B":

Backhoe (other than 360), Belt Screte, Boom Truck, Bulldozer, Boring Machine/Auger, Cherry Picker(under 70 Tons), Conveyor-Multi, Curb Machine (asphalt or concrete), Dinky Locomotive, Drill Rig (dowels)Fork Lift, Hoist (2 Drum), Loading Machine & Front End Loader, Mechanical Compactors (machine drawn), Mulch Machine(Machine Fed), Post Hole/Auger, Power Wincher (Not Included in Class "A"), Asphalt Roller, Hydraulic Pump with Boring Machine, Scoop, Carryall/Scaper, Skid Loader/Skid Steer/Bobcat, Trenching Machine, Vermeer Cutter, Work Boat, Inspection/Safety Boat.

CLASS "C":

Concrete Finish/Saw/Spreader, Dirt Roller, Hoist (1 drum), Interior Hoist, Milling Machine (small), Oiler Truck Crane (pile work), Power Broom, Vactor Truck, VacAll.

CLASS "D":

Boiler (thermoplastic), Concrete Breaker, Conveyer, Curing Machine, Fork Lift or Walk Behind (power operated), Generator, Hydra Hammer, Compactors (mechanical or hand operated), Maintenance Engineer (small equipment/well point/welding & burning), Mechanic (field man), Micro-Trap with Compressor, Oiler (Truck Crane Boom 100ft or more) Power Winch Truck Mounted (Stone Setter/Struct.Steel), Pin Puller, Portable Heaters, Power Buggies, Pump (double action diaphragm), Pump (4 inch or over), Pump (hydraulic/submersible) Jet Pump, Pulvi-Mixer, Ridge Cutter, Shot Blaster.

CLASS "E":

Batching Plant, Compressor (structural steel/2 or more battery), Generator (small), Grinder, Ground Heater, Power Grinder, Mixer with Skip, Mulching Machine (hand fed), Oiler, Pipeline Welder Helper, Power Washer, Pumps (up to 3 inch/single action 1 to 3 inches), Pump (gypsum), Root Cutter, Stump Chipper, Track Tamper, Tractor (caterpillar or wheel), Trenching Machine (hand), Welding Machine (pile work/structural steel), Deckhand on Work/Inspection/Safety Boat.

07/01/2018

Class "AA" \$ 75.40
 Cranes: Boom length over 100 feet add \$ 1.00 per hour
 " " " 150 " " \$ 1.50 " "
 " " " 250 " " \$ 2.00 " "
 " " " 350 " " \$ 3.00 " "

Class "A" \$ 62.53
 Add \$3.50 for Hazardous Waste Work

Class "B" \$ 59.27
 Add \$2.50 for Hazardous Waste Work

Class "C" \$ 57.09
 Add \$1.50 for Hazardous Waste Work

Class "D" \$ 42.98
 Add \$1.00 for Hazardous Waste Work

Class "E" \$ 41.03

SUPPLEMENTAL BENEFITS

Per Hour:

All Classes \$ 37.80

Overtime Rate 32.35

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY

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

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

"NOTE" Employee must be Employed day before
 and day after Holiday to receive Holiday Pay.

REGISTERED APPRENTICES

One(1) Year Terms at the following Rate:

| | |
|----------|----------|
| 1st Term | \$ 21.94 |
| 2nd Term | 22.80 |
| 3rd Term | 23.48 |

Supplemental Benefits per hour:

| | |
|-----------------|----------|
| All Apprentices | \$ 15.64 |
| Overtime Rate | 5.60 |

4-138

Operating Engineer - Building / Heavy&Highway

10/01/2018

JOB DESCRIPTION Operating Engineer - Building / Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour: 07/01/2018 08/01/2018

Well Driller \$ 36.07 \$ 37.33

Well Driller Helper \$ 31.39 \$ 32.49

Hazardous Waste Differential
 Added to Hourly Wage:

| | | |
|---------|---------|--------|
| Level A | \$ 3.00 | \$3.00 |
| Level B | 2.00 | 2.00 |
| Level C | 1.00 | 1.00 |

Monitoring Well Work
 Add to Hourly Wage:

| | | |
|---------|---------|--------|
| Level A | \$ 3.00 | \$3.00 |
| Level B | 2.00 | 2.00 |

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2018 08/01/2018

Well Driller & Helper 10% of straight time rate plus \$ 12.20 10% of straight time rate plus \$ 12.20

Additional \$ 4.00 for Premium Time

OVERTIME PAY

See (B, E, G, P) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 16, 23) on HOLIDAY PAGE

Overtime: See (5, 6, 16, 23) on HOLIDAY PAGE

REGISTERED APPRENTICES

Apprentices at 12 Month Terms

Wages Per Hour: 07/01/2018 08/01/2018

| | | |
|----------|----------|---------|
| 1st Term | \$ 21.94 | \$21.94 |
| 2nd Term | \$ 22.80 | \$22.80 |
| 3rd Term | \$ 23.48 | \$23.48 |

SUPPLEMENTAL BENEFITS

Per Hour:

| | |
|----------|-----------------------|
| 1st Term | 10% of Wage + \$ 5.10 |
| 2nd Term | 10% of Wage + \$ 5.60 |
| 3rd Term | 10% of Wage + \$ 6.60 |

BENEFITS AT PREMIUM TIME

Per Hour:

| | |
|----------|-----------------------|
| 1st Term | 10% of Wage + \$ 5.85 |
| 2nd Term | 10% of Wage + \$ 6.60 |
| 3rd Term | 10% of Wage + \$ 8.10 |

4-138well

Operating Engineer - Heavy&Highway

10/01/2018

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

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 party
Categories cover GPS & Under Ground Surveying

Per Hour: 07/01/2018
Heavy Highway/Building

| | |
|----------------|----------|
| Party Chief | \$ 67.76 |
| Instrument Man | 51.66 |
| Rodman | 44.30 |

SUPPLEMENTAL BENEFITS

Per Hour:

Heavy Highway/Building \$ 34.23

Premium*:
Heavy Highway/Building \$ 43.40

Premium**:
Heavy Highway/Building \$ 52.56

* Applies to instances where 1-1/2 regular rate are paid
**Applies to instances where 2 times the rate are paid.

OVERTIME PAY

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

* Doubletime paid on the 9th hour on Saturday.

HOLIDAY

Paid: See (5, 6, 9, 11, 12, 15, 25) on HOLIDAY PAGE
Overtime: See (5, 6, 9, 11, 12, 15, 25) on HOLIDAY PAGE

4-15D-N/S co.

Operating Engineer - Heavy&Highway

10/01/2018

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

HEAVY and HIGHWAY CATEGORIES:

CLASS "AA" CRANES:

ABI Machine (150,000lbs and over), ABI Machine (149,000lbs and under driving steel sheets), Crane, Truck Crane, Derrick, Dragline, Dredge, Crawler Crane, Tower Crane, Pile Driver.

CLASS "A":

ABI Machine (149,000lbs and under for Augering or Drilling), Asphalt Spreader, Backhoe Crawler (360 Swing & over 150,000lbs), Backhoe Crawler (360 Swing & under 149,000lbs), Barrier Machine, Cherrypicker Cap (over 70 tons), CMI or Maxim Spreader, Concrete Pump, Directional Boring, Grader, Gradall, Hoist (3 drum or multi-platform), Hydraulic Cherrypicker/crane (2 seats), Loading Machine (bucket 10 yds. or more), Laser Screed, Milling Machine (Large), Pipeline Welder, Plant Engineer. Power Winch-Stone Setting/Structural Steel or Truck Mounted, Powerhouse, Scoop-Carryall-Scaper in Tandem, Side Boom Tractor, Side Boom Tractor (Tank Work), Stone Spreader(self propelled), Striping Machine (long line/truck mounted), Tree Grapple, Tank Work, Track Alignment Machine.

CLASS "B":

Backhoe (other than 360), Belt Screte, Boom Truck, Bulldozer, Boring Machine/Auger, Cherry Picker (under 70 tons), Conveter-Multi, Curb Machine Asphalt/Concrete, Dinky Locomotive, Drill Rig for Dowels, Field Mechanic, Fork Lift, Hoist (2 Drum), Loading Machine, Loading Machine (Front End), Mechanical Compactors (Machine Drawn), Mulching Machine (Machine Fed), Post Hole/Auger, Power Winch (other than structural steel), Pump Hydraulic (with boring machine), Asphalt Roller, Scoop (carry-all, scraper), Skid Loader/Steer, Vermeer Cutter, Work Boat, Inspection & Safety Boat.

CLASS "C":

Concrete Finish/Saw/Spreader Machines, Dirt Roller, Hoist (1 drum), Interior Hoist, Oiler Truck Crane(Pile work), Power Broom, Small Milling Machine, Vactor Truck/VacAll Truck.

CLASS "D":

Boiler (Thermoplastic), Concrete Breaker, Conveyor, Curing Machine, Fireman, Fork lift (walk behind), Generator, Hydra Hammer, Maintenance Engineer (small equipment/Well Point/Welding & Burning), Compactors (hand operated), Pin Puller, Portable Heaters, Power Buggies, Pulvi Mixer, Pumps (double action/4 inch and over/Hydraulic/Submersible & Jet), Ridge Cutter, Robotic Unit Operator(Trenchless Pipe Rehab-Cleaning & Television of Sewers/CCTV Inspection), Shotblaster.

CLASS "E":

Batching Plant (On Job Site), Compressor (structural steel/2 or more in battery), Generator(small), Grinder, Ground Heater(boilers), Power Grinder, Mixer (with skip), Mulching Machine (hand feed), Oiler, Pipeline Welder Helper, Power Washer, Pump(up to 3 inches/Gypsum/Single action 1 to 3 inches), Root Cutter, Stump Grinder, Track Tamper, Tractor (caterpillar or wheel), Trenching Machine (hand), Welding Machine (Pile Work/Structural Steel), Deckhand (on Work/Inspection/Safety Boat).

07/01/2018

| | |
|--|----------|
| Class "AA" | \$ 74.69 |
| Cranes: Boom Length over 100 feet add \$ 1.00 per hour | |
| " " " 150 " " \$ 1.50 " " | |
| " " " 250 " " \$ 2.00 " " | |
| " " " 350 " " \$ 3.00 " " | |

Class "A" \$ 66.00*
 *Add \$3.50 for Hazardous Waste Work.

Class "B" \$ 61.00*
 *Add \$2.50 for Hazardous Waste Work.

Class "C" \$ 59.37*
 *Add \$1.50 for Hazardous Waste Work

Class "D" \$ 44.88
 *Add \$1.00 for Hazardous Waste Work

Class "E" \$ 42.92

"NOTE": ADD 30% to straight time hourly wage for NEW YORK STATE D.O.T. and other GOVERNMENTAL MANDATED off-shift work.

SUPPLEMENTAL BENEFITS

Per Hour:

ALL CLASSES \$ 38.05

Note: OVERTIME AMOUNT \$ 32.35

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 7, 8) on HOLIDAY PAGE

Overtime: See (5, 6, 7, 8) on HOLIDAY PAGE

"Note" Employee must be employed day before and day after

a holiday to receive holiday pay.

REGISTERED APPRENTICES

Wage per hour:

REGISTERED APPRENTICES

One(1) Year Terms at the following Rate:

| | |
|----------|----------|
| 1st Term | \$ 21.94 |
| 2nd Term | 22.80 |
| 3rd Term | 23.48 |

SUPPLEMENTAL BENEFITS:

| | |
|-----------------------|----------|
| APPRENTICES | \$ 15.64 |
| Note: Overtime Amount | \$ 5.60 |

4-138

Operating Engineer - Marine Dredging

10/01/2018

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 Operator 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(over1000hp),
 OperatorII, Fill Placer,
 Derrick Operator, Engineer,
 Chief Mate, Electrician,
 Chief Welder,
 Maintenance Engineer

Certified Welder, \$ 31.09
 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, \$ 24.30
 Rodman, Scowman, Cook,
 Messman, Porter/Janitor

Oiler(please add)\$ 0.09

SUPPLEMENTAL BENEFITS

Per Hour:

THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

All Classes A & B 07/01/2018
\$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

4-25a-MarDredge

Operating Engineer - Survey Crew - Consulting Engineer **10/01/2018**

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 Dutchess 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: 07/01/2018
Survey Classifications

Party Chief \$ 43.10
Instrument Man 36.01
Rodman 31.54

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

9-15dconsult

Operating Engineer - Trenchless Pipe Rehab **10/01/2018**

JOB DESCRIPTION Operating Engineer - Trenchless Pipe Rehab **DISTRICT 4**

ENTIRE COUNTIES
Nassau, Suffolk

WAGES

IMPORTANT NOTE: This Category & Classifications are now located in
 Operating Engineers/Heavy Highway & Laborers/ Heavy Highway.

| | |
|--|-----------------------|
| Per Hour: | 07/01/2018 (SEE) |
| Robotic Unit Operator | Operator(class D) |
| Technician/Boiler, Generator | Operator(classes C&D) |
| AM Liner/Hydra Seal | Laborer(Grp#3) |
| Hobas Pipe, Polyethylene Pipe or Pull and Inflate Liner | Laborer(Grp#3) |

OVERTIME PAY
HOLIDAY

4-138TrchPReh

Painter

10/01/2018

JOB DESCRIPTION Painter

DISTRICT 8

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Putnam, Queens, Richmond, Suffolk, Westchester

WAGES

| | |
|--|------------|
| Per hour: | 07/01/2018 |
| Brush | \$ 46.85* |
| Abatement/Removal of lead based or lead containing paint on materials to be repainted. | 46.85* |
| Spray & Scaffold | \$ 49.85* |
| Fire Escape | 49.85* |
| Decorator | 49.85* |
| Paperhanger/Wall Coverer | 50.03* |

*Subtract \$ 0.10 to calculate premium rate.

SUPPLEMENTAL BENEFITS

| | |
|-------------|------------|
| Per hour: | 07/01/2018 |
| Paperhanger | \$ 28.19 |
| All others | 26.72 |
| Premium | 29.22** |

**Applies only to "All others" category, not paperhanger journeyman.

OVERTIME PAY

See (A, H) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

One (1) year terms at the following wage rate.

| | |
|------------------|------------|
| Per hour: | 07/01/2018 |
| Appr 1st term... | \$ 17.85* |
| Appr 2nd term... | 23.26* |
| Appr 3rd term... | 28.14* |
| Appr 4th term... | 37.52* |

*Subtract \$ 0.10 to calculate premium rate.

Supplemental benefits:

| | |
|------------------|------------|
| Per Hour: | 07/01/2018 |
| Appr 1st term... | \$ 13.81 |
| Appr 2nd term... | 16.82 |
| Appr 3rd term... | 19.42 |
| Appr 4th term... | 24.56 |

8-NYDC9-B/S

Painter **10/01/2018**

JOB DESCRIPTION Painter

DISTRICT 8

ENTIRE COUNTIES

Putnam, Suffolk, Westchester

PARTIAL COUNTIES

Nassau: All of Nassau except the areas described below: Atlantic Beach, Ceaderhurst, East Rockaway, Gibson, Hewlett, Hewlett Bay, Hewlett Neck, Hewlett Park, Inwood, Lawrence, Lido Beach, Long Beach, parts of Lynbrook, parts of Oceanside, parts of Valley Stream, and Woodmere. Starting on the South side of Sunrise Hwy in Valley Stream running east to Windsor and Rockaway Ave., Rockville Centre is the boundary line up to Lawson Blvd. turn right going west all the above territory. Starting at Union Turnpike and Lakeville Rd. going north to Northern Blvd. the west side of Lakeville road to Northern blvd. At Northern blvd. going east the district north of Northern blvd. to Port Washington Blvd. West of Port Washington blvd.to St.Francis Hospital then north of first traffic light to Port Washington and Sands Point, Manor HAven, Harbour Acres.

WAGES

| | |
|---------------|------------|
| Per hour: | 07/01/2018 |
| Drywall Taper | \$ 46.85* |

*Subtract \$ 0.10 to calculate premium rate.

SUPPLEMENTAL BENEFITS

| | |
|------------|------------|
| Per hour: | 07/01/2018 |
| Journeyman | \$ 26.72 |

OVERTIME PAY

See (A, H) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

| | |
|-------------------|------------|
| Wages - Per Hour: | 07/01/2018 |
|-------------------|------------|

1500 hour terms at the following wage rate:

| | |
|----------|-----------|
| 1st term | \$ 17.85* |
| 2nd term | \$ 23.26* |
| 3rd term | \$ 28.14* |
| 4th term | \$ 37.52* |

*Subtract \$ 0.10 to calculate premium rate.

Supplemental Benefits - Per hour:

One year term (1500 hours) at the following dollar amount.

| | |
|----------|----------|
| 1st year | \$ 13.81 |
| 2nd year | \$ 16.82 |
| 3rd year | \$ 19.42 |
| 4th year | \$ 24.56 |

8-NYDCT9-DWT

Painter - Bridge & Structural Steel **10/01/2018**

JOB DESCRIPTION Painter - Bridge & Structural Steel

DISTRICT 8

ENTIRE COUNTIES

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES

Per Hour:
 STEEL:

| | | |
|------------------|------------|------------|
| Bridge Painting: | 07/01/2018 | 10/01/2018 |
| | \$ 49.50 | \$ 49.50 |
| | + 6.38* | + 6.38* |

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 |
| | \$ 8.25 | \$ 9.50 |
| | + 24.35* | + 26.05* |

* 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

| | | |
|----------|------------|------------|
| | 07/01/2018 | 10/01/2018 |
| 1st year | \$ 22.65 | \$ 23.13 |
| 2nd year | 33.98 | 34.73 |
| 3rd year | 45.30 | 46.30 |

Supplemental Benefits - Per hour:

| | | |
|----------|----------|----------|
| 1st year | \$ 12.76 | \$ 13.44 |
| 2nd year | 19.14 | 20.16 |
| 3rd year | 25.52 | 26.88 |

8-DC-9/806/155-BrSS

Painter - Line Striping **10/01/2018**

JOB DESCRIPTION Painter - Line Striping

DISTRICT 8

ENTIRE COUNTIES

Albany, Bronx, Clinton, Columbia, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Kings, Montgomery, Nassau, New York, Orange, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Suffolk, Sullivan, Ulster, Warren, Washington, Westchester

WAGES

Per hour:

| | |
|-----------------------------|------------|
| Painter (Striping-Highway): | 07/01/2018 |
| Striping-Machine Operator* | \$ 29.93 |
| Linerman Thermoplastic | \$ 36.06 |

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:
 07/01/2018

1st term \$ 11.97
 2nd term 17.96
 3rd term 23.94

Supplemental Benefits per hour:

1st term \$ 7.44
 2nd term 7.44
 3rd term 7.44

8-1456-LS

Painter - Metal Polisher

10/01/2018

JOB DESCRIPTION Painter - Metal Polisher

DISTRICT 8

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuylar, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

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:

| | 07/01/2018 | 01/01/2019 |
|----------|------------|------------|
| 1st year | \$ 13.00 | \$ 15.00 |
| 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

Plasterer

10/01/2018

JOB DESCRIPTION Plasterer

DISTRICT 9

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per hour:

| | 07/01/2018 | 08/01/2018 |
|---|------------|------------|
| Building: Plasterer/Traditional & Spraying Fireproofing | \$ 45.58 | \$ 45.58 |

SUPPLEMENTAL BENEFITS

Per hour:

| | | |
|---------------|----------|----------|
| Journeyworker | \$ 26.27 | \$ 26.52 |
|---------------|----------|----------|

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

Wages:

(per hour)

| 800 hours term: | 07/01/2018 | 08/1/2018 |
|-----------------|------------|-----------|
| 1st term | \$18.33 | \$18.33 |
| 2nd term | \$20.62 | \$20.62 |
| 3rd term | \$25.21 | \$25.21 |
| 4th term | \$27.50 | \$27.50 |
| 5th term | \$32.08 | \$32.08 |
| 6th term | \$34.37 | \$34.37 |

Supplemental Benefits:

(per hour):

| (800) hours term: | 07/01/2018 | 08/01/2018 |
|-------------------|------------|------------|
| 1st term | \$ 13.83 | \$ 13.88 |
| 2nd term | \$ 14.31 | \$ 14.36 |
| 3rd term | \$ 16.28 | \$ 16.44 |
| 4th term | \$ 17.36 | \$ 17.53 |
| 5th term | \$ 19.53 | \$ 19.72 |
| 6th term | \$ 20.61 | \$ 20.81 |

9-262

Plumber

10/01/2018

JOB DESCRIPTION Plumber

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour: 07/01/2018

Plumber/

PUMP & TANK \$ 44.49

SUPPLEMENTAL BENEFITS

Per Hour:

Plumber \$ 26.98

OVERTIME PAY

See (B, Q, *V) on OVERTIME PAGE

(V) For Sundays & Holidays if Worked Only

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

REGISTERED APPRENTICES

One(1) Year Terms at the Following

Percentage of Journeymans wage:

| | |
|----------|-----|
| 1st Term | 30% |
| 2nd Term | 40% |
| 3rd Term | 50% |
| 4th Term | 60% |
| 5th Term | 70% |
| 6th Term | 85% |

Supplemental Benefits Per Hour:

| | |
|----------|---------|
| 1st Term | \$15.06 |
| 2nd Term | \$15.70 |
| 3rd Term | \$16.52 |
| 4th Term | \$17.40 |
| 5th Term | \$20.13 |

4-200 Pump & Tank

Plumber

10/01/2018

JOB DESCRIPTION Plumber

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour: 07/01/2018 11/01/2018 05/01/2019

Plumber \$ 52.48 \$ 52.48 \$52.48

SUPPLEMENTAL BENEFITS

Per Hour:

Plumber \$ 41.48 \$ 41.98 \$ 42.98

OVERTIME PAY

See (A, E, Q, *V) on OVERTIME PAGE

CODE "V" is only for SUNDAYS and HOLIDAYS THAT ARE WORKED

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

REGISTERED APPRENTICES

One(1) Year Terms at the following percentage of Plumbers Rate:

| | | | | |
|----------|----------|----------|----------|----------|
| 1st Term | 2nd Term | 3rd Term | 4th Term | 5th Term |
| 30% | 40% | 50% | 60% | 70% |

Supplemental Benefits per hour:

| | 07/01/2018 | 11/01/2018 | 05/01/2019 |
|----------|------------|------------|------------|
| 1st Term | \$ 27.96 | \$ 28.46 | \$ 29.46 |
| 2nd Term | 30.27 | 30.77 | 31.77 |
| 3rd Term | 31.64 | 32.14 | 34.14 |
| 4th Term | 33.13 | 33.63 | 34.63 |
| 5th Term | 34.71 | 35.21 | 36.21 |

4-200

Plumber **10/01/2018**

JOB DESCRIPTION Plumber

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:

07/01/2018

Plumber

MAINTENANCE ONLY

\$ 30.80

Maintenance: Correction of problem(s)with the existing fixture or group of fixtures, preventive repairs or servicing of said fixtures

SUPPLEMENTAL BENEFITS

SUPPLEMENTAL BENEFITS

Per Hour:

Plumber

Maintenance

\$ 15.65

OVERTIME PAY

See (B, J) on OVERTIME PAGE

HOLIDAY

Paid:

See (1) on HOLIDAY PAGE

Overtime:

See (5, 6, 15, 16) on HOLIDAY PAGE

4-200 Maintance

Roofer **10/01/2018**

JOB DESCRIPTION Roofer

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour

07/01/2018

05/01/2019

ROOFER/Waterproofeer

Total Wage

\$ 45.00

\$1.50 Per Hour

to be Paid

to be allocated

"Base" Wage

41.00**

SUPPLEMENTAL BENEFITS

Per Hour:

ROOFER/Waterproofeer

\$ 32.12

OVERTIME PAY

Per Hour:

NEW ROOF SEE (B,E,Q)

RE-ROOF SEE (B,E,E2,Q)

NOTE:** Overtime Pay to be calculated on "BASE" Wage then add \$4.00.

(Example: \$41.00 x time and one half = \$61.50 + \$4.00 = \$65.50)

HOLIDAY

Paid:

See (1) on HOLIDAY PAGE

Overtime:

See (5, 6, 13, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) Year terms at the following Percentage of Roofers/Waterproofers Wage.

| | | | |
|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th |
| 40% | 50% | 70% | 80% |

Supplemental Benefits per hour:

07/01/2018

| | |
|----------|---------|
| 1st Term | \$ 9.08 |
| 2nd Term | 11.22 |
| 3rd Term | 22.69 |
| 4th Term | 25.85 |

4-154

Sheetmetal Worker

10/01/2018

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester

WAGES

Per Hour: 07/01/2018 08/01/2018

Sign Erector \$ 47.67 Additional \$1.95/hr.

NOTE: Structurally Supported Overhead Highway Signs(See STRUCTURAL IRON WORKER CLASS)

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2018 08/01/2018

Sign Erector \$ 44.44 Additional \$1.64/hr

OVERTIME PAY

See (A, F, S) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE

Overtime: See (5, 6, 10, 11, 12, 16, 25) on HOLIDAY PAGE

REGISTERED APPRENTICES

Per Hour:

6 month Terms at the following percentage of Sign Erectors wage rate:

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
| 35% | 40% | 45% | 50% | 55% | 60% | 65% | 70% | 75% | 80% |

SUPPLEMENTAL BENEFITS

Per Hour:

| | | | | | | | | | |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
| \$13.11 | \$14.85 | \$16.59 | \$18.34 | \$25.56 | \$27.80 | \$30.76 | \$33.07 | \$35.36 | \$37.65 |

4-137-SE

Sheetmetal Worker

10/01/2018

JOB DESCRIPTION Sheetmetal Worker

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour: 07/01/2018

Sheetmetal Worker \$ 53.22

Temporary Operation or Maintenance of Fans 42.58

SUPPLEMENTAL BENEFITS

Per Hour:

| | |
|--------------------|----------|
| Sheetmetal Worker | \$ 45.04 |
| Maintenance Worker | 45.04 |

OVERTIME PAY

See (B, E, E2, Q, V) on OVERTIME PAGE
For Maintenance See Codes B,E, Q & V

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 11, 15, 16, 25, 26) on HOLIDAY PAGE

REGISTERED APPRENTICES

Per Hour:Wages

Six(6) Month Terms As Follows:

| | |
|----------------|----------|
| 1st & 2nd Term | \$ 18.67 |
| 3rd & 4th Term | 23.98 |
| 5th & 6th Term | 29.29 |
| 7th Term | 37.28 |
| 8th Term | 39.83 |
| 9th Term | 42.59 |

Per Hour: Supplemental Benifits

| | |
|----------------|----------|
| 1st & 2nd Term | \$ 16.49 |
| 3rd & 4th Term | 22.75 |
| 5th & 6th Term | 26.79 |
| 7th Term | 32.84 |
| 8th Term | 34.88 |
| 9th Term | 36.84 |

4-28

Steamfitter **10/01/2018**

JOB DESCRIPTION Steamfitter

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour: 07/01/2018

AC Service/Heat Service \$ 41.50
Steamfitter Maintenance

Refrigeration, A/C, Oil Burner and Stoker Service and Repair.
Refrigeration Compressor installation.
Air Condition / Heating Compressor installation up to 15hp (combined).

SUPPLEMENTAL BENEFITS

Per Hour

AC Service/Heat Service \$ 13.50
Steamfitter Maintenance

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 11, 15, 25, 26) on HOLIDAY PAGE

4-638B-StmFtrRef

Steamfitter **10/01/2018**

JOB DESCRIPTION Steamfitter

DISTRICT 4

ENTIRE COUNTIES

Bronx, Kings, Nassau, New York, Queens, Richmond, Suffolk

WAGES

Per Hour: 07/01/2018 12/26/2018

Sprinkler/Steam \$64.06 \$0.75/hr.
 Fitter to be Allocated

Temporary \$48.70
 Heat & AC
 Fitter

Note: Add 15% to Hourly Wage for "Contracting Agency" Mandated Off Shift Work.

SUPPLEMENTAL BENEFITS

Per Hour:

Sprinkler/Steam \$ 49.18
 Fitter

Temporary \$ 40.23
 Heat & AC
 Fitter

Note: Add 15% to Hourly Benefit for "Contracting Agency" Mandated Off Shift Work.

OVERTIME PAY

See (C, *D, O, **V) on OVERTIME PAGE
 (D*) Only for Temporary Heat & AC Fitter.

(V**) Benefit Amount to be paid:

Sprinkler/Steam \$75.30
 Temp Heat/AC \$57.60

HOLIDAY

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

REGISTERED APPRENTICES

1 year Terms at the Following:

WAGES per hour:

| | | | | |
|----------|----------|----------|----------|----------|
| 1st Term | 2nd Term | 3rd Term | 4th Term | 5th Term |
| \$ 25.66 | \$ 32.07 | \$ 41.66 | \$ 51.26 | \$ 54.46 |

SUPPLEMENTAL BENEFIT per hour:

| | | | | |
|-----------------------|----------|----------|----------|----------|
| 1st Term | 2nd Term | 3rd Term | 4th Term | 5th Term |
| \$ 20.20 | \$ 24.04 | \$ 32.28 | \$ 39.52 | \$ 41.94 |
| Premium Time Amounts: | | | | |
| \$30.12 | \$37.66 | \$48.96 | \$60.24 | \$64.02 |

4-638A-StmSpFtr

Teamster - Asphalt Delivery **10/01/2018**

JOB DESCRIPTION Teamster - Asphalt Delivery

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:

Heavy Construction Work:

Shall include the supply of Asphalt for construction, improvement and modification of all or any part of Streets, Highways, Bridges, Tunnels, Railroads, Canals, Dams, Airports, Schools, Power Generation Plants, where distance between project and asphalt plant is not more than 50 miles.

TRUCK DRIVER

Asphalt Delivery 07/01/2018
\$ 37.545

Light Construction Work:

Shall include the supply of Asphalt for construction of Single & Multi Family Homes, Town Houses, Apartment Buildings, including Driveways, Streets and Curbs within those projects. Parking Lots, Office Buildings, where distance between project and asphalt plant is not more than 50 miles.

TRUCK DRIVER

07/01/2018

Asphalt Delivery \$ 32.16

SUPPLEMENTAL BENEFITS

Per Hour:

Heavy Construction Work

TRUCK DRIVER

07/01/2018

Asphalt Delivery \$ 46.6825

Light Construction Work

TRUCK DRIVER

07/01/2018

Asphalt Delivery \$ 13.05

OVERTIME PAY

See (B, *B2, E, **I, P, ***R, ****U) on OVERTIME PAGE

(NOTE) PREMIUM PAY of 25% on straight time hours for New York State D.O.T. and or other GOVERNMENTAL MANDATED off shift work.

Note: (B,E,P,T&*U) Apply to Heavy Construction.

Note: (B2,I,T&*U) Apply to Light Construction.

Note: (*U) Only applies after 8 hours worked on holiday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

NOTE:(*16) Paid at Double if Worked; (**25) Paid at Double if Worked.

4-282

Teamster - Building

10/01/2018

JOB DESCRIPTION Teamster - Building

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:

Truck Driver (Building Demolition & Debris)

07/01/2018

Trailers \$ 33.61*

Straight Jobs \$ 33.31*

* Plus an additional \$2.14/hr. to be allocated

SUPPLEMENTAL BENEFITS

Per Hour:

All Classifications

07/01/2018

\$ 33.20

OVERTIME PAY

See (B, E, S1) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6, 8, 11, 12, 15, 25, 26) on HOLIDAY PAGE

4-282

Teamster - Delivery of Concrete

10/01/2018

JOB DESCRIPTION Teamster - Delivery of Concrete

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:

Heavy Construction Work:

Shall include the supply of Ready-Mix Concrete for construction, improvement and modification of all or any part of Streets, Highways, Bridges, Tunnels, Railroads, Canals, Dams, Airports, Schools & Power Generation Plants, where distance between project and asphalt plant is not more than 50 miles.

TRUCK DRIVER

Concrete Delivery 07/01/2018
\$ 39.775

Light Construction Work:

Shall include the supply of Ready-Mix Concrete for construction of Single & Multi Family Homes, Town Houses, Apartment Buildings, including Driveways, Streets and Curbs within those projects. Parking Lots and Office Buildings, where distance between project and asphalt plant is not more than 50 miles.

TRUCK DRIVER

Concrete Delivery 07/01/2018
\$ 35.705

SUPPLEMENTAL BENEFITS

Per Hour:

Heavy Construction Work 07/01/2018
Concrete Delivery \$ 42.665

Light Construction Work 07/01/2018
Concrete Delivery \$ 14.83

OVERTIME PAY

NOTE: Heavy Construction:B2,I
Light Construction:B,E,P

HOLIDAY

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

NOTE:(*16) Paid at Double if Worked. (**25) Paid at Double if Worked.

4-282ns

Teamster - Heavy&Highway

10/01/2018

JOB DESCRIPTION Teamster - Heavy&Highway

DISTRICT 4

ENTIRE COUNTIES

Nassau, Suffolk

WAGES

Per Hour:

Heavy Construction Work:

Shall include the construction, improvement or modification of all or any part of Streets, Highways, Bridges, Tunnels, Railroads, Canals, Dams, Airports, Schools, Power Generation Plants.

Site Excavating 07/01/2018
(Chauffeurs) \$ 38.155

Light Construction Work:

Shall include the construction, improvment and modification of Single & Multi Family Homes, Town Houses, Apartment Buildings, including Driveways, Streets and Curbs within those projects. Parking Lots and Office Buildings.

Site Excavating 07/01/2018
(Chauffeurs) \$ 33.66

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2018

Heavy Construction Work
Chauffeurs \$ 46.0725

Light Construction Work
Chauffeurs \$ 11.55

OVERTIME PAY

See (B, *B2, E, **I, P, ***R, ****U) on OVERTIME PAGE

(NOTE) PREMIUM PAY of 25% on straight time hours for NEW YORK STATE D.O.T. and or other GOVERNMENTAL MANDATED off shift work.

Note: (B,E,P,T & *U) Apply to Heavy Construction.

Note: (B2,I,T & *U) Apply to Light Construction.

Note: (*U) Only applies after 8 hours work on holiday

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

NOTE:(*16) Paid at Double if Worked. (**25) Paid at Double if Worked.

4-282

Welder

10/01/2018

JOB DESCRIPTION Welder

DISTRICT 1

ENTIRE COUNTIES

Albany, Allegany, Bronx, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Kings, Lewis, Livingston, Madison, Monroe, Montgomery, Nassau, New York, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Queens, Rensselaer, Richmond, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Suffolk, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Westchester, Wyoming, Yates

WAGES

Per hour 07/01/2018

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

- (AA) Time and one half of the hourly rate after 7 and one half hours per day
- (A) Time and one half of the hourly rate after 7 hours per day
- (B) Time and one half of the hourly rate after 8 hours per day
- (B1) Time and one half of the hourly rate for the 9th & 10th hours week days and the 1st 8 hours on Saturday.
Double the hourly rate for all additional hours
- (B2) Time and one half of the hourly rate after 40 hours per week
- (C) Double the hourly rate after 7 hours per day
- (C1) Double the hourly rate after 7 and one half hours per day
- (D) Double the hourly rate after 8 hours per day
- (D1) Double the hourly rate after 9 hours per day
- (E) Time and one half of the hourly rate on Saturday
- (E1) Time and one half 1st 4 hours on Saturday; Double the hourly rate all additional Saturday hours
- (E2) Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- (E3) Between November 1st and March 3rd Saturday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather, provided a given employee has worked between 16 and 32 hours that week
- (E4) Saturday and Sunday may be used as a make-up day at straight time when a day is lost during that week due to inclement weather
- (E5) Double time after 8 hours on Saturdays
- (F) Time and one half of the hourly rate on Saturday and Sunday
- (G) Time and one half of the hourly rate on Saturday and Holidays
- (H) Time and one half of the hourly rate on Saturday, Sunday, and Holidays
- (I) Time and one half of the hourly rate on Sunday
- (J) Time and one half of the hourly rate on Sunday and Holidays
- (K) Time and one half of the hourly rate on Holidays
- (L) Double the hourly rate on Saturday
- (M) Double the hourly rate on Saturday and Sunday
- (N) Double the hourly rate on Saturday and Holidays
- (O) Double the hourly rate on Saturday, Sunday, and Holidays
- (P) Double the hourly rate on Sunday
- (Q) Double the hourly rate on Sunday and Holidays
- (R) Double the hourly rate on Holidays
- (S) Two and one half times the hourly rate for Holidays, if worked

- (S1) Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
- (T) Triple the hourly rate for Holidays, if worked
- (U) Four times the hourly rate for Holidays, if worked
- (V) Including benefits at SAME PREMIUM as shown for overtime
- (W) Time and one half for benefits on all overtime hours.
- (X) Benefits payable on Paid Holiday at straight time. If worked, additional benefit amount will be required for worked hours. (Refer to other codes listed.)

Holiday Codes

PAID Holidays:

Paid Holidays are days for which an eligible employee receives a regular day's pay, but is not required to perform work. If an employee works on a day listed as a paid holiday, this remuneration is in addition to payment of the required prevailing rate for the work actually performed.

OVERTIME Holiday Pay:

Overtime holiday pay is the premium pay that is required for work performed on specified holidays. It is only required where the employee actually performs work on such holidays. The applicable holidays are listed under HOLIDAYS: OVERTIME. The required rate of pay for these covered holidays can be found in the OVERTIME PAY section listings for each classification.

Following is an explanation of the code(s) listed in the HOLIDAY section of each classification contained in the attached schedule. The Holidays as listed below are to be paid at the wage rates at which the employee is normally classified.

- (1) None
- (2) Labor Day
- (3) Memorial Day and Labor Day
- (4) Memorial Day and July 4th
- (5) Memorial Day, July 4th, and Labor Day
- (6) New Year's, Thanksgiving, and Christmas
- (7) Lincoln's Birthday, Washington's Birthday, and Veterans Day
- (8) Good Friday
- (9) Lincoln's Birthday
- (10) Washington's Birthday
- (11) Columbus Day
- (12) Election Day
- (13) Presidential Election Day
- (14) 1/2 Day on Presidential Election Day
- (15) Veterans Day
- (16) Day after Thanksgiving
- (17) July 4th
- (18) 1/2 Day before Christmas
- (19) 1/2 Day before New Years
- (20) Thanksgiving
- (21) New Year's Day
- (22) Christmas
- (23) Day before Christmas
- (24) Day before New Year's
- (25) Presidents' Day
- (26) Martin Luther King, Jr. Day
- (27) Memorial Day
- (28) Easter Sunday



**New York State Department of Labor - Bureau of Public Work
State Office Building Campus
Building 12 - Room 130
Albany, New York 12240**

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

As Required by Articles 8 and 9 of the NYS Labor Law

Fax (518) 485-1870 or mail this form for new schedules or for determination for additional occupations.

This Form Must Be Typed

Submitted By:

(Check Only One)

Contracting Agency Architect or Engineering Firm Public Work District Office Date:

A. Public Work Contract to be let by: (Enter Data Pertaining to Contracting/Public Agency)

1. Name and complete address (Check if new or change)

Telephone: ()

Fax: ()

E-Mail:

2. NY State Units (see Item 5)

- | | |
|---|--|
| <input type="checkbox"/> 01 DOT | <input type="checkbox"/> 07 City |
| <input type="checkbox"/> 02 OGS | <input type="checkbox"/> 08 Local School District |
| <input type="checkbox"/> 03 Dormitory Authority | <input type="checkbox"/> 09 Special Local District, i.e., Fire, Sewer, Water District |
| <input type="checkbox"/> 04 State University Construction Fund | <input type="checkbox"/> 10 Village |
| <input type="checkbox"/> 05 Mental Hygiene Facilities Corp. | <input type="checkbox"/> 11 Town |
| <input type="checkbox"/> 06 OTHER N.Y. STATE UNIT | <input type="checkbox"/> 12 County |
| | <input type="checkbox"/> 13 Other Non-N.Y. State (Describe) |

3. SEND REPLY TO check if new or change)
Name and complete address:

Telephone:()

Fax: ()

E-Mail:

4. SERVICE REQUIRED. Check appropriate box and provide project information.

New Schedule of Wages and Supplements.

APPROXIMATE BID DATE :

Additional Occupation and/or Redetermination

PRC NUMBER ISSUED PREVIOUSLY FOR THIS PROJECT :

OFFICE USE ONLY

B. PROJECT PARTICULARS

5. Project Title _____

Description of Work _____

Contract Identification Number _____

Note: For NYS units, the OSC Contract No. _____

6. Location of Project:
Location on Site _____

Route No/Street Address _____

Village or City _____

Town _____

County _____

7. Nature of Project - Check One:

- 1. New Building
- 2. Addition to Existing Structure
- 3. Heavy and Highway Construction (New and Repair)
- 4. New Sewer or Waterline
- 5. Other New Construction (Explain)
- 6. Other Reconstruction, Maintenance, Repair or Alteration
- 7. Demolition
- 8. Building Service Contract

8. OCCUPATION FOR PROJECT :

- | | |
|---|--|
| <input type="checkbox"/> Construction (Building, Heavy Highway/Sewer/Water) | <input type="checkbox"/> Guards, Watchmen |
| <input type="checkbox"/> Tunnel | <input type="checkbox"/> Janitors, Porters, Cleaners, Elevator Operators |
| <input type="checkbox"/> Residential | <input type="checkbox"/> Moving furniture and equipment |
| <input type="checkbox"/> Landscape Maintenance | <input type="checkbox"/> Trash and refuse removal |
| <input type="checkbox"/> Elevator maintenance | <input type="checkbox"/> Window cleaners |
| <input type="checkbox"/> Exterminators, Fumigators | <input type="checkbox"/> Other (Describe) |
| <input type="checkbox"/> Fire Safety Director, NYC Only | |

9. Has this project been reviewed for compliance with the Wicks Law involving separate bidding? YES NO

10. Name and Title of Requester

Signature



NEW YORK STATE DEPARTMENT OF LABOR
Bureau of Public Work - Debarment List

**LIST OF EMPLOYERS INELIGIBLE TO BID ON OR BE
AWARDED ANY PUBLIC WORK CONTRACT**

Under Article 8 and Article 9 of the NYS Labor Law, a contractor, sub-contractor and/or its successor shall be debarred and ineligible to submit a bid on or be awarded any public work or public building service contract/sub-contract with the state, any municipal corporation or public body for a period of five (5) years from the date of debarment when:

- Two (2) final determinations have been rendered within any consecutive six-year (6) period determining that such contractor, sub-contractor and/or its successor has WILLFULLY failed to pay the prevailing wage and/or supplements;
- One (1) final determination involves falsification of payroll records or the kickback of wages and/or supplements.

The agency issuing the determination and providing the information, is denoted under the heading 'Fiscal Officer'. DOL = New York State Department of Labor; NYC = New York City Comptroller's Office; AG = New York State Attorney General's Office; DA = County District Attorney's Office.

Debarment Database: To search for contractors, sub-contractors and/or their successors debarred from bidding or being awarded any public work contract or subcontract under NYS Labor Law Articles 8 and 9, or under NYS Workers' Compensation Law Section 141-b, access the database at this link: <https://applications.labor.ny.gov/EDList/searchPage.do>

For inquiries where WCB is listed as the "Agency", please call 1-866-546-9322

NYSDOL Bureau of Public Work Debarment List 08/07/2018

Article 8

| AGENCY | Fiscal Officer | FEIN | EMPLOYER NAME | EMPLOYER DBA NAME | ADDRESS | DEBARMENT START DATE | DEBARMENT END DATE |
|--------|----------------|----------|---|----------------------------------|--|----------------------|--------------------|
| DOL | DOL | ****0996 | A-1 CONSTRUCTION & RENOVATION INC | | 1973 81ST ST - SUITE A-5 BROOKLYN NY 11214 | 01/08/2015 | 01/08/2020 |
| DOL | NYC | | ABDUL KARIM | | C/O NORTH AMERICAN IRON W 1560 DECATUR STREETRIDGWOOD NY 11385 | 05/15/2015 | 05/15/2020 |
| DOL | DOL | ****8488 | ABELCRAFT OF NEW YORK CORP | | 640 ASHFORD AVENUE ARDSLEY NY 10502 | 08/27/2013 | 08/27/2018 |
| DOL | DOL | ****4539 | ACCOMPLISHED WALL SYSTEMS INC | | 112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542 | 08/27/2013 | 08/27/2018 |
| DOL | DOL | ****8018 | ACCURATE MECHANICAL LLC | | 9547 BUSTLETON AVENUE PHILADELPHIA PA 19115 | 02/05/2014 | 02/05/2019 |
| DOL | DOL | | ACCURATE MECHANICAL OF PHILADELPHIA LLC | | 9547 BUSTLETON AVENUE PHILADELPHIA PA 19115 | 02/05/2014 | 02/05/2019 |
| DOL | DOL | ****3344 | ACT INC | | 6409 LAND O LAKES BLVD LAND O LAKES FL 34638 | 11/10/2015 | 11/10/2020 |
| DOL | NYC | | ADRIANA SELA | C/O COLONIAL ROOFING COMPANY INC | 247 48TH STREET BROOKLYN NY 11220 | 02/05/2014 | 02/05/2019 |
| DOL | DOL | ****1687 | ADVANCED SAFETY SPRINKLER INC | | 261 MILL ROAD P O BOX 296EAST AURORA NY 14052 | 07/29/2015 | 07/29/2020 |
| DOL | NYC | ****6775 | ADVENTURE MASONRY CORP. | | 1535 RICHMOND AVENUE STATEN ISLAND NY 10314 | 12/13/2017 | 12/13/2022 |
| DOL | DOL | | AJ TORCHIA | | 10153 ROBERTS RD SAUQUOIT NY 13456 | 08/09/2016 | 08/09/2021 |
| DOL | DOL | ****3344 | ALL CATASTROPHE CONSTRUCTION TEAM INC | ACT INC | 6409 LAND O LAKES BLVD LAND O LAKES FL 34638 | 11/10/2015 | 11/10/2020 |
| DOL | DOL | ****8740 | ALLSTATE ENVIRONMENTAL CORP | | C/O JOSE MONTAS 27 BUTLER PLACEYONKERS NY 10710 | 03/18/2011 | 03/19/2020 |
| DOL | DOL | | AMADEO J TORCHIA | TORCHIA'S HOME IMPROVEMENT | 10153 ROBERTS RD SAUQUOIT NY 13456 | 08/09/2016 | 08/09/2021 |
| DOL | NYC | | ANISUL ISLAM | | C/O RELIANCE GENERAL CONS 644 OCEAN PARKWAYBROOKLYN NY 11230 | 09/02/2015 | 09/02/2020 |
| DOL | DOL | ****7004 | ANNEX CONTRACTING LTD | | 3005 WYNSUM AVENUE MERRICK NY 11566 | 08/18/2014 | 08/18/2019 |
| DOL | DOL | ****7004 | ANNEX GENERAL CONTRACTING INC | | 3005 WYNSUM AVENUE MERRICK NY 11566 | 08/18/2014 | 08/18/2019 |
| DOL | DA | | ANTHONY CARDINALE | | 58-48 59TH STREET MASPETH NY 11378 | 05/16/2012 | 05/08/2020 |
| DOL | DOL | | ANTHONY J MINGARELLI JR | | C/O T & T CONCRETE INC 2560 HAMBURG TURNPIKELACKAWANNA NY 14218 | 07/08/2015 | 07/08/2020 |
| DOL | DOL | | ANTHONY PERGOLA | | 3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10323 | 01/23/2017 | 01/23/2022 |
| DOL | DOL | | ANTONIO ESTIVEZ | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | ****3020 | APCO CONTRACTING CORP | | 24 SOUTH MARYLAND AVENUE PORT WASHINGTON NY 11050 | 09/24/2012 | 09/02/2020 |
| DOL | DOL | ****3219 | APOLLO CONSTRUCTION SERVICES CORP | APOLLO PAINTING CO | 157 TIBBETTS ROAD YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | | APOLLO PAINTING CO | | 157 TIBBETTS ROAD YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****3295 | APOLLO PAINTING CORP | | 3 ALAN B SHEPART PLACE YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | AG | ****0194 | APPLIED CONSTRUCTION INC | | 46 RUGBY ROAD WESTBURY NY 11590 | 11/20/2013 | 11/20/2018 |
| DOL | NYC | ****8403 | AQUA JET PAINTING CORP | | 10 VIKING DRIVE WEST ISLIP NY 11795 | 04/16/2014 | 04/16/2019 |
| DOL | NYC | ****9232 | ARKAY CONSTRUCTION INC | | 102-104 GREYLOCK AVENUE BELLEVILLE NJ 07109 | 07/15/2015 | 07/15/2020 |
| DOL | DOL | ****3953 | ASCAPE LANDSCAPE & CONSTRUCTION CORP | | 634 ROUTE 303 BLAUVELT NY 10913 | 07/26/2012 | 11/19/2018 |
| DOL | NYC | ****4779 | ASTORIA GENERAL CONTRACTING CORP | | 35-34 31ST STREET LONG ISLAND CITY NY 11106 | 09/02/2015 | 09/02/2020 |
| DOL | NYC | ****7217 | ASTRO COMMUNICATIONS OF NY CORP | | 79 ALEXANDER AVE- STE 36A BRONX NY 10454 | 10/30/2015 | 10/30/2020 |

NYS DOL Bureau of Public Work Debarment List 08/07/2018

Article 8

| | | | | | | | |
|-----|-----|----------|--|--|---|------------|------------|
| DOL | NYC | ****6046 | ATLANTIC SUN CONSTRUCTION CORP | | 58-46 59TH AVENUE MASPETH NY 11378 | 05/08/2015 | 05/08/2020 |
| DOL | NYC | ****6683 | ATLAS RESTORATION CORP. | | 35-12 19TH AVENUE ASTORIA NY 11105 | 08/02/2017 | 08/02/2022 |
| DOL | NYC | | AUDLEY O'BRIEN | | 1273 NORTH AVENUE/#1 CP NEW ROCHELLE NY 10804 | 04/07/2015 | 04/07/2020 |
| DOL | DOL | | AVIS R HILL | | 3510 HICKORY WALK LANE ELLENWOOD GA 32094 | 01/22/2015 | 01/22/2020 |
| DOL | AG | | AVTAR SINGH | | 116-24 127TH STREET SOUTH OZONE PARK NY 11420 | 12/22/2015 | 12/22/2020 |
| DOL | AG | | BALDEV SINGH | | 116-24 127TH STREET SOUTH OZONE PARK NY 11420 | 12/22/2015 | 12/22/2020 |
| DOL | DOL | | BARBARA CASSIDY | | 7 BLENIS PLACE VALHALLA NY 10595 | 04/02/2015 | 04/02/2020 |
| DOL | DOL | | BARRY KINNEY | | 6409 LAND O LAKES BLVD LAND O LAKES FL 34638 | 11/10/2015 | 11/10/2020 |
| DOL | NYC | ****3915 | BEACON RESTORATION INC | | SUITE B-8 782 PELHAM PARKWAY SOUTHBRONX NY 10462 | 04/21/2016 | 04/21/2021 |
| DOL | DOL | | BEVERLY F WILLIAMS | | 1238 PRESIDENT STREET BROOKLYN NY 11225 | 11/18/2013 | 11/18/2018 |
| DOL | DOL | | BIAGIO CANTISANI | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | ****4512 | BOB BRUNO EXCAVATING, INC. | | 5 MORNINGSIDE DRIVE AUBURN NY 13021 | 11/15/2016 | 11/15/2021 |
| DOL | DOL | ****4512 | BOB BRUNO EXCAVATING, INC. | | 5 MORNINGSIDE DRIVE AUBURN NY 13021 | 11/15/2016 | 11/15/2021 |
| DOL | DOL | ****8551 | BRANDY'S MASONRY | | 216 WESTBROOK STREET P O BOX 304SAYRE PA 18840 | 08/09/2016 | 08/09/2021 |
| DOL | NYC | ****6555 | BROOKLYN WELDING CORP | | 1273 NORTH AVENUE/ #1 CP NEW ROCHELLE NY 10804 | 04/07/2015 | 04/07/2020 |
| DOL | DOL | ****1449 | BRRESTORATION NY INC | | 140 ARCADIA AVENUE OSWEGO NY 13126 | 09/12/2016 | 09/12/2021 |
| DOL | DOL | | BRUCE MORSEY | | C/O KENT HOLLOW SIDING LL 29A BRIDGE STREETNEW MILFORD CT 06776 | 01/15/2016 | 01/15/2021 |
| DOL | DOL | ****6156 | C & J LANDSCAPING & MAINTENANCE INC | | 520 PINE HILL ROAD CHESTER NY 10940 | 06/23/2014 | 06/23/2019 |
| DOL | DOL | ****8809 | C.B.E. CONTRACTING CORPORATION | | 310 MCGUINNESS BLVD GREENPOINT NY 11222 | 03/07/2017 | 03/07/2022 |
| DOL | DOL | | CANTISANI & ASSOCIATES LTD | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CANTISANI HOLDING LLC | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARIBBEAN POOLS | | C/O DOUGLAS L MALARKEY 64 VICTORIA DRIVEBINGHAMTON NY 13904 | 02/04/2016 | 02/04/2021 |
| DOL | DOL | ****3812 | CARMODY "2" INC | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | ****1143 | CARMODY BUILDING CORP | CARMODY CONTRACTIN G AND CARMODY CONTRACTIN G CORP. | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMODY CONCRETE CORPORATION | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMODY ENTERPRISES, LTD. | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMODY INC | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | ****3812 | CARMODY INDUSTRIES INC | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMODY MAINTENANCE CORPORATION | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMODY MASONRY CORP | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | NYC | ****9172 | CASSIDY EXCAVATING INC | | 14 RAILROAD AVENUE VALHALLA NY 10595 | 05/15/2014 | 04/02/2020 |
| DOL | DOL | ****6745 | CATSKILL FENCE INSTALLATIONS INC | | 5445 ROUTE 32 CATSKILL NY 12414 | 08/22/2014 | 08/22/2019 |
| DOL | DOL | ****8530 | CAZ CONTRACTING CORP | | 37-11 35TH AVENUE LONG ISLAND CITY NY 11101 | 08/26/2013 | 08/26/2018 |
| DOL | DOL | ****8809 | CBE CONTRACTING CORP | | 142 EAST MARKET STREET LONG BEACH NY 11561 | 03/07/2017 | 03/07/2022 |

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| DOL | AG | | CESAR J. AGUDELO | | 81-06 34TH AVENUE APT. 6E JACKSON HEIGHTS NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | ****7655 | CHAMPION CONSTRUCTION SERVICES CORP | | 2131 SCHENECTADY AVENUE BROOKLYN NY 11234 | 11/18/2015 | 11/18/2020 |
| DOL | NYC | | CHARLES CASSIDY JR | | 14 RAILROAD AVENUE VALHALLA NY 10595 | 05/15/2014 | 04/02/2020 |
| DOL | DOL | | CHARLES ZIMMER JR | | 216 WESTBROOK STREET P O BOX 304 SAYRE PA 18840 | 08/09/2016 | 08/09/2021 |
| DOL | DOL | | CHRISTINE J HEARNE | | C/O CJ-HEARNE CONSTRUCTIO 131 PONCE DE LEON AVE NEATLANTA GA 30308 | 12/01/2015 | 12/01/2020 |
| DOL | DOL | ****3360 | CITY LIMITS GROUP INC | | 2279 HOLLERS AVENUE BRONX NY 10475 | 01/07/2014 | 06/23/2019 |
| DOL | DOL | ****0671 | CJ-HEARNE CONSTRUCTION CO | | SUITE 204 131 PONCE DE LEON AVENUE ATLANTA GA 30308 | 12/01/2015 | 12/01/2020 |
| DOL | NYC | ****2905 | COLONIAL ROOFING COMPANY INC | | 247 48TH STREET BROOKLYN NY 11220 | 02/05/2014 | 02/05/2019 |
| DOL | NYC | ****3182 | COLORTECH INC | | 5990 58TH AVENUE MASPETH NY 11378 | 11/18/2013 | 11/18/2018 |
| DOL | DOL | ****2703 | CONKLIN'S TECH- MECHANICAL INC | | 5 PARKER AVENUE POUGHKEEPSIE NY 12601 | 03/25/2014 | 03/25/2019 |
| DOL | DOL | | CONSTANTINOS ZERVAS | | 37-11 35TH AVENUE LONG ISLAND CITY NY 11101 | 08/26/2013 | 08/26/2018 |
| DOL | NYC | ****4468 | CRAFT CONTRACTING GROUP INC | | 3256 BRUNER AVENUE BRONX NY 10469 | 07/29/2014 | 07/29/2019 |
| DOL | NYC | ****8507 | CRAFT FENCE INC | | 3256 BRUNER AVENUE BRONX NY 10469 | 07/29/2014 | 07/29/2019 |
| DOL | NYC | ****2164 | CREATIVE TRUCKING INC | | 58-83 54TH STREET MASPETH NY 11378 | 02/26/2016 | 02/26/2021 |
| DOL | DOL | ****7761 | D L MALARKEY CONSTRUCTION | | 64 VICTORIA DRIVE BINGHAMTON NY 13904 | 02/04/2016 | 02/04/2021 |
| DOL | DOL | ****7888 | D L MALARKEY CONSTRUCTION INC | | 64 VICTORIA DRIVE BINGHAMTON NY 13904 | 02/04/2016 | 02/04/2021 |
| DOL | DOL | ****5629 | DAKA PLUMBING AND HEATING LLC | | 2561 ROUTE 55 POUGHQUAG NY 12570 | 02/19/2016 | 02/19/2021 |
| DOL | DOL | | DANICA IVANOSKI | | 61 WILLETT ST. PASSAIC NJ 07503 | 10/26/2016 | 10/26/2021 |
| DOL | DOL | | DARYL T RIEKS | | C/O RIEKS CONTRACTING LLC 4804 GAHWILER ROAD AUBURN NY 13021 | 05/01/2015 | 05/01/2020 |
| DOL | NYC | ****7707 | DASSLE CONTRACTING INC | | 213-37 39TH AVE/SUITE 120 BAYSIDE NY 11360 | 05/08/2015 | 05/08/2020 |
| DOL | DOL | | DAVID MARTINEZ | | C/O EMPIRE TILE INC 6 TREMONT COURTHUNTINGTON STATION NY 11746 | 03/08/2016 | 03/08/2021 |
| DOL | NYC | | DAWN AVILA AKA DAWN BECHTOLD | | 1ST FLOOR STORE FRONT 88-10 LITTLE NECK PARKWAY FLORAL PARK NY 11001 | 06/24/2014 | 06/24/2019 |
| DOL | NYC | | DAWN BECHTOLD AKA DAWN AVILA | | 1ST FLOOR STORE FRONT 88-10 LITTLE NECK PARKWAY FLORAL PARK NY 11001 | 06/24/2014 | 06/24/2019 |
| DOL | DOL | | DEAN ROBBINS III | | 212 OXFORD WAY SCHENECTADY NY 12309 | 12/11/2012 | 09/16/2018 |
| DOL | DOL | | DEBBIE STURDEVANT | | 29 MAPLEWOOD DRIVE BINGHAMTON NY 13901 | 02/21/2017 | 02/21/2022 |
| DOL | AG | | DEBRA MARTINEZ | | 31 BAY ST BROOKLYN NY 11231 | 03/28/2018 | 03/28/2023 |
| DOL | NYC | ****3865 | DECOMA BUILDING CORPORATION | | 134 EVERGREEN PL/STE 101 EAST ORANGE NJ 07018 | 12/30/2013 | 12/30/2018 |
| DOL | DOL | | DEDA GAZIVODAN | | C/O DAKA PLUMBING AND H 2561 ROUTE 55 POUGHQUAG NY 12570 | 02/19/2016 | 02/19/2021 |
| DOL | DOL | ****1446 | DELTA CONTRACTING PAINTING AND DECORATING INC | | 437 SUNRISE HIGHWAY WEST BABYLON NY 11707 | 08/12/2013 | 08/12/2018 |
| DOL | DOL | ****3538 | DELTA CONTRACTING PAINTING AND DESIGN INC | | 75 MCCULLOCH DRIVE DIX HILLS NY 11746 | 10/19/2010 | 08/12/2018 |
| DOL | DOL | | DENNIS SCHWANDTNER | | C/O YES SERVICE AND REPAIR 145 LODGE AVE HUNTINGTON STATION NY 11476 | 08/09/2016 | 08/09/2021 |
| DOL | DOL | ****9868 | DESANTIS ENTERPRISES | | 161 OSWEGO RIVER ROAD PHOENIX NY 13135 | 09/24/2013 | 11/18/2018 |

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| DOL | DOL | | DF CONTRACTORS OF ROCHESTER, INC. | | 1835 DAANSEN RD. PALMYRA NY 14522 | 05/16/2017 | 05/16/2022 |
| DOL | DOL | | DF CONTRACTORS, INC. | | 1835 DAANSEN RD. PALMYRA NY 14522 | 05/16/2017 | 05/16/2022 |
| DOL | DOL | ****9252 | DI BERNARDO TILE AND MARBLE CO INC | | 15 WALKER WAY ALBANY NY 12205 | 03/21/2014 | 03/21/2019 |
| DOL | NYC | | DIMITRIOS KOUTSOUKOS | | C/O ASTORIA GENERAL CONTR 35-34 31ST STREETLONG ISLAND CITY NY 11106 | 09/02/2015 | 09/02/2020 |
| DOL | NYC | | DIMITRIOS TSOUMAS | | 35-12 19TH AVENUE ASTORIA NY 11105 | 08/02/2017 | 08/02/2022 |
| DOL | DOL | ****3242 | DONALD R. FORSAY | DF LAWN SERVICE | 1835 DAANSEN RD. PALMYRA NY 14522 | 05/16/2017 | 05/16/2022 |
| DOL | DOL | | DONALD R. FORSAY | | 1835 DAANSEN RD. PALMYRA NY 14522 | 05/16/2017 | 05/16/2022 |
| DOL | DOL | | DORIS SKODA | | C/O APCO CONTRACTING CORP 24 SOUTH MARYLAND AVENUEPORT WASHINGTON NY 11050 | 09/24/2012 | 09/02/2020 |
| DOL | NYC | ****7404 | DOSANJH CONSTRUCTION CORP | | 9439 212TH STREET QUEENS VILLAGE NY 11428 | 02/25/2016 | 02/25/2021 |
| DOL | DOL | | DOUGLAS L MALARKEY | MALARKEY CONSTRUCTION | 64 VICTORIA DRIVE B INGHAMTON NY 13904 | 02/04/2016 | 02/04/2021 |
| DOL | DOL | ****6982 | DUFOUR GROUP INC | DUFOUR MASONRY | 353 WEST 56TH STREET #7M NEW YORK NY 10019 | 06/10/2014 | 06/10/2019 |
| DOL | DOL | | DUFOUR MASONRY | | 353 WEST 56TH ST #7M NEW YORK NY 10019 | 06/10/2014 | 06/10/2019 |
| DOL | DOL | | DUFOUR MASONRY & RESTORATION INC | | 353 WEST 56TH STREET #7M NEW YORK NY 10019 | 06/10/2014 | 06/10/2019 |
| DOL | DOL | ****5840 | DYNA CONTRACTING INC | | 363 88TH STREET BROOKLYN NY 11209 | 11/18/2013 | 11/18/2018 |
| DOL | DOL | | E C WEBB | | 6409 LAND O LAKES BLVD LAND O LAKES FL 34638 | 11/10/2015 | 11/10/2020 |
| DOL | DOL | | EARL GALBREATH | | 640 ASHFORD AVENUE ARDSLEY NY 10502 | 08/27/2013 | 08/27/2018 |
| DOL | DOL | | EARL L WILSON | WILSON BROTHER DRYWALL CONTRACTORS | 36 ABERSOLD STREET ROCHESTER NY 14621 | 08/31/2015 | 08/31/2020 |
| DOL | DOL | ****1496 | EAST COAST DRYWALL INC | | 1238 PRESIDENT STREET BROOKLYN NY 11225 | 11/18/2013 | 11/18/2018 |
| DOL | DOL | | EAST COAST PAVING | | 2238 BAKER RD GILLET PA 16923 | 03/12/2018 | 03/12/2023 |
| DOL | NYC | | EDWARD MENKEN | | C/O AQUA JET PAINTING 10 VIKING DRIVEWEST ISLIP NY 11795 | 04/16/2014 | 04/16/2019 |
| DOL | NYC | ****0900 | EF PRO CONTRACTING INC | | 147 BROOME AVENUE ATLANTIC BEACH NY 11509 | 03/03/2014 | 03/03/2019 |
| DOL | NYC | | EFSTRATIOS BERNARDIS | | 23-73 48TH STREET LONG ISLAND CITY NY 11103 | 04/24/2014 | 04/24/2019 |
| DOL | DOL | | ELIZABETH RAMADANI | | C/O RAMADA CONSTRUCTION 80 SAVO LOOPSTATEN ISLAND NY 10309 | 01/07/2014 | 01/07/2019 |
| DOL | DOL | | ELLEN DESANTIS | DESANTIS ENTERPRISES | 161 OSWEGO RIVER ROAD PHOENIX NY 13135 | 09/24/2013 | 11/18/2018 |
| DOL | DOL | ****0780 | EMES HEATING & PLUMBING CONTR | | 5 EMES LANE MONSEY NY 10952 | 01/20/2002 | 01/20/3002 |
| DOL | AG | | EMILIO FRANZA | | 90 JUNIUS STREET BROOKLYN NY 11212 | 01/23/2014 | 01/23/2019 |
| DOL | DOL | | EMPIRE CONCRETE SERVICES LLC | | 101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534 | 11/18/2013 | 01/07/2019 |
| DOL | DOL | ****0511 | EMPIRE CONCRETE SYSTEMS LLC | | 101 SULLYS TRAIL/ SUITE 2 PITTSFORD NY 14534 | 11/18/2013 | 01/07/2019 |
| DOL | DOL | ****2353 | EMPIRE CONSTRUCTORS LLC | | 101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534 | 11/18/2013 | 01/07/2019 |
| DOL | DOL | | EMPIRE PRECAST LLC | | 101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534 | 11/18/2013 | 01/07/2019 |
| DOL | DOL | ****3270 | EMPIRE TILE INC | | 6 TREMONT COURT HUNTINGTON STATION NY 11746 | 03/08/2016 | 03/08/2021 |
| DOL | NYC | | EVERTON CARLESS | | 134 EVERGREEN PL/STE 101 EAST ORANGE NJ 07018 | 12/30/2013 | 12/30/2018 |
| DOL | DOL | ****7403 | F & B PAINTING CONTRACTING INC | | 2 PARKVIEW AVENUE HARRISON NY 10604 | 09/26/2016 | 09/26/2021 |

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| DOL | DOL | | F KALAFATIS | | 2279 HOLLERS AVENUE BRONX NY 10475 | 01/07/2014 | 06/23/2019 |
| DOL | DOL | | FANTASTIC PAINTING | | 493 LANSING ROAD FULTONVILLE NY 12072 | 11/18/2013 | 11/18/2018 |
| DOL | DOL | | FAY MATTHEW | | C/O CHAMPION CONSTRUCTION 2131 SCHENECTADY AVENUE BROOKLYN NY 11234 | 11/18/2015 | 11/18/2020 |
| DOL | DOL | | FAZIA GINA ALI-MOHAMMED | C/O CHAMPION CONSTRUCTI ON | 2131 SCHENECTADY AVENUE BROOKLYN NY 11234 | 11/18/2015 | 11/18/2020 |
| DOL | DOL | ****1311 | FLOZ-ON PAINTING & DECORATING INC | | 12 DUNDERBERG ROAD TOMKINS NY 10986 | 10/16/2013 | 10/16/2018 |
| DOL | DOL | ****8961 | FLOZ-ON PAINTING INC | | 12 DUNDERBERG ROAD TOMKINS NY 10986 | 10/16/2013 | 10/16/2018 |
| DOL | DOL | | FRAN MICELI | | 2279 HOLLERS AVENUE BRONX NY 10475 | 01/07/2014 | 06/23/2019 |
| DOL | DOL | | FRANCES KALAFATIS | | 2279 HOLLERS AVENUE BRONX NY 10475 | 01/07/2014 | 06/23/2019 |
| DOL | DOL | | FRANCES KALAFATIS-MICELI | | 2279 HOLLERS AVENUE BRONX NY 10475 | 01/07/2014 | 06/23/2019 |
| DOL | DOL | | FRANK BENEDETTO | | C/O F & B PAINTING CONTRA 2 PARKVIEW AVENUE HARRISON NY 10604 | 09/26/2016 | 09/26/2021 |
| DOL | DOL | | FRANK DEMARTINO | | 101-61 99TH STREET OZONE PARK NY 11416 | 02/15/2017 | 02/15/2022 |
| DOL | DOL | | FRANK DEMARTINO | | 101-61 99TH STREET OZONE PARK NY 11416 | 02/15/2017 | 02/15/2022 |
| DOL | DOL | | FRANK J MERCANDO | | 134 MURRAY AVENUE YONKERS NY 10704 | 12/11/2009 | 02/03/2019 |
| DOL | DOL | | FRANK MICELI JR | C/O FRANK MICELI JR CONTRACTIN G INC | 19 CLIFF STREET NEW ROCHELLE NY 10801 | 10/16/2013 | 10/16/2018 |
| DOL | DOL | ****1321 | FRANK MICELI JR CONTRACTING INC | | 19 CLIFF STREET NEW ROCHELLE NY 10801 | 10/16/2013 | 10/16/2018 |
| DOL | DOL | ****2724 | FRESH START PAINTING CORP | | 157 TIBBETS ROAD YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | | G FUCCI CONSTRUCTION SERVICES | | 3 ALAN B SHEPARD PLACE YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****6767 | G FUCCI PAINTING INC | | C/O SPIEGEL & UTRERA 1 MAIDEN LANE - 5TH FL NEW YORK NY 10038 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****4546 | GAF PAINTING LLC | | 157 TIBBETS ROAD YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | | GALINDA ROTENBERG | | C/O GMDV TRANS INC 67-48 182ND STREET FRESH MEADOWS NY 11365 | 06/24/2016 | 06/24/2021 |
| DOL | DOL | | GARDEN STATE PAINTING | | 157 TIBBETTS ROAD YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | | GEORGE DI BERNARDO | | C/O DI BERNARDO TILE 15 WALKER WAY ALBANY NY 12205 | 03/21/2014 | 03/21/2019 |
| DOL | DA | | GEORGE LUCEY | | 150 KINGS STREET BROOKLYN NY 11231 | 01/19/1998 | 01/19/2998 |
| DOL | DOL | ****5674 | GMDV TRANS INC | | 67-48 182ND STREET FRESH MEADOWS NY 11365 | 06/24/2016 | 06/24/2021 |
| DOL | DOL | ****0090 | GOLDS FLOORING INSTALLATIONS INC | | 25 HAMILTON ROAD MONTICELLO NY 12701 | 10/16/2013 | 10/16/2018 |
| DOL | DOL | | GREGORY A FUCCI | | C/O PAF PAINTING SERVICES 157 TIBBETTS ROAD YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | | GREGORY FUCCI JR | | C/O APOLLO CONSTRUCTION 157 TIBBETTS ROAD YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | | GREGORY S. OLSON | | P.O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | NYC | ****0346 | H N H CONTRACTORS CORP | | 4558 BROADWAY # 6 NEW YORK NY 10040 | 08/04/2014 | 08/04/2019 |
| DOL | DOL | | HALSSAM FOSTOK | | 5 HANSEN PLACE WAYNE NJ 07470 | 09/18/2013 | 09/18/2018 |
| DOL | NYC | | HAMEEDUL HASAN | | 240 HOME STREET TEANECK NJ 07666 | 08/04/2014 | 08/04/2019 |
| DOL | AG | ****9918 | HARA ELECTRIC CORP | | 2461 47TH STREET ASTORIA NY 11103 | 09/26/2013 | 09/26/2018 |
| DOL | NYC | | HARMEL SINGH | | 15 CLINTON LANE HICKSVILLE NY 11801 | 02/25/2016 | 02/25/2021 |

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| DOL | NYC | | HAROLD KUEMMEL | | 58-83 54TH STREET MASPETH NY 11378 | 02/26/2016 | 02/26/2021 |
| DOL | AG | | HARVINDER SINGH PAUL | | 90 JUNIUS STREET BROOKLYN NY 11212 | 01/23/2014 | 01/23/2019 |
| DOL | DOL | | HENRY VAN DALRYMPLE | | 2663 LANTERN LANE ATLANTA GA 30349 | 12/01/2015 | 12/01/2020 |
| DOL | DOL | ****6370 | HILLIANO CONSTRUCTION & ELECTRICAL INC | | 354 MAGNOLIA STREET ROCHESTER NY 14611 | 01/22/2015 | 01/22/2020 |
| DOL | DOL | ****8282 | IDEMA DEVELOPMENT INC | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | DOL | ****8282 | IDEMA GENERAL CONTRACTORS INC | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | DOL | ****7001 | INTEGRATED CONSTRUCTION & POWER SYSTEMS INC | | SUITE 100 2105 W GENESEE STREETS YACUSE NY 13219 | 01/06/2016 | 01/06/2021 |
| DOL | AG | | J A M CONSTRUCTION CORP | | SUITE 125 265 SUNRISE HIGHWAY ROCKVILLE CENTRE NY 10457 | 04/07/2016 | 04/07/2021 |
| DOL | DOL | ****7598 | J M RICH LLC | | P O BOX 268 STILLWATER NY 12170 | 09/16/2013 | 03/21/2019 |
| DOL | DOL | ****3478 | J N P CONSTRUCTION CORP | | 50 LOUIS COURT P O BOX 1907 SOUTH HACKENSACK NY 07606 | 03/21/2014 | 03/21/2019 |
| DOL | DOL | | J N RICH LLC | | P O BOX 268 STILLWATER NY 12170 | 09/16/2013 | 03/21/2019 |
| DOL | DOL | ****4910 | J V MAGIC TOUCH CORPORATION | | 94-25 57TH AVENUE, APT 5G ELMHURST NY 11373 | 01/12/2015 | 01/12/2020 |
| DOL | DOL | | J.A. HIRES CADWALLADER | | P.O BOX 100 200 LATT A BROOK PARKHORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | DOL | | JACQUELINE HOWE | | C/O FLOZ-ON PAINTING INC 12 DUNDERBERG ROAD TOMKINS NY 10986 | 10/16/2013 | 10/16/2018 |
| DOL | DOL | ****8627 | JAG I LLC | | 635 LUZERNE ROAD QUEENSBURY NY 12804 | 09/16/2013 | 09/16/2018 |
| DOL | DOL | ****2868 | JAG INDUSTRIES INC | | 175 BROAD ST - SUITE 320 GLENS FALLS NY 12801 | 09/16/2013 | 09/16/2018 |
| DOL | DOL | | JAMES B RHYNDERS | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | DOL | | JAMES BOYCE | | C/O EMPIRE CONCRETE SYST 101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534 | 11/18/2013 | 01/07/2019 |
| DOL | DOL | | JAMES E RHYNDERS | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | AG | | JAMES FALCONE | | SUITE 125 265 SUNRISE HIGHWAY ROCKVILLE CENTRE NY 10457 | 04/07/2016 | 04/07/2021 |
| DOL | DOL | | JAMES RHYNDERS SR | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | DOL | | JAMES SICKAU | | 3090 SHIRLEY ROAD NORTH COLLINS NY 14111 | 04/19/2011 | 07/08/2020 |
| DOL | DOL | | JASON M RICH | | P O BOX 268 STILLWATER NY 12170 | 09/16/2013 | 03/21/2019 |
| DOL | DOL | | JASON W MILLIMAN | | C/O ROCHESTER ACOUSTICAL P O BOX 799 HILTON NY 14468 | 02/19/2016 | 02/19/2021 |
| DOL | DOL | | JEFF P BRADLEY | | 520 PINE HILL ROAD CHESTER NY 10940 | 06/23/2014 | 06/23/2019 |
| DOL | NYC | | JEFFREY CASSIDY | | 14 RAILROAD AVENUE VALHALLA NY 10595 | 05/15/2014 | 04/02/2020 |
| DOL | DOL | | JERALD HOWE | | C/O FLOZ-ON PAINTING INC 12 DUNDERBERG ROAD TOMKINS NY 10986 | 10/16/2013 | 10/16/2018 |
| DOL | DOL | | JEROME LACITIGNOLA | | C/O CATSKILL FENCE INSTAL 5445 ROUTE 32 CATSKILL NY 12414 | 08/22/2014 | 08/22/2019 |
| DOL | DOL | | JESSICA WHITESIDE | | C/O BRRESTORATION NY INC 140 ARCADIA AVENUE OSWEGO NY 13126 | 09/12/2016 | 09/12/2021 |
| DOL | AG | | JOHN ANTHONY MASSINO | | 36-49 204TH STREET BAYSIDE NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | | JOHN DESCUL | | 437 SUNRISE HIGHWAY A WEST BABYLON NY 11704 | 08/12/2013 | 08/12/2018 |
| DOL | DOL | | JOHN F. CADWALLADER | | 200 LATT A BROOK PARK HORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |

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| DOL | DOL | ****4612 | JOHN F. CADWALLADER, INC. | THE GLASS COMPANY | P O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | AG | ****0600 | JOHNCO CONTRACTING, INC. | | 36-49 204TH STREET BAYSIDE NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | | JON E DEYOUNG | | 261 MILL ROAD P O BOX 296EAST AURORA NY 14052 | 07/29/2015 | 07/29/2020 |
| DOL | DOL | | JORGE VILLALOBOS | | 94-25 57TH AVENUE - APT 5 ELMHURST NY 11373 | 01/12/2015 | 01/12/2020 |
| DOL | DOL | | JOSE MONTAS | | 27 BUTLER PLACE YONKERS NY 10710 | 03/18/2011 | 03/19/2020 |
| DOL | AG | | JOSEPH FALCONE | | SUITE 125 265 SUNRISE HIGHWAYROCKVILLE CENTRE NY 10457 | 04/07/2016 | 04/07/2021 |
| DOL | DOL | ****9273 | JOSEPH M LOVETRO | | P O BOX 812 BUFFALO NY 14220 | 08/09/2016 | 08/09/2021 |
| DOL | NYC | | JOSEPH MARTINO | | 1535 RICHMOND AVENUE STATEN ISLAND NY 10314 | 12/13/2017 | 12/13/2022 |
| DOL | DOL | | JOSEPH MARTONE | | 112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542 | 08/27/2013 | 08/27/2018 |
| DOL | DOL | | JOSHUA DEBOWSKY | | 9547 BUSTLETON AVENUE PHILADELPHIA PA 19115 | 02/05/2014 | 02/05/2019 |
| DOL | DOL | | JOYA MUSCOLINO | | 10 ST CHARLES STREET THORNWOOD NY 10594 | 09/03/2013 | 09/03/2018 |
| DOL | DOL | | JUANA MARTINEZ | | C/O LEAD CONSTRUCTION 27 BUTLER PLACEYONKERS NY 10710 | 03/19/2015 | 03/19/2020 |
| DOL | DOL | ****4340 | JUBCO SITE DEVELOPMENT LLC | | 462 LAKEVIEW AVENUE VALHALLA NY 10595 | 12/16/2013 | 12/16/2018 |
| DOL | DOL | | JULIUS AND GITA BEHREND | | 5 EMES LANE MONSEY NY 10952 | 11/20/2002 | 11/20/3002 |
| DOL | DOL | ****5062 | K R F SITE DEVELOPMENT INC | | 375 LAKE SHORE DRIVE PUTNAM VALLEY NY 10579 | 01/23/2017 | 01/23/2022 |
| DOL | NYC | | KATHLEEN SELA | C/O COLONIAL ROOFING COMPANY INC | 247 48TH STREET BROOKLYN NY 11220 | 02/05/2014 | 02/05/2019 |
| DOL | DOL | | KATIE BURDICK | | 2238 BAKER RD GILLET PA 16923 | 03/12/2018 | 03/12/2023 |
| DOL | DOL | | KENNETH FIORENTINO | | 375 LAKE SHORE DRIVE PUTNAM VALLEY NY 10579 | 01/23/2017 | 01/23/2022 |
| DOL | DOL | ****9732 | KENT HOLLOW SIDING LLC | | 29A BRIDGE STREET NEW MILFORD CT 06776 | 01/15/2016 | 01/15/2021 |
| DOL | DOL | | KEVIN BABCOCK JR | | P O BOX 46 THOMPSON RIDGE NY 10985 | 08/22/2014 | 08/22/2019 |
| DOL | DOL | | KEVIN M BABCOCK | | P O BOX 46 THOMPSON RIDGE NY 10985 | 08/22/2014 | 08/22/2019 |
| DOL | DOL | | KIM SOROCENSKI | | C/O SOLUTION MATTERS INC 198 NORWOOD ROADPORT JEFFERSON NY 11776 | 11/19/2015 | 11/19/2020 |
| DOL | AG | | KOSTAS "GUS" ANDRIKOPOULOS | | 2461 47TH STREET ASTORIA NY 11103 | 09/26/2013 | 09/26/2018 |
| DOL | DA | ****8816 | LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION | | 150 KINGS STREET BROOKLYN NY 11231 | 08/19/1998 | 08/19/2998 |
| DOL | DOL | ****6224 | LAKESIDE FIRE SPRINKLERS LLC | | 125 CHAUTAUQUA AVENUE LAKEWOOD NY 14750 | 06/24/2015 | 06/24/2020 |
| DOL | AG | ****4643 | LALO DRYWALL, INC. | | 221 OLD FORD ROAD NEW PLATZ NY 12561 | 05/20/2016 | 05/20/2021 |
| DOL | DOL | ****4505 | LARAPINTA ASSOCIATES INC | | 29 MAPLEWOOD DRIVE BINGHAMTON NY 13901 | 02/21/2017 | 02/21/2022 |
| DOL | DOL | | LAURI MARTONE | | 112 OSCAWANA HEIGHTS ROAD PUTNAM VALLEY NY 10542 | 08/27/2013 | 08/27/2018 |
| DOL | DOL | | LAVERN GLAVE | | 161 ROBYN RD MONROE NY 10950 | 09/15/2014 | 09/15/2019 |
| DOL | DOL | | LAVERN GLAVE | | 161 ROBYN RD MONROE NY 10950 | 01/30/2018 | 01/30/2023 |
| DOL | DOL | | LAWRENCE J RUGGLES | | P O BOX 371 ROUND LAKE NY 12151 | 05/12/2014 | 05/12/2019 |
| DOL | DOL | ****1364 | LEAD CONSTRUCTION SERVICES INC | | 3 ALAN B SHEPARD PLACE YONKERS NY 10705 | 03/19/2015 | 03/19/2020 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 06/24/2016 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 06/24/2016 | 09/19/2022 |

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| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 01/17/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 08/14/2017 | 09/19/2022 |
| DOL | AG | | LEONID FRIDMAN | | APT 5 200 BRIGHTON, 15TH STBROOKLYN NY 11235 | 01/23/2014 | 01/23/2019 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 08/14/2017 | 08/14/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 01/17/2017 | 09/19/2022 |
| DOL | DOL | | LINDSEY R CRILL | | 143 FILLMORE AVENUE BUFFALO NY 14210 | 01/08/2015 | 01/08/2020 |
| DOL | AG | ****4216 | LOTUS-C CORP. | | 81-06 34TH AVENUE APT. 6EJACKSON HEIGHTS NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | AG | | LUIS MARTINEZ | LALO DRYWALL | 211 MAIN ST. NEW PALTZ NY 12561 | 05/20/2016 | 05/20/2021 |
| DOL | NYC | ****2850 | M A 2 FLAGS CONTRACTING CORP | | 25-18 100TH STREET EAST ELMHURST NY 11369 | 08/21/2013 | 08/21/2018 |
| DOL | DOL | | M ANVER BEIG | | 142 EAST MARKET STREET LONG BEACH NY 11561 | 03/07/2017 | 03/07/2022 |
| DOL | AG | ****6957 | M B DIN CONSTRUCTION INC | | 8831 20TH AVENUE/SUITE 6E BROOKLYN NY 11214 | 11/17/2015 | 11/17/2020 |
| DOL | NYC | ****6317 | M S QUALITY CONSTRUCTION LLC | | 27 MAPLEWOOD AVENUE COLONIA NJ 07067 | 02/04/2015 | 02/04/2020 |
| DOL | DOL | | M. ANVER BEIG | | 142 EAST MARKET STREET LONG BEACH NY 11561 | 03/07/2017 | 03/07/2022 |
| DOL | NYC | | MACIEJ SONTOWSKI | | 27 MAPLEWOOD AVENUE COLONIA NJ 07067 | 02/04/2015 | 02/04/2020 |
| DOL | NYC | ****9590 | MACK GLASSNAUTH IRON WORKS INC | | 137 LIBERTY AVENUE BROOKLYN NY 11212 | 12/21/2015 | 12/21/2020 |
| DOL | NYC | ****3141 | MACKAY REED ELECTRIC INC | | 1ST FLOOR STORE FRONT 88-10 LITTLE NECK PARKWAYFLORAL PARK NY 11001 | 06/24/2014 | 06/24/2019 |
| DOL | DOL | ****1784 | MADISON AVE CONSTRUCTION CORP | | 39 PENNY STREET WEST ISLIP NY 11795 | 11/02/2016 | 11/02/2021 |
| DOL | DOL | | MALARKEY'S BAR & GRILL LLC | | 64 VICTORIA DRIVE BINGHAMTON NY 13904 | 02/04/2016 | 02/04/2021 |
| DOL | DOL | ****0705 | MALARKEY'S PUB & GRUB LLC | | 64 VICTORIA DRIVE BINGHAMTON NY 13904 | 02/04/2016 | 02/04/2021 |
| DOL | DA | | MANUEL P TOBIO | | 150 KINGS STREET BROOKLYN NY 14444 | 08/19/1998 | 08/19/2998 |
| DOL | DA | | MANUEL TOBIO | | 150 KINGS STREET BROOKLYN NY 11231 | 08/19/1998 | 08/19/2998 |
| DOL | DOL | | MARIACHI'S PIZZERIA | | C/O DOUGLAS L MALARKEY 64 VICTORIA DRIVEBINGHAMTON NY 13904 | 02/04/2016 | 02/04/2021 |
| DOL | DOL | | MARK MIONIS | | 6409 LAND O LAKES BLVD LAND O LAKES FL 34638 | 11/10/2015 | 11/10/2020 |
| DOL | DOL | ****5533 | MARQUISE CONSTRUCTION & DEVELOPMENT CORP | | 10 ST CHARLES STREET THORNWOOD NY 10594 | 09/03/2013 | 09/03/2018 |
| DOL | DOL | ****8810 | MARQUISE CONSTRUCTION ASSOCIATES INC | | 20 BOSWELL ROAD PUTNAM VALLEY NY 10579 | 09/03/2013 | 09/03/2018 |
| DOL | DOL | ****1134 | MARQUISE CONSTRUCTION CORP | | 10 ST CHARLES STREET THORNWOOD NY 10594 | 09/03/2013 | 09/03/2018 |
| DOL | DOL | | MARVIN A STURDEVANT | | 29 MAPLEWOOD DRIVE BINGHAMTON NY 13901 | 02/21/2017 | 02/21/2022 |
| DOL | DOL | | MASONRY CONSTRUCTION, INC. | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |

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| DOL | DOL | ****3333 | MASONRY INDUSTRIES, INC. | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | MATTHEW IDEMA GENERAL CONTRACTORS INC | | 91 COLLEGE AVENUE POUGHKEEPSIE NY 12603 | 12/04/2015 | 12/04/2020 |
| DOL | DOL | | MAURICE GAWENO | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | ****6416 | MCCALL MASONRY | | P O BOX 304 SAYRE PA 18840 | 08/09/2016 | 08/09/2021 |
| DOL | DOL | ****4259 | MERCANDO CONTRACTING CO INC | | 134 MURRAY AVENUE YONKERS NY 10704 | 12/11/2009 | 02/03/2019 |
| DOL | DOL | ****0327 | MERCANDO INDUSTRIES LLC | | 134 MURRAY AVENUE YONKERS NY 10704 | 12/11/2009 | 02/03/2019 |
| DOL | NYC | ****5330 | METRO DUCT SYSTEMS INC | | 1219 ASTORIA BOULEVARD LONG ISLAND CITY NY 11102 | 04/16/2014 | 11/19/2020 |
| DOL | DOL | ****3368 | MICEK CONSTRUCTION CO INC | | 20 CROSS STREET FALCONER NY 14733 | 12/02/2014 | 12/02/2019 |
| DOL | DOL | | MICHAEL A PASCARELLA | | SUITE 100 2105 WEST GENESEE STREET SYRACUSE NY 13219 | 01/06/2016 | 01/06/2021 |
| DOL | NYC | | MICHAEL HIRSCH | | C/O MZM CORP 163 S MAIN STREET NEW CITY NY 10956 | 01/28/2016 | 01/28/2021 |
| DOL | DOL | | MICHAEL KTISTAKIS | | 363 88TH STREET BROOKLYN NY 11209 | 11/18/2013 | 11/18/2018 |
| DOL | AG | | MICHAEL RIGLIETTI | | 31 BAY ST BROOKLYN NY 11231 | 03/28/2018 | 03/28/2023 |
| DOL | DOL | | MICHAEL WILSON | WILSON BROTHER DRYWALL CONTRACTORS | 36 ABERSOLD STREET ROCHESTER NY 14621 | 08/31/2015 | 08/31/2020 |
| DOL | DOL | | MICHELLE L BARBER | | 635 LUZERNE ROAD QUEENSBURY NY 12804 | 09/16/2013 | 09/16/2018 |
| DOL | NYC | | MIGUEL ACOSTA | | 25-18 100TH STREET EAST ELMHURST NY 11369 | 08/21/2013 | 08/21/2018 |
| DOL | NYC | | MILANCE HADZIC | | 22 CALIFORNIA AVE - STE 1 PATERSON NJ 07503 | 03/11/2015 | 03/11/2020 |
| DOL | AG | | MOHAMMAD RIAZ | | 46 RUGBY ROAD WESTBURY NY 11590 | 11/20/2013 | 11/20/2018 |
| DOL | AG | | MOHAMMED N CHATHA | | 8831 20TH AVENUE/SUITE 6E BROOKLYN NY 11214 | 11/17/2015 | 11/17/2020 |
| DOL | DOL | ****2737 | MOUNTAIN'S AIR INC | | 2471 OCEAN AVENUE- STE 7A BROOKLYN NY 11229 | 09/24/2012 | 09/18/2020 |
| DOL | AG | | MSR ELECTRICAL CONSTRUCTION CORP. | | 31 BAY ST BROOKLYN NY 11231 | 03/28/2018 | 03/28/2023 |
| DOL | DOL | | MUHAMMAD BEIG | | 142 EAST MARKET STREET LONG BEACH NY 11561 | 03/07/2017 | 03/07/2022 |
| DOL | DOL | | MUHAMMAD BEIG | | 142 EAST MARKET STREET LONG BEACH NY 11561 | 03/07/2017 | 03/07/2022 |
| DOL | DOL | | MUHAMMAD PERVAIZ | | C/O CHAMPION CONSTRUCTION 2131 SCHENECTADY AVENUE BROOKLYN NY 11234 | 11/18/2015 | 11/18/2020 |
| DOL | NYC | ****3613 | MZM CORP | | 163 S MAIN STREET NEW CITY NY 10956 | 01/28/2016 | 01/28/2021 |
| DOL | NYC | ****1284 | NEW AMERICAN RESTORATION INC | | 22 CALIFORNIA AVE - STE 1 PATERSON NJ 07503 | 03/11/2015 | 03/11/2020 |
| DOL | DA | ****6988 | NEW YORK INSULATION INC | | 58-48 59TH STREET MASPETH NY 11378 | 05/16/2012 | 05/08/2020 |
| DOL | NYC | ****4839 | NEW YORK RIGGING CORP | | 58-83 54TH STREET MASPETH NY 11378 | 02/26/2016 | 02/26/2021 |
| DOL | NYC | | NICHOLAS PROVENZANO | | 147 BROOME AVENUE ATLANTIC BEACH NY 11509 | 03/03/2014 | 03/03/2019 |
| DOL | NYC | | NICHOLAS PROVENZANO | | 147 BROOME AVENUE ATLANTIC BEACH NY 11509 | 03/03/2014 | 03/03/2019 |
| DOL | NYC | ****1968 | NORTH AMERICAN IRON WORKS INC | | 1560 DECATUR STREET RIDGWOOD NY 11385 | 05/15/2015 | 05/15/2020 |
| DOL | DOL | ****6966 | NORTH COUNTRY DRYWALL AND PAINT | | 23167 COUNTY ROUTE 59 DEXTER NY 13634 | 10/24/2016 | 10/24/2021 |
| DOL | DOL | ****0065 | NORTHEAST LANDSCAPE AND MASONRY ASSOC | | 3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10523 | 01/23/2017 | 01/23/2022 |
| DOL | DOL | ****1845 | OC ERECTERS, LLC A/K/A OC ERECTERS OF NY INC. | | 1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442 | 01/16/2018 | 01/16/2023 |
| DOL | NYC | ****8337 | OPTIMUM CONSTRUCTION INC | | 23-73 48TH STREET LONG ISLAND CITY NY 11103 | 04/24/2014 | 04/24/2019 |

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| DOL | NYC | | ORSON ARROYO | | C/O METRO DUCT SYSTEMS 12-19 ASTORIA BOULEVARDLONG ISLAND CITY NY 11102 | 04/16/2014 | 11/19/2020 |
| DOL | DOL | ****4546 | PAF PAINTING CORP | | 161 TIBBETTS ROAD YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****5242 | PAF PAINTING SERVICES INC | GARDEN STATE PAINTING | 157 TIBBETTS ROAD YONKERS NY 10103 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | | PAF PAINTING SERVICES OF WESTCHESTER INC | | C/O SPIEGEL & UTRERA 1 MAIDEN LANE - 5TH FLNEW YORK NY 10038 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****8802 | PAT'S HEATING AND AIR CONDITIONING LTD | | P O BOX 371 ROUND LAKE NY 12151 | 05/12/2014 | 05/12/2019 |
| DOL | DOL | | PATRICIA M RUGGLES | | P O BOX 371 ROUND LAKE NY 12151 | 05/12/2014 | 05/12/2019 |
| DOL | NYC | ****9422 | PELIUM CONSTRUCTION, INC. | | 22-33 35TH ST. ASTORIA NY 11105 | 12/30/2016 | 12/30/2021 |
| DOL | DOL | | PETER M PERGOLA | | 3 WEST MAIN ST/SUITE 208 ELMSFORD NY 10523 | 01/23/2017 | 01/23/2022 |
| DOL | NYC | | PETER TRITARIS | | 5990 58TH AVENUE MASPETH NY 11378 | 11/18/2013 | 11/18/2018 |
| DOL | DOL | | PIERRE LAPORT | | 224 COUNTY HIGHWAY 138 BROADALBIN NY 12025 | 03/07/2017 | 03/07/2022 |
| DOL | DOL | ****1543 | PJ LAPORT FLOORING INC | | 224 COUNTY HIGHWAY 138 BROADALBIN NY 12025 | 03/07/2017 | 03/07/2022 |
| DOL | DOL | ****2989 | PROFESSIONAL ESTIMATING & BUSINESS CORP | | 157 TIBBETS ROAD YONKERS NY 10705 | 03/12/2014 | 03/12/2019 |
| DOL | DOL | ****6895 | PROLINE CONCRETE OF WNY INC | | 3090 SHIRLEY ROAD NORTH COLLINS NY 14111 | 04/19/2011 | 07/08/2020 |
| DOL | DA | ****6817 | QUADRANT METAL BUILDINGS LLC | | 2740 SW MARTIN DOWNS BLVD PALM CITY FL 34990 | 08/25/2016 | 08/25/2021 |
| DOL | DOL | ****0015 | RAMADA CONSTRUCTION CORP | | 80 SAVO LOOP STATEN ISLAND NY 10309 | 01/07/2014 | 01/07/2019 |
| DOL | NYC | | RAMESHWAR ASU | | 137 LIBERTY AVENUE BROOKLYN NY 11212 | 12/21/2015 | 12/21/2020 |
| DOL | DOL | | RANA A KAHN | | 1973 81ST ST - SUITE A-5 BROOKLYN NY 11214 | 01/08/2015 | 01/08/2020 |
| DOL | NYC | | RANTIK PARIKH | | 13 LORIANN ROAD WARREN NJ 07059 | 07/15/2015 | 07/15/2020 |
| DOL | DOL | ****2633 | RAW POWER ELECTRIC CORP | | 3 PARK CIRCLE MIDDLETOWN NY 10940 | 09/16/2013 | 09/15/2019 |
| DOL | DOL | ****2633 | RAW POWER ELECTRIC CORP | | 3 PARK CIRCLE MIDDLETOWN NY 10940 | 01/30/2018 | 01/30/2023 |
| DOL | NYC | | RAYMOND PEARSON | | P O BOX 957 PORT JEFFERSON STA NY 11776 | 03/12/2014 | 03/12/2019 |
| DOL | AG | ****7015 | RCM PAINTING INC. | | 69-06 GRAND AVENUE 2ND FLOORMASPETH NY 11378 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | | REGINALD WARREN | | 161 ROBYN RD MONROE NY 10950 | 09/15/2014 | 09/15/2019 |
| DOL | DOL | | REGINALD WARREN | | 161 ROBYN RD MONROE NY 10950 | 01/30/2018 | 01/30/2023 |
| DOL | NYC | ****3461 | RELIANCE GENERAL CONSTRUCTION INC | | 644 OCEAN PARKWAY BROOKLYN NY 11230 | 09/02/2015 | 09/02/2020 |
| DOL | DOL | | REVOLUTIONARY FLOORS LLC | | P O BOX 268 STILLWATER NY 12170 | 09/16/2013 | 03/21/2019 |
| DOL | DOL | | RHINO CONCRETE LLC | | 101 SULLYS TRAIL/SUITE 20 PITTSFORD NY 14534 | 11/18/2013 | 01/07/2019 |
| DOL | DA | | RIANN MULLER | | 2740 SW MARTIN DOWNS BLVD PALM CITY FL 34990 | 08/25/2016 | 08/25/2021 |
| DOL | DOL | | RICHARD WILSON | | C/O DUFOUR GROUP INC 353 WEST 56TH STREET #7MNEW YORK NY 10019 | 06/10/2014 | 06/10/2019 |
| DOL | DOL | ****8618 | RIEKS CONTRACTING LLC | | 4804 GAHWILER ROAD AUBURN NY 13021 | 05/01/2015 | 05/01/2020 |
| DOL | DOL | | ROBBYE BISSEAR | | 89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427 | 01/11/2003 | 01/11/3003 |
| DOL | DOL | | ROBERT BRUNO | | 3 GAYLORD ST AUBURN NY 13021 | 11/15/2016 | 11/15/2021 |
| DOL | DOL | ****1855 | ROBERT D BISHOP JR | ROBERT D BISHOP JR | P O BOX 112 MORRISONVILLE NY 12962 | 07/15/2014 | 07/15/2019 |
| DOL | DOL | | ROBERT D BISHOP JR | | P O BOX 112 MORRISONVILLE NY 12962 | 07/15/2014 | 07/15/2019 |

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| DOL | NYC | | ROBERT GUIDO | | 3256 BRUNER AVENUE BRONX NY 10469 | 07/29/2014 | 07/29/2019 |
| DOL | DOL | | ROBERT TORDELLA | | 125 CHAUTAUQUA AVENUE LAKEWOOD NY 14750 | 06/24/2015 | 06/24/2020 |
| DOL | DOL | ****3859 | ROCHESTER ACOUSTICAL CORP | | P O BOX 799 HILTON NY 14468 | 02/19/2016 | 02/19/2021 |
| DOL | 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 | 09/16/2013 | 09/15/2019 |
| DOL | DOL | | ROMEO WARREN | | 161 ROBYN RD MONROE NY 10950 | 01/30/2018 | 01/30/2023 |
| DOL | DOL | | ROSEANNE CANTISANI | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | ROSS J MUSCOLINO | | 10 ST CHARLES STREET THORNWOOD 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 | ****3347 | RYAN ALBIE CONTRACTING INC | | 21 S HOWELLS POINT ROAD BELLPORT NY 11713 | 02/21/2017 | 02/21/2022 |
| DOL | NYC | | SABIR MUHAMMED | | SUITE B-8 782 PELHAM PARKWAY SOUTHBRONX NY 10462 | 04/21/2016 | 04/21/2021 |
| DOL | NYC | | SAEED HASAN | | 4558 BROADWAY #6 NEW YORK NY 10040 | 08/04/2014 | 08/04/2019 |
| DOL | NYC | ****2117 | SCOTT ELECTRICAL LLC | | 201 HEMPSTEAD AVENUE WEST HEMPSTEAD NY 11552 | 10/30/2015 | 10/30/2020 |
| DOL | DOL | ****9751 | SCW CONSTRUCTION | | 544 OLD ROUTE 23 ACRE NY 12405 | 02/14/2017 | 02/14/2022 |
| DOL | DOL | | SEAN BURBAGE | C/O SEAN BURBAGE CORP | 445 ROOSA GAP ROAD BLOOMINGBURG NY 12721 | 04/14/2014 | 04/14/2019 |
| DOL | DOL | ****6586 | SEAN BURBAGE CORP | | 445 ROOSA GAP ROAD BLOOMINGBURG NY 12721 | 04/14/2014 | 04/14/2019 |
| DOL | AG | | SERGIO RAYMUNDO | | 109 DUBOIS RD. NEW PALTZ NY 12561 | 05/20/2016 | 05/20/2021 |
| DOL | DOL | ****1961 | SHANE BURDICK | CENTRAL TRAFFIC CONTROL, LLC. | 2238 BAKER ROAD GILLET PA 16923 | 03/12/2018 | 03/12/2023 |
| DOL | DOL | | SHANE BURDICK | | 2238 BAKER ROAD GILLET PA 16923 | 03/12/2018 | 03/12/2023 |
| DOL | DOL | ****6904 | SIGNING STAR LIMITED LIABILITY COMPANY | | 5 HANSEN PLACE WAYNE NJ 07470 | 09/18/2013 | 09/18/2018 |
| DOL | DOL | ****4025 | SOLUTION MATTERS INC | | 198 NORWOOD ROAD PORT JEFFERSON NY 11776 | 11/19/2015 | 11/19/2020 |
| DOL | NYC | ****4934 | SPHINX CONTRACTING CORP | | 240 HOME STREET TEANECK NJ 07666 | 08/04/2014 | 08/04/2019 |
| DOL | DOL | ****3496 | STAR INTERNATIONAL INC | | 89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427 | 08/11/2003 | 08/11/3003 |
| DOL | DOL | | STEPHEN BIANCHI | | 462 LAKEVIEW AVENUE VALHALLA NY 10595 | 12/16/2013 | 12/16/2018 |
| DOL | DOL | ****9751 | STEPHEN C WAGAR | | 544 OLD ROUTE 23 ACRE NY 12405 | 02/14/2017 | 02/14/2022 |
| DOL | DOL | | STEPHEON SHELDON | FANTASTIC PAINTING | 493 LANSING ROAD FULTONVILLE NY 12072 | 11/18/2013 | 11/18/2018 |
| DOL | DOL | | STEVEN P SUCATO | | 15-68 208TH STREET BAYSIDE NY 11360 | 06/23/2016 | 06/23/2021 |
| DOL | DOL | | STEVEN SAGGESE | | 3005 WYNSUM AVENUE MERRICK NY 11566 | 08/18/2014 | 08/18/2019 |
| DOL | DOL | | STEVEN TESTA | | 50 SALEM STREET - BLDG B LYNNFIELD MA 01940 | 01/23/2017 | 01/23/2022 |
| DOL | DOL | | STUART CHAITIN | | 634 ROUTE 303 BLAUVET NY 10913 | 07/26/2012 | 11/19/2018 |
| DOL | NYC | ****9432 | SUBLINK LTD | | 346 THIRD AVENUE PELHAM NY 10803 | 11/19/2015 | 11/19/2020 |
| DOL | DOL | | SUZANNE G GOLD | C/O GOLDS FLOORING INSTALLATION S INC | 25 HAMILTON ROAD MONTICELLO NY 12701 | 10/16/2013 | 10/16/2018 |
| DOL | DOL | ****7441 | T & T CONCRETE INC | | 2560 HAMBURG TURNPIKE P O BOX 367LACKAWANNA NY 14218 | 07/08/2015 | 07/08/2020 |
| DOL | DOL | ****7417 | TADCO CONSTRUCTION | | 101-61 99TH STREET OZONE PARK NY 11416 | 02/15/2017 | 02/15/2022 |
| DOL | DOL | | TADCO CONSTRUCTION | | 101-61 99TH STREET OZONE PARK NY 11416 | 02/15/2017 | 02/15/2022 |

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| DOL | DOL | ****7417 | TADCO CONSTRUCTION CORP | | 101-61 99TH STREET OZONE PARK NY 11416 | 02/15/2017 | 02/15/2022 |
| DOL | DOL | | TALAILA OCAMPA | | 1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442 | 01/16/2018 | 01/16/2023 |
| DOL | DOL | | TAMMY LACITIGNOLA | | C/O CATSKILL FENCE INSTAL 5445 ROUTE 32CATSKILL NY 12414 | 08/22/2014 | 08/22/2019 |
| DOL | DOL | ****9852 | TAP STEEL INC | | ROUTE 26 3101 P O BOX 457CONSTABLEVILLE NY 13325 | 01/28/2016 | 01/28/2021 |
| DOL | DOL | | TECH-MECHANICAL FAB DC INC | | 5 PARKER AVENUE POUGHKEEPSIE NY 12601 | 03/25/2014 | 03/25/2019 |
| DOL | DOL | ****5570 | TESTA CORP | | 50 SALEM STREET - BLDG B LYNNFIELD MA 01940 | 01/23/2017 | 01/23/2022 |
| DOL | DOL | ****0887 | THE BRINSON PAINTING CORPORATION | | 72 TAUNTON PLACE BUFFALO NY 14216 | 04/14/2015 | 04/14/2020 |
| DOL | DOL | ****8174 | THE DALRYMPLE CORPORATION | | UNIT 278 541 10TH STREET NATLANTA GA 30318 | 12/01/2015 | 12/01/2020 |
| DOL | DOL | ****8174 | THE DALRYMPLE GROUP LLC | | 289 JONESBORO RD/ STE 216 MCDONOUGH GA 30253 | 12/01/2015 | 12/01/2020 |
| DOL | DOL | ****2070 | THE UNIVERSAL GROUP OF NEW YORK INC | | 212 OXFORD WAY SCHENECTADY NY 12309 | 12/11/2012 | 09/16/2018 |
| DOL | DOL | ****9243 | THE WELCOME MAT PROPERTY MANAGEMENT LLC | | P O BOX 268 STILLWATER NY 12170 | 09/16/2013 | 03/21/2019 |
| DOL | DOL | | THOMAS DESANTIS | DESANTIS ENTERPRISES | 161 OSWEGO RIVER ROAD PHOENIX NY 13135 | 09/24/2013 | 11/18/2018 |
| DOL | NYC | | THOMAS SCARINCI | | 130-43 92ND AVENUE RICHMOND HILLS NY 11418 | 11/27/2013 | 11/27/2018 |
| DOL | DOL | | TIMOTHY A PALUCK | | C/O TAP STEEL INC RTE 26 3101/ P O BOX 457CONSTABLEVILLE NY 13325 | 01/28/2016 | 01/28/2021 |
| DOL | DOL | | TIMOTHY F BARBER | | 635 LUZERNE ROAD QUEENSBURY NY 12804 | 09/16/2013 | 09/16/2018 |
| DOL | NYC | ****1523 | TM MECHANICAL CORP | | 130-43 92ND AVENUE RICHMOND HILLS NY 11418 | 11/27/2013 | 11/27/2018 |
| DOL | DOL | ****0600 | TOMSON ALLOYS RECYCLING INC | | 143 FILLMORE AVENUE BUFFALO NY 14210 | 01/08/2015 | 01/08/2020 |
| DOL | DOL | ****3453 | TORCHIA'S HOME IMPROVEMENT | | 10153 ROBERTS RD SAUQUOIT NY 13456 | 08/09/2016 | 08/09/2021 |
| DOL | DOL | ****6914 | TRI-COUNTY RESTORATIONS & CONSTRUCTION INC | | 13 SUMMERSET DRIVE WALLKILL NY 12589 | 08/22/2014 | 08/22/2019 |
| DOL | DOL | | TRI-COUNTY RESTORATIONS INC | | 392 ROCK CUT ROAD WALDEN NY 12586 | 08/22/2014 | 08/22/2019 |
| DOL | DOL | ****8311 | TRIPLE B FABRICATING, INC. | | 61 WILLETT ST. PASSAIC NJ 07503 | 10/26/2016 | 10/26/2021 |
| DOL | DOL | ****9407 | TURBO GROUP INC | | 15-68 208TH STREET BAYSIDE NY 11360 | 06/23/2016 | 06/23/2021 |
| DOL | AG | ****6490 | UNIVERSAL STEEL FABRICATORS INC | | 90 JUNIUS STREET BROOKLYN NY 11212 | 01/23/2014 | 01/23/2019 |
| DOL | NYC | ****7174 | V&R CONTRACTING | | P O BOX 957 PORT JEFFERSON STA NY 11776 | 03/12/2014 | 03/12/2019 |
| DOL | NYC | | VALERIE VISCONTI | | 346 THIRD AVENUE PELHAM NY 10803 | 11/19/2015 | 11/19/2020 |
| DOL | NYC | | VEAP SELA | C/O COLONIAL ROOFING COMPANY INC | 247 48TH STREET BROOKLYN NY 11220 | 02/05/2014 | 02/05/2019 |
| DOL | NYC | | VICK CONSTRUCTION | | 21 DAREWOOD LANE VALLEY STREAM NY 11581 | 12/31/2013 | 12/31/2018 |
| DOL | NYC | | VICKRAM MANGRU | VICK CONSTRUCTION | 21 DAREWOOD LANE VALLEY STREAM NY 11581 | 12/31/2013 | 12/31/2018 |
| DOL | DOL | | VICTOR ROTENBERG | | C/O GMDV TRANS INC 67048 182ND STREETFRESH MEADOWS NY 11365 | 06/24/2016 | 06/24/2021 |
| DOL | NYC | | VINCENT PIZZITOLA | | P O BOX 957 PORT JEFFERSON STA NY 11776 | 03/12/2014 | 03/12/2019 |
| DOL | NYC | | VITO GARGANO | | 1535 RICHMOND AVE STATEN ISLAND NY 10314 | 12/13/2017 | 12/13/2022 |
| DOL | DOL | | WAYNE LIVINGSTON JR | NORTH COUNTRY DRYWALL AND PAINT | 23167 COUNTY ROUTE 59 DEXTER NY 13634 | 10/24/2016 | 10/24/2021 |
| DOL | DOL | | WHITE PLAINS CARPENTRY CORP | | 442 ARMONK RD | 06/12/2018 | 06/12/2023 |

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| DOL | DOL | | WILLIAM CONKLIN | | 5 PARKER AVENUE POUGHKEEPSIE NY 12601 | 03/25/2014 | 03/25/2019 |
| DOL | DOL | | WILLIAM DEAK | | C/O MADISON AVE CONSTR CO 39 PENNY STREETWEST ISLIP NY 11795 | 11/02/2016 | 11/02/2021 |
| DOL | DOL | | WILLIAM MAZZELLA | | 134 MURRAY AVENUE YONKERS NY 10704 | 02/03/2014 | 02/03/2019 |
| DOL | DOL | | WILLIE BRINSON | | 72 TAUNTON PLACE BUFFALO NY 14216 | 04/14/2015 | 04/14/2020 |
| DOL | DOL | ****6195 | WILSON BROTHER DRYWALL CONTRACTORS | | 36 ABERSOLD STREET ROCHESTER NY 14621 | 08/31/2015 | 08/31/2020 |
| DOL | DOL | ****4043 | WINDSHIELD INSTALLATION NETWORK, INC. | | 200 LATTI BROOK PARK HORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | DOL | ****7345 | YES SERVICE AND REPAIRS CORPORATION | | 145 LODGE AVE HUNTINGTON STATION NY 11476 | 08/09/2016 | 08/09/2021 |
| DOL | DOL | | YURIY IVANIN | | C/O MOUNTAIN'S AIR INC 2471 OCEAN AVENUE-STE 7ABROOKLYN NY 11229 | 09/24/2012 | 09/18/2020 |

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| AGENCY | Fiscal Officer | FEIN | EMPLOYER NAME | EMPLOYER DBA NAME | ADDRESS | DEBARMENT START DATE | DEBARMENT END DATE |
|---------------|-----------------------|-------------|--------------------------------|------------------------------------|---|-----------------------------|---------------------------|
| DOL | DOL | *****5530 | CFM SERVICE CORPORATION INC | | P O BOX 548 225 MONTAUK HWY/SUITE 219MORICHES NY 11955 | 11/28/2012 | 04/15/2021 |
| DOL | DOL | | JOSEPH KLEINPETER | CFM SERVICE CORPORATIO N INC | P O BOX 548 225 MONTAUK HWY/SUITE 219MORICHES NY 11955 | 11/28/2012 | 04/15/2021 |
| DOL | NYC | | ROBERT SARDINA | | C/O TRAFFIC MOVING SYSTEM 66 ALEXANDER STREET YONKERS NY 10701 | 03/31/2015 | 03/31/2020 |
| DOL | NYC | *****2049 | TRAFFIC MOVING SYSTEMS INC | | 66 ALEXANDER STREET YONKERS NY 10701 | 03/31/2015 | 03/31/2020 |

PART 1 - GENERAL

1.01 BRIEF PURPOSE OF PROJECT / GENERAL

- A. The purpose of the project is to install a new VFD as shown in the Project Documents at the Riverhead Water District Well No. 3A on Pulaski Road in Riverhead.
- B. All work shown and specified in the Contract Documents shall be the work of this Construction Contract.
- C. This Section provides an abbreviated summary of the work for the Construction Contracts associated with the Owner's program to construct the project.
- D. Each Contractor has been provided with copies of all relevant construction drawings for related construction contracts whose work may directly effect and impact the work under this Contract.
 - 1. Each Contractor shall provide a complete and operational project in anticipation of these affects and impacts.
 - 2. It is each Contractor's responsibility to investigate the work that will be performed by others and consider such in the conduct of his/her work.

1.02 NOMENCLATURE

- A. Where the terms "Engineer/Architect", "Architect/Engineer", "Engineer", or "Architect" are used throughout these Contract Documents, they shall mean the firm of H2M architects + engineers as may be abbreviated by H2M or H2M Group.
- B. The terms "Contractor" and/or "Prime Contractor" where used shall refer to the individual or company who has entered into an agreement with the Owner to perform the work contained within these Contract Documents. The lack of word capitalization shall be incidental.
- C. The terms "Contractor" and/or "Prime Contractor" where used within the body of a specific Construction Contract, (i.e.; Contract G, Contract E, and Contract T), shall refer to the individual or company who has entered into an agreement with the Owner to perform the work contained within those Contract Documents. The lack of word capitalization shall be incidental.
- D. The Electrical Construction Contractor may be referred to as the "Electrical Contractor", "Prime Electrical Contractor", "Contract E Contractor" or similar wording. The lack of word capitalization shall be incidental. This Construction Contract shall be known as Contract E.

1.03 ABBREVIATED SUMMARY OF CONTRACT E WORK

- A. Furnish all labor, equipment, materials, tools, means, methods, and incidentals necessary to complete the Work as required by the Contract Documents for this Construction Contract. Each Contractor shall coordinate, through the Owner/Architect/Engineer, the work of their contract with the work by others.
- B. This following abbreviated summary is provided in order to briefly describe the work covered by the Contract Documents for this Construction Contract. It is not all inclusive of the work under the Contract.
- C. The work includes, but is not limited to, the following:
 - 1. Provide and install new VFD at Well No. 3A.
 - 2. Provide power and control wiring
 - 3. Electrical connections (final termination) to all equipment, control panels, ventilating equipment and electrical devices.

4. Installation and control of variable chemical pumps supplied by Owner and all associated wiring and conduit. (Alternate)
5. Startup participation for the various equipment and systems of the project and provide complete service to troubleshoot and assist manufacturer service representatives in obtaining a completely functional installation.
6. Removal of existing components as noted.
7. Wiring connections to all electrical equipment and control devices (including equipment furnished by others).
8. Testing, programming and adjusting of all electrical systems.
9. Startup participation for the various equipment and systems of the project. Provide complete service to troubleshoot and assist manufacturer service representatives in obtaining a completely functional installation. Provide systems and equipment training for Owner personnel.
10. Project closeout submittals.

D. All other work shown and specified in the Contract Documents for Contract E.

1.04 PARTIAL LISTING OF SPECIFIC CONTRACT REQUIREMENTS

- A. The Contract Documents detail the work included in the Contract. Related requirements and conditions covered by the Contract Documents include, but are not limited to, the following:
1. A Project Labor Agreement is in effect for this project as included in the Supplementary Conditions.
 2. Guidelines and requirements of the Occupational Safety and Health Administration.
 3. Guidelines and requirements of the New York State Department of Environmental Conservation (NYSDEC).
 4. Guidelines and requirements of the Suffolk County Department of Health Services.
 5. Guidelines and requirements of the Town of Riverhead.
 6. Local laws and ordinances of the Town of Riverhead.
 7. Local gas utility requirements for new services, connections, alterations and related work.

1.05 PARTIAL LISTING OF OVERALL CONTRACT REQUIREMENTS

- A. The Contract Documents detail the work included in the Contract. Related requirements and conditions covered by the Contract Documents include, but is not limited to, the following:
1. Debris removal and daily and final cleaning up.
 2. Coordination with the Owner and other contractors who have been awarded work by the Owner.
 3. Coordination with utility companies necessary to schedule connection of services, and management of the installation.
 4. Site utilization and management so as not to disrupt the Owner's ability to operate the existing facilities in a safe and efficient manner.
 5. Maintain the Owner's ability to operate the facility at all times during the construction period.
 6. Facilities to be used during the contract period that are to be used by the Owner or his representatives and others involved with constructing the project.
 7. Product and equipment storage and handling requirements.
 8. Starting and adjusting of the equipment and systems required under the project.
 9. Site safety in accordance with all applicable federal, state, and local regulations.
 10. Project submittals, meetings, testing services, schedules, shop drawings, closeout procedures and documents, manuals, as-built drawings, and final commissioning of the work shall be provided as required by the Contract.
 11. Provide and maintain, at all times, temporary roadways for site access to all parties involved with the project.

12. Sequence and schedule the construction so that new facilities come on-line before pre-existing facilities are demolished, dismantled or taken offline.
 13. Temporary facilities and controls necessary to construct the project and to maintain permit levels of sewage treatment at all time.
 14. Site utilization and management so as to allow other prime contractors to perform work in conjunction with this project and to afford them equal opportunity and space to complete their contractual obligations with the Owner as solely defined by the Architect/Engineer.
 15. To not hinder the Owner's ability to deliver a safe and potable water supply.
 16. To not hinder the Owner's ability to maintain permit levels of sewage treatment at all times.
- B. The Owner has or will award other construction contracts associated with this project.
- C. It is anticipated that work of all the contracts will coincide with work of this Contract.
- D. Each Contractor shall coordinate the work between the various construction contracts, through the Owner/Architect/Engineer, as required to complete the contract requirements in accordance with the requirements contained in Section 013100.

1.06 OWNER SUPPLIED PRODUCTS AND UTILITIES

- A. The Owner will not be supplying equipment, labor, or tools for the project.
- B. The Owner will be supplying products or materials for the project as follows:
1. Products shown on the Drawings or specified elsewhere.
- C. The Owner will pay for electricity usage. The restrictions on electrical usage shall be as follows:
1. Power tool usage during specified working hours will only be permitted.
 2. Dewatering and trash pumps and portable heaters will not be permitted.
 3. Sump pumps, if less than 1/3 horsepower will be allowed. Only two (2) sump pumps will be permitted to operate at the same time.
 4. Power to the Owner/Architect/Engineer's trailer, if applicable.
 5. Power to help cure concrete or painting systems will not be permitted.
 6. Power to the Contractor's trailer will be permitted.
- D. The Owner reserves the right to stop paying for electrical usage at any time if, in the opinion of the Owner/Architect/Engineer, the Contractor causes excessive electrical charges or does not conserve electricity to the maximum extent possible in the opinion of the Architect/Engineer. All Contractors shall conserve electricity during the course of construction.

1.07 EXISTING CONDITIONS

- A. The Drawings show certain information that has been obtained by the Owner regarding various pipelines, structures, and utilities that exist at the location of the project both below and at grade.
- B. The Owner and the Architect/Engineer expressly disclaims all responsibility for the accuracy or completeness of the information given on the Drawings with regard to existing facilities.
- C. In the case where the Contractor discovers an obstruction not indicated on the Drawings or not described via specification reference, then the Contractor shall immediately notify the Architect/Engineer of the obstructions' existence.
- D. The Architect/Engineer will determine if the obstruction is to be relocated or removed.
- E. Compensation for this extra work will be paid for in accordance with the provisions in the Contract for "Extra Work".

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Site access and control of areas outside of site.
- B. Contractor use of the premises.
- C. Contractor storage, parking and deliveries.
- D. Work hours, employee conduct and miscellaneous employee requirements.
- E. Contract requirements related to maintaining Owner's current operations and excess inspection required.
- F. Suggested construction sequence.

1.02 SITE ACCESS AND CONTROL

- A. Contractors shall use the designated entrance to the site as shown on the drawings. If no site entrance is designated, Contractors shall use an entrance designated by the Owner's Construction Representative.
 - 1. The Owner may permit, solely at the Owner's discretion, the temporary use of another entrance for site access.
 - 2. The Owner will only review requests made by the Contractors for an exception to the designated site entrance if made in writing at least 72 hours in advance of each of the times desired for use.
- B. All contractors to maintain the entrance area clear of materials, vehicles and any other obstacle or debris. Failure to do so will result in a minimum back charge of \$750 per occurrence.
- C. The area around the site is a residential neighborhood. The Owner intends to be a good neighbor. Contractors shall not close any road for any period in time. The Contractors shall take whatever measures are necessary to not cause any inconvenience to the area's residents
- D. All Contractors are responsible to employ methods to prevent construction materials and/or debris from leaving the site. All Contractors are responsible to routinely monitor the areas surrounding the site during the day as well as at the end of the work-day and to immediately clean up any area to its previous condition.
- E. The Contractors shall employ methods to prevent the transmission of dirt from vehicles driving on exposed areas of the site from reaching the surrounding roadways. The Contractors will be responsible to immediately clean the roadway, should the measures being taken by the Contractors not satisfactorily control the transmission of any dirt to the roadway.
- F. Any damages to areas outside the site, spills of soil, liquid, or any other material shall immediately be repaired, cleaned and restored to its previous condition.
- G. The Contractors shall comply with all state and local requirements for allowable weight limits of vehicles on all roads.
- H. The Owner reserves the right to back charge the Contractors for all costs associated with maintaining the grounds as well as maintaining areas outside the site, which may be disturbed by the Contractors should the Contractors fail to maintain or repair the aforementioned in a condition acceptable to the Owner.

- I. The Contractor shall not close any road for any period in time unless approved ahead of time by appropriate road agency. The Contractor shall take whatever measures are necessary to not cause any inconvenience to the area's residents.
- J. The Contractors shall maintain the premises in a safe condition throughout the construction period. Compliance with OSHA regulations and site safety shall be the responsibility of the Contractor as it relates to work of the Contract. The posting of all applicable OSHA safety signs shall be the responsibility of the Contractor.
- K. Contractor shall be responsible for protecting private property. All existing buildings, structures, shrubs, trees, lawn fixtures, sculptures and misc. equipment shall be protected at all times. Any removals or relocation of said objects, if allowed shall be as directed by the Architect/Engineer or District. Contractor shall protect all of the physical structures, property and improvements from damage by their Work and shall immediately repair or replace damage caused by construction operations, employees or equipment employed by the Contractor. All labor, materials and equipment and outside contractors that are employed by the Owner to repair damage caused by the Contractor shall be billed to the Contractor directly or withheld from money due the Contractor for work already completed.
- L. Keep all existing driveways, roads, and parking areas free and clear of materials and equipment. Do not unreasonably encumber the work area with materials and equipment.
- M. Immediately remove excess excavated material or relocate to areas on the site requiring placement of fill. Do not stockpile excess material.
- N. The Contractor is responsible for cleaning up the work area. Failure to maintain a clean work site daily, will result in others performing the work and the Contractor being back charged for the cleaning cost plus construction administration fees.
- O. Do not discard or dispose of any waste on-site.
- P. The Contractor shall be responsible for managing dust.

1.03 CONTRACTOR USE OF THE PREMISES

- A. Premises, for the purpose of this Contract, shall mean the site, buildings and other structures located within the property line or in any temporary or permanent construction easements identified on the plans.
- B. The Contractors shall use and manage the premises and the associated construction activities as follows:
 - 1. To not hinder the Owner's ability to operate their facilities.
 - 2. To allow other Contractors to install their work and complete their contractual obligations in the time period specified.
 - 3. To allow for stockpiling of construction material and debris without any significant hardship, as defined by the Owner's Construction Representative, on the Owner or other contractors.
 - 4. To allow for the stockpiling of excavated soil and imported fill, when called for, without any significant hardship, as defined by the Owner's Construction Representative, on the Owner or other contractors.
 - 5. To allow utility companies to install their work.
 - 6. To allow for the delivery of equipment and materials by independent trucking companies by leaving enough space for backing in and out of areas.

7. To allow for the safe, unimpeded travel way of the Owners vehicles, Owner's Construction Representative's vehicles, Architect/Engineer's vehicles, construction vehicles and heavy construction equipment about the entire site.
- C. Contractors shall maintain the premises in a safe condition throughout the construction period. Compliance with OSHA regulations and site safety shall be the responsibility of the Contractor as it relates to work of the Contract. The posting of all applicable OSHA safety signs shall be the responsibility of the Contractors.
- D. Contractors shall provide temporary handrails, as required, for their work or for work put in place by their Contract that will require temporary handrails. Construction of temporary handrails shall be as specified in Section 015000.
- E. Contractors shall be responsible for protecting Owner's property. All existing buildings, structures, shrubs, trees, lawn fixtures, sculptures and misc. equipment shall be protected at all times. Any removals or relocation of said objects, if allowed shall be as directed by Owner's Construction Representative.
- F. Contractors shall protect all of the physical structures, property and improvements upon the site from damage by their Work and shall immediately repair or replace damage caused by construction operations, employees or equipment employed by the Contractor. All labor, materials and equipment and outside contractors that are employed by the Owner to repair damage caused by the Contractor shall be billed to the Contractor directly or withheld from money due the Contractor for work already completed.
- G. Limit use of the site to the areas shown on the Contract Drawings and the adopted Site Utilization Plan. Confine operations to permit others working on the site easy access to all areas of Work.
- H. Keep all existing operations areas, driveways, roads, and parking areas free and clear of materials and equipment. Do not unreasonably encumber the site with materials and equipment. Confine stockpiling of excess excavated material, materials and equipment to areas selected under the Site Utilization Plan or as designated by the Owner's construction representative. Locate storage sheds and trailers to areas designated in the plan or by the Owner's Construction Representative.
- I. Immediately remove excess excavated material or relocate to areas on the site requiring placement of fill. Do not stockpile excess material on the site.
- J. The construction site space is limited and it shall be the General Contractor's responsibility to manage the site during the entire construction period with input from all concerned parties as to meeting their needs. Equal consideration of the needs of others with that of the Contractor's shall be provided as judged by the Owner.
- K. Due to the limited site area available for construction, staging areas shall be relocated several times during the various stages of construction. Additional compensation for relocating staging areas, equipment and material storage, and trailers are not to be considered an extra cost to the Contractor as this is an anticipated expense that shall be considered at the time of the bid.
- L. Contractors are responsible for cleaning up their own materials and debris. Failure to maintain a clean work site daily, will result in other performing the work and Contractors being back charged for the cleaning cost plus construction administration fees.
- M. Use of the existing building facilities during construction is prohibited including but not limited to: toilet rooms, telephone and water fountains. The Contractor shall be fined **(\$250)** per

occurrence if their employee (or subcontractor's employee) is observed disregarding these rules.

- N. Should it become necessary to access the existing building during construction hours for measurements or other non-disruptive work, the contractor shall be escorted by an Owner's Construction Representative.
- O. Refer to Section 015000 - Temporary Facilities and Controls for minimum rubbish removal requirements.
- P. Do not discard or dispose of any waste on-site.
- Q. Open fires will not be permitted on the site.
- R. The Sitework Contractor shall employ erosion control measures to protect wetlands located adjacent to the work where shown on the Drawings and as required by regulatory agencies.
- S. Install erosion control measures as indicated in the Contract. The Contractor shall confine stormwater runoff to the site.
- T. Dewatering is anticipated. Comply with the requirements contained in Section 312319 - Dewatering.
- U. The General Contractor shall be responsible for managing dust as specified in Section 015719.

1.04 CONTRACTOR STORAGE, PARKING AND DELIVERIES

- A. Contractors must provide exterior storage containers when required. Final location of storage container shall be determined by the Owner.
- B. Do not unreasonably encumber the premises with materials and equipment. Do not store material in existing buildings. Store all equipment and materials to allow the Owner's employees to operate and conduct their business safely.
- C. Confine premise storage areas to locations designated by the Owner. Immediately repair or replace damaged facilities to the satisfaction of the Owner and to a condition that existed before the damage occurred as determined by preconstruction photographs, or if photographs are unavailable, to that deemed by the Owner.
- D. No storage materials will be permitted within the buildings at any time during construction.
- E. Storage of chemicals and painting shall be outside the existing or new structures and shall follow manufacturer's guidelines.
- F. Compressed gas containers shall be properly stored and secured per OSHA, to the satisfaction of the Owner. Failure to do so will result in a **[\$250]** back charge, per occurrence.
- G. Contractors shall provide minimum of 48 hours advance written notice to the Owner's Construction Representative for deliveries of materials, site visits by inspectors, manufacturer's representatives or any other occasion that impacts the use of the site. Contractors shall be responsible for any costs that are incurred by the owner, for failure to meet previously agreed upon appointments or work schedules.
- H. Deliveries sent to the Owner will not be signed for or unloaded by the Owner. They will be directed to the construction site and if no employee is on site, the delivery will be rejected, at the contractor's expense.

- I. Night deliveries of equipment (past the designated quitting time) will not be permitted. Do not schedule trucking companies to deliver equipment or wait for the job site to open. Delivery trucks shall not obstruct the site entrance, shall not sit within the neighborhood causing an obstruction or perceived nuisance, nor be left idling on or off the site for any period of time.
- J. Parking shall be in the designated areas of the site only. All automotive type vehicles are to be locked when parked or unattended to prevent unauthorized use. Do not leave vehicles or equipment unattended with the motor running or the ignition key in place. Any vehicles or trucks in non-designated areas may be towed at contractor's expense.

1.05 WORK HOURS, EMPLOYEE CONDUCT AND MISCELLANEOUS EMPLOYEE REQUIREMENTS

- A. The Contractors will be permitted to schedule working days and hours as specified in the General Terms and Conditions, if no times are specified therein then the work hours shall be Monday - Friday 7:00 am - 5:00 pm.
- B. Employees are to act in a professional manner. Any employee using inappropriate language or who is disruptive to the work environment will be banned from the site.
- C. Proper work attire is required. Shirts are to be worn at all times and no short pants are permitted.
- D. Employees shall not converse with local residents or Owner's employees.
- E. Any employee found under the influence of any drug or alcohol will be banned from the site.

1.06 CONTRACT REQUIREMENTS RELATED TO MAINTAINING OWNER'S CURRENT OPERATIONS AND EXCESS INSPECTION REQUIRED

- A. The Contractors shall schedule working days and hours as specified. The Contractors shall pay all excess costs for inspection services provided by the Owner/Architect/Engineer for working beyond the times specified.
- B. The hourly rate paid for inspection services beyond normal working hours shall be at a maximum billing rate of **[\$180]** per hour, which shall be used to compute the overtime hourly charge.
- C. It is the Contractor's responsibility to determine the dollar amount to be included in the bid to pay for the services of one (1) inspector to be present during the entire time work is being performed during low flow periods or beyond a normal 8-hour day. If the Owner elects to have more than one representative present, then the cost of the additional inspector will not be paid for by the Contractor. The maximum hourly billing rate applies for all instances where excess engineering is performed beyond a normal 8-hour work day, not just work to be performed during low flow periods.
- D. The Contractor will be allowed to work early morning hours if a planned tie-in must be performed. Early morning work is required since it is a low flow period. Provide 72 hours advanced notice to the Architect/Engineer for all early morning work together with a written plan as to the steps necessary to construct the work. The overtime salary costs for early morning tie-in work associated with having the operations staff of the treatment facility present shall be paid by the Contractor. This cost will be eligible for reimbursement payment as specified in Section 012100 - Allowances.
- E. Maintenance of Treatment:

1. The designated operator of the Treatment Plant is required by law to maintain the discharge limits specified in the SPDES permit. The permit levels of treatment shall be provided at all times during the construction of the facility.
2. The Contractor shall be responsible for all fines resulting from the discharge of inadequately treated sewage if the cause of the violation was due to the direct or indirect construction action of the Contractor or any of his/her employees, subcontractors, vendors or material suppliers.
3. When it becomes necessary to alter the existing plant operations in any way, the Contractor shall provide at least 72 hours advance written notice to the Architect/Engineer and Owner. The notice shall indicate the reason for altering the process together with measures necessary to maintain treatment.
4. The Contractor shall not open, close, start or stop any valve, piece of equipment or any other component at the existing facility without first providing written notice. Only licensed operators designated by the Owner shall be permitted to alter the operation of the plant.
5. The Contractor shall employ bypass pumping from one tank to another in order to take process tanks off-line, perform required modifications and demolitions and to complete the work. All equipment, labor, materials, and fuel or source of power used for bypass operations shall be furnished and installed by the Contractor.
6. Where existing electrical facilities require modifications or abandonment, then the Owner shall first decommission them.
7. The Contractor shall conduct all physical work necessary to alter plant flows and install whatever measures are required to perform the work safely.

1.07 SUGGESTED CONSTRUCTION SEQUENCE

- A. The following is one suggested general, not all-inclusive, sequence of construction that may be used to complete all the work under the Contract within the time specified.
- B. Since permit levels of treatment must be maintained during construction, then certain existing process equipment and units cannot be taken offline until new facilities are placed into permanent, fault free operation.
- C. Work restrictions may be noted throughout the suggested sequence provided below. The Contractor shall comply with all noted work restrictions that appear.
- D. The following suggested sequence is provided for information only:
 1. Submit shop drawings, construction schedule, schedule of values, etc.
 2. Establish field office and provide temporary power and water as required.
 3. Establish storage areas as required.
 4. Perform site clearing and removals, excavate unsuitable material, and perform soil compaction and testing.
 5. Construct building foundation.
 6. Disconnection of utilities
 7. Install yard piping and fittings.
 8. Construct building walls and roofing system.
 9. Install mechanical piping, mechanical and electrical equipment, and chemical systems.
 10. Apply tank coating system.
 11. Paint and pressure test piping.
 12. Disinfect and test samples.
 13. Final grade and clean up.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Allowance pricing for the following items:
 - 1. Additional Work / Unforeseen Conditions
- B. This Section covers the requirements for use of the cash allowances listed above contained in the proposal (Bid Forms, Price Schedule) and included in the Contract Price bid by the Contractor and defines and stipulates the charges that will be paid for out of the stipulated allowances.
- C. The Contractors shall include the cash allowances stipulated in this Section in the amount bid.
- D. Eligible costs described in this Section, and Sections referenced herein, will be the only costs paid for out of the stipulated allowances.
- E. All other costs associated with the project as specified and/or shown, including but not limited to the delivery, installation and all Contractor overhead and/or collateral expenses are to be distributed among the other portions of the work and shall be included in other bid items.

1.02 SUBMITTALS

- A. Make all submissions under the provisions of Section 013300.
- B. For each type of product/material specified to be furnished under allowance pricing provide documentation of the unit pricing on manufacturer's letterhead certifying pricing of the product/material.
- C. Submit additional backup information to substantiate the invoiced amount(s) as the Architect/Engineer may require for review and approval, prior to order or payment of item.
- D. Provide written breakdowns for extra work as the Owner may require.

1.03 CHANGES TO STIPULATED (CASH) ALLOWANCE

- A. If the actual cost of services differs from the cash allowance, then the Contract Price will be adjusted accordingly.

1.04 PAYMENTS TO BE MADE OUT OF ADDITIONAL WORK ALLOWANCE

- A. Eligible costs described in this Section will be the only costs paid for out of the stipulated allowance.
- B. Include the cash allowance of \$25,000 (Twenty Five Thousand Dollars and Zero Cents) in the amount bid for additional improvements beyond those identified in the plans and specifications. Include allowance in lump sum amount in proposal statement. Show as separate line item in Schedule of Values.
- C. Should any additional work be required due to unforeseen conditions or owner requests, the cost shall be negotiated by the engineer and paid for out of the allowance.
- D. One (1) week prior to each partial payment, submit a certified invoice listing and detailing the total costs incurred since the last invoice. The invoice shall be on company letterhead signed by an authorized representative of the company and shall include man-hours, work conducted, date of work and associated costs and fees.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section includes the requirements for substitution of specified products during construction.
- B. *The Architect/Engineer will consider requests for substitutions only within **thirty (30)** days from the date of the Notice to Proceed.*
- C. Only products not specifically named in the bid are eligible for substitution in accordance with the requirements contained herein these specifications.
- D. Products named by the Bidder, at the time of bid, shall be furnished and installed and substitutions will not be considered by the Owner/Architect/Engineer for those products named in the bid.

1.02 CONTRACTOR'S OPTIONS

- A. For products specified only by reference standard, select any product meeting that standard.
- B. For products specified by naming several products or manufacturers, select any one of the products or manufacturers named which complies with the Specifications.
- C. Where products are not named, then submit products that meet the specifications.

PART 2 - PRODUCTS

2.01 SUBSTITUTIONS

- A. Name - The Drawings and Specifications list acceptable manufacturers, commercial names, trademarks, brands and other product, material and equipment designations. Such names are provided to establish the required type, quality and other salient requirements of procurement.
- B. Equals - An item equal to that named or described on the Drawings or in the Specifications may be provided by Contractor if accepted by the Architect/Engineer.
- C. A request for product substitution constitutes a representation that the Contractor:
 - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - 2. Shall provide the same warranty for the Substitution as for the specified Product.
 - 3. Shall coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner, including extra charges by other Prime Contractors, material suppliers, and vendors.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 - 5. Shall reimburse the Owner and the Architect/Engineer for review or redesign services associated with re-approval by authorities.
 - 6. Shall reimburse the Owner for all additional engineering services claimed by the Architect/Engineer for extra services associated with the review of the Contractor's substituted item since it could not have been originally included in the Architect/Engineer's professional engineering services agreement. Reimbursement shall be based on the man-hours expended, at current billing rates.

- D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- E. Substitution Submittal Procedure:
 - 1. The Contractor shall submit the REQUEST FOR SUBSTITUTION FORM for consideration including all required information.
 - 2. The Contractor shall use the form included within this Section.
 - 3. All forms shall be type written.
 - 4. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence.
- F. The burden to prove product equivalence rests on the Contractor.
- G. The Architect/Engineer will notify Contractor in writing of decision to accept or reject request and at that time the Contractor can make a formal submittal in accordance with the requirements contained in Section 013300.
- H. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

PART 3 - EXECUTION

NOT USED

This space left intentionally blank.

REQUEST FOR SUBSTITUTION FORM

Project: Installation of Well No. 3A VFD Substitution Request Number: _____

Contractor: _____

Address: _____

To: _____ Date: _____

H2M Project Number: RDWD 18-06 Owner: Riverhead Water District

Contract Name: _____ Contract No.: _____

Specification Title: _____

Section: _____ Page: _____ Article/Paragraph: _____

Drawing No(s): _____

Proposed Substitution: _____

Manufacturer: _____ Address: _____

Trade Name: _____ Phone #: (____) _____

Installer: _____ Address: _____

Phone #: (____) _____

History: ___ New product ___ 2-5 years old ___ 5-10 years old ___ More than 10 years old

Differences between proposed substitution and specified product:

___ Point-by-point comparative data attached

Reason for not providing specified item (Attach separate sheet if necessary):

Typical Similar Installation:

Project: _____

Engineer / Architect: _____

Address: _____

Owner: _____

Date Installed: _____

Submit complete installation list on separate sheets.

Proposed substitution affects other parts of Work: No Yes

Explain: _____

Gross Savings to Owner for accepting substitution: \$ _____

Proposed substitution changes Contract Time: No Yes

Add / deduct (circle): _____ days

Supporting data attached for evaluation of the proposed substitution:

Product Data Photos Drawings Tests Reports Samples

Other (explain): _____

Attached data includes description, specifications, drawings, photographs, performance and test data adequate for evaluation of request; applicable portions of data are clearly identified.

Attached data also includes a description of changes to Contract Documents that proposed substitution will require for its proper installation.

The undersigned certifies that the following paragraphs, unless modified by attachments, are correct:

1. Proposed Substitution has been fully checked and coordinated with Contract Documents.
2. Proposed Substitution does not affect dimensions shown on Drawings.
3. Proposed Substitution does not require revisions to any other Prime Contractor's work.
4. The undersigned will pay for changes to building design, including Architectural and Engineering design, detailing, and construction costs caused by requested Substitution.
5. Proposed Substitution will have no adverse affect on other trades, construction schedule, or specified warranty requirements.
6. Maintenance and service parts will be locally available for proposed substitution.
7. The undersigned further states that the function, appearance, and quality of proposed Substitution are equivalent or superior to specified item.

This request for product substitution also constitutes a representation that I, as the Contractor:

1. Has investigated proposed Product and determined that it meets or exceeds the quality of the specified Product.
2. Shall provide the same warranty for the Substitution as for the specified Product.
3. Shall coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner, including extra charges by other Prime Contractors, material suppliers, and vendors.
4. Waives claims for additional costs or time extension that may subsequently become apparent.
5. Shall reimburse the Owner and the Architect/Engineer for review or redesign services associated with re-approval by authorities.
6. Shall reimburse the Owner for all additional engineering services claimed by the Architect/Engineer for extra services associated with the review of the Contractor's substituted item since it could not have been originally included in the Architect/Engineer's professional engineering services agreement. Reimbursement shall be based on the man-hours expended, at current billing rates.

Contractor's Authorized Representative (Typewritten): _____

Authorized Signature: _____

Date: _____

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work under this Section specifies the procedures used to process partial payments and the Final Payment Request.

1.02 TIME FOR COMPLETION

- A. In as much as the provisions of the Contract relating to the time for performance and completion of the Work are for the purposes of enabling the Owner to proceed with the construction of a public improvement in accordance with a predetermined program, and inasmuch as failure to complete the Work within the period herein specified may result in damage or loss to the Owner, time is of the essence of the Contract.
- B. Time for completion of the Work shall be in accordance with that stipulated in the Contract Documents.
- C. The date for completion will be calculated from the date shown on the Notice to Proceed. The Contractor shall execute the Work with diligence from day to day, and complete it within the time fixed.
- D. For the purpose of defining the date of substantial completion, the Project will be considered complete when all Work covered by the Contract has been performed and all installations and equipment have been tested and are ready for permanent use. Removal of the Contractor's equipment and other minor adjustments which do not prevent use of the Project will not be a factor in establishing the date of substantial completion.
- E. Notwithstanding the foregoing, the Architect/Engineer will establish the date of substantial completion when the project is accepted and ready for operation, and no large or major items of work are as yet outstanding. At such time, the Architect/Engineer will issue a punch list, itemizing the items of work remaining. The punch list will include "minor" items only, as defined solely by the Architect/Engineer. Any prior punch lists, which include "major" or significant items, as defined by the Architect/Engineer, shall not be a criterion in establishing the date of substantial completion.

1.03 PARTIAL COMPENSATION

- A. At the Owner's discretion, the Contractor may receive compensation for materials and products delivered to the site yet not installed providing:
 - 1. A canceled check or paid bill from the supplier is submitted to the Architect/Engineer indicating that the Contractor has paid the supplier for the material or equipment.
 - 2. The material or piece of equipment is properly stored and protected from the elements and/or vandalism in accordance with the manufacturer's written requirements for long term storage.
 - 3. A certificate of insurance is provided for the material or piece of equipment in the event of a fire, vandalism, theft, etc.
 - 4. A bill of material is delivered to the Architect/Engineer at the time of delivery itemizing the subject material or equipment. Payment will be made for on-site material and/or equipment in the amount of 80% of the gross amount of the paid invoice. This payment will be subject to the normal retainage of the partial estimate.
 - 5. The Architect/Engineer has agreed to the pre-purchasing of the materials.
- B. The Contractor may not receive compensation for materials and products stored in the Contractor's yard or shop unless permitted by the Owner.

1.04 APPLICATIONS FOR PAYMENT

- A. The Contractor shall review the percentage of work completed during the payment period with the Architect/Engineer, based on the bid items in the proposal. The Architect/Engineer shall make the final decision on the percentage of work completed.
- B. The form of application for payment shall be AIA Document G702, application and certificate for payment supported by AIA Document G703, Continuation Sheet.
- C. Submit one (1) copy of each payment application, completed, signed and notarized.
- D. Provide Riverhead Town Voucher for each request submitted.
- E. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- F. The payment application shall include a Contractor Invoice and an Owner Claim Voucher.
- G. Provide completed Labor Affidavit Form for each pay period included in the certified payroll reports for each payment application for both the contractor and any subcontractor(s).
- H. Submit payment application to Architect/Engineer no later than the first day of each month. Payments received after the first day of each month shall be reviewed and processed after the first day of the following month. Only one application for payment will be reviewed and processed each month.
- I. Submit certified payroll receipts for all workers and subcontractors. Payroll receipts shall be submitted with every application for payment. All payroll receipts shall be certified correct and notarized by a Notary in the State of New York. Application for Payment will not be processed unless all payroll receipts are received.
- J. Contractor shall pay all workers and have all subcontractors pay all workers the prevailing New York State Wage Rates.
- K. Owner may conduct on-site interviews with all workers to verify payments of prevailing wage rates are enforced.
- L. The Architect/Engineer shall submit the documentation along with an Architect/Engineer's Payment Report to the Owner for payment.
- M. Retainage in the amount of 5% will be held from each partial payment. Retainage will only be released upon full completion of the project and will be included in the final payment.

1.05 ACCEPTANCE OF FINAL PAYMENT REQUEST

- A. The Contractor shall be conclusively deemed to have accepted the Final Payment Request as a correct statement of the total liability of the Owner and of the compensation paid and to be paid to the Contractor by the Owner unless within seven (7) days after delivery of his copy of the Final Payment Request to him, the Contractor shall return such copy to the Owner together with a statement of his objections to such request and of any claim for damages or compensation in excess of the amounts shown on the Request. The acceptance by the Contractor of the Final Payment Request approved by the Owner shall constitute a release and shall discharge the Owner from all further claims by the Contractor arising out of or relating to the Contract, including but not limited to, a release from all impact costs.

1.06 SCOPE OF PAYMENTS

- A. The Contractor shall receive and accept the compensation as herein provided, in full payment for furnishing all materials, labor, tools, and equipment and for performing all work contemplated and embraced under the Contract, also for all loss or damage arising out of the nature of the Work or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered during the prosecution of the Work, and for all risks of every description connected with the prosecution of the Work, until its final acceptance by the Owner, also for all expenses incurred by, or in consequence of, the suspension or discontinuance of the said prosecution of the Work as herein specified, and for all actual or alleged infringements of patent, trademark, or copyright, and for completing the Work and the whole hereof, in an acceptable manner, according to the Plans, Specifications, and other Contract Documents. The payment of any partial or final estimate shall in no way or in no degree prejudice or affect the obligation of the Contractor, at his own cost and expense, to renew or replace all defects and imperfections, or damages. The Architect/Engineer shall be the judge, and the said Contractor shall be liable to the Owner for failure so to do.

PART 2 - PRODUCTS

NOT USED.

PART 3 - EXECUTION

NOT USED.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Schedule of Values

1.02 SCHEDULE OF VALUES

- A. Submit for approval prior to the start of the work a Schedule of Values that indicates a breakdown of the labor, materials and equipment and other costs used in the preparation of the bid. This schedule shall be in sufficient detail to indicate separate figures for such items as excavation, concrete, equipment and all other items making up the lump sum price. The cost breakdown shall be separately itemized for each lump sum bid item in the project.
- B. Where the cost breakdown includes items for bond payment, insurance payment, job set-up, or job mobilization, these items will be paid based on paid invoices and copies of cancelled checks.
- C. Submit a Schedule of Values to the Architect/Engineer for review and approval within fifteen (15) calendar days from the date shown on the Notice to Proceed.

1.03 FORM OF SUBMITTAL

- A. Submit typewritten Contract Cost Breakdown on AIA Form G703 - Application and Certificate for Payment Continuation Sheet or EJCDC 1910-8-E. The Architect/Engineer reserves the right to revise the form or provide a form prepared by the Architect/Engineer.
- B. Use the Table of Contents of the Contract Specifications as a basis for format for listing costs of work for Sections under Divisions 1-48 as sections apply to work. Not all Sections need be assigned a breakout price as determined by the Architect/Engineer.
- C. Identify each line item with number and title as listed in Table of Contents.
- D. Provide dollar values for each line item for labor, overhead, profit, material, and equipment components for each category of work if requested by the Architect/Engineer.
- E. List quantities of materials specified under unit price allowances.
- F. The Schedule of Values, after approval by the Architect/Engineer, shall be the basis for the Contractor's Application for Payment.
- G. The first Application for Payment will not be reviewed prior to an approved breakdown.

1.04 PREPARATION OF SCHEDULE OF VALUES

- A. Breakdown schedule of values based on bid items in proposals with further breakdown below each item. In addition to the above, provide a separate line item cost below each bid item, as applicable, for each of the following items which shall be supported by proof where requested by Architect/Engineer:
 - 1. Performance and payment bonds.
 - 2. Insurance (submit proof of this amount)
 - 3. Mobilization and Demobilization (Amounts shall be equal in value).
 - 4. Temporary facilities and measures as specified in Section 015000.
 - 5. Project Coordination Meetings as specified in Section 013100.
 - 6. Preparation of the Project Construction Schedule, and updates, as specified in Section 013216.

7. Preparation of Weekly Schedules as specified in Section 013100
 8. Rubbish removal and daily cleaning up. (Provide a total dollar amount and a daily rate for each calendar day during the contract period.)
 9. All Cash Allowance items as contained in Section 012100.
 10. For the Manufacturer's Field Services item, provide the total amount of days specified throughout the specifications at a daily rate of \$400. Provide a listing by Section number.
 11. On-site, full time superintendent starting on the date of the Notice To Proceed and ending on the date that all punch list items are completed, which for the purposes of the Schedule of Values, shall be the contract completion date.
 12. Architect/Engineer's Trailer.
 13. Surveyor used for layout (submit proof of this amount)
 14. A total dollar amount for furnishing all the Operations and Maintenance Manuals specified throughout the specifications.
 15. Record Drawing retainage amount specified in Section 017839.
 16. Final cleaning.
- B. Show total costs including overhead and profit.
- C. Provide additional details and data to substantiate the cost breakdown as requested by the Architect/Engineer.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Work of this Section includes:
 - 1. Requests for Interpretation or for information
 - 2. Coordination between contractors, if applicable
 - 3. Administration of subcontracts
 - 4. Coordination of work with other Contractors, utility companies, and the Owner/Architect/Engineer
 - 5. Communication and coordination requirements
 - 6. Qualifications of Contractor's job site superintendent
- B. Site staffing requirements for Each Contractor's superintendent are also specified herein, the costs for which shall be included in the Contract price.

1.02 REQUEST FOR INTERPRETATION OR INFORMATION

- A. Each Contractor shall use the Request for Interpretation/Information Form included within this Section when Each Contractor feels that additional information is needed to perform the work of the Contract.
- B. The Architect/Engineer may not respond to any requests unless the form is used.
- C. The Architect/Engineer's verbal response(s) to each Contractor's formal requests, if provided, shall not constitute an official response and if acted upon by Each Contractor are done so at Each Contractor's own risk and liability and shall not be subject to claims for additional compensation.
- D. A signed facsimile or emailed image of the form will be accepted.
- E. The Architect/Engineer will respond in writing to the request as soon as possible.

1.03 COORDINATION BETWEEN CONTRACTORS

- A. During the progress of the Work, other Contractors may be engaged in performing other work or may be awarded other contracts for other work on this Project. Each Contractor shall coordinate all the work to be done with the work of each Contractor(s) through the Owner.
- B. Each Contractor shall fully cooperate with each other Contractor(s) and carefully fit its own work to that provided under other contracts as shown or specified in the Contract Documents and as may be coordinated by the Owner/Architect/Engineer.
- C. Each Contractor shall not commit or permit any act that will interfere with the timely performance of work by any other Contractor.
- D. Each Contractor shall conduct his/her own operations, and to cooperate with such other parties, so as to cause as little interference as possible with the work by others.
- E. Each Contractor agrees to make no claim against the Owner/Architect/Engineer for additional payment due to delays or other conditions created by the operation of others.
- F. If there is a difference of opinion as to the respective project rights of each Contractor doing the work, within the limits of or adjacent to the Project, the Owner/Architect/Engineer shall decide as to the respective rights of the various parties involved in order to secure completion of the work

in a satisfactory manner. The Owner/Architect/Engineer's decision shall be final and binding on each Contractor.

- G. If any portion of the work of each Contractor, or any of his/her subcontractors, depends upon the proper execution of the work by others, each Contractor shall promptly give written notice to the Architect/Engineer of all purported defects in the installed work as renders it unsuitable for proper execution and completion of his own work. Each Contractor shall further notify the Architect/Engineer of all supposed delays, in the performance of his/her work, as will affect the timely performance of his own work or the project.
- H. Each Contractor's lack of notice shall constitute an acceptance by him/her that the work of others is fit and proper for the reception of each Contractor's own work, except as to defects developing in the work that could not have been reasonably foreseen.
- I. Each Contractor's lack of notice shall also constitute an acceptance by him/her and an acknowledgement of the timely performance of work by other Contractors or the Owner and that no claims for additional compensation may result.
- J. If the Owner/Architect/Engineer determines that each Contractor is failing to coordinate his own work with the work of others, then the Owner shall have the right to enforce the provisions of the Contract as related to non-performance.
- K. The Owner/Architect/Engineer shall not be liable for any damages suffered by this Contractor by reason of any other Contractor's failure to comply with the directions so issued by the Owner/Architect/Engineer, or by reason of another Contractor's default in performance; it being understood that the Owner does not guarantee the continued efficiency or work production of any Contractor and by execution of the Contract, Each Contractor fully understood the potential coordination problems associated with projects involving multiple prime construction contracts.
- L. Each Contractor's attention is specifically directed to the fact that he may not have exclusive occupancy of the work area within the limits of the Contract. Each Contractor shall afford the Owner, other Contractors, and utilities reasonable opportunity for the storage of their materials and equipment, and the execution of their work, and shall connect and coordinate his work with theirs as required by the Contract Documents.

1.04 SUBCONTRACTOR ADMINISTRATION AND COORDINATION

- A. Terms and conditions of the Contract shall be binding upon each subcontractor.
- B. Furnish each subcontractor and major equipment vendor at least one (1) copy of the Plans and Technical Specifications.
- C. Provide at least one (1) copy of each approved shop drawing to each subcontractor whose work may depend upon the contents of the shop drawing submittal. The Owner reserves the right to stop all work, without claims for delay, until such time as appropriate subcontractors are furnished with appropriate shop drawings.
- D. Each Contractor shall sequence and schedule the work of subcontractors. Coordinate construction and administration activities of subcontractors. The Architect/Engineer and Owner will not accept telephone calls, facsimiles or office visits from any subcontractors on the project. Subcontractor and vendor questions and clarifications shall be directed to the Architect/Engineer by each Contractor.
- E. Each Contractor's on-site project superintendent shall inspect all the work of all of his/her subcontractors, as it is being constructed. Each Contractor's subcontractor shall not be permitted to do any work on the site without each Contractor's job site superintendent also being there to inspect the work as it is being performed.

1.05 UTILITY COORDINATION

- A. Comply with the requirements of 16 NYCRR Part 753 - Protection of Underground Facilities. Submit a letter stating the case number.
- B. Comply with the utility coordination requirements contained in the General Conditions.

1.06 PUBLIC/PRIVATE UTILITIES

- A. Notify all public and private utilities in accordance with Article 20, Section 322-a of the New York State General Business Law for location and markout of existing utilities in the vicinity of the work.
- B. Repair all utilities damaged during the Work to the standards and approval of the respective utility at no cost to the Owner.

1.07 SPECIFIC COORDINATION REQUIREMENTS

- A. Sequence and schedule work so as not to interfere with the work by others. Coordinate the work of this Contract with the work by others. In case of conflicts due to improper coordination by Each Contractor, the Owner/Architect/Engineer's resolution will be final. No compensation will be awarded for extra work required to resolve conflicts.
- B. Coordinate space requirements, supports, and installation of mechanical, electrical and plumbing work which may be indicated diagrammatically on the Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practicable. Place runs parallel with building lines. Utilize spaces efficiently to maximize accessibility for other installations, maintenance, and to facilitate repairs.
- C. In finished areas, except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of all fixtures and outlets with finish elements and work by all other trades.
- D. Coordinate the work by complying with the following:
 - 1. Email Account: Each Contractor shall maintain an email account that shall be used to improve communication. An email shall not constitute a formal advisement regarding the terms and conditions of the contract. Email shall only be considered an informal way of notifying relevant parties of project related activities.
 - 2. Email List: Each Contractor, within five (5) calendar days from the Notice To Proceed, provide a list of email addresses for each major equipment supplier and local representative, if such exists. A contact person shall be provided for each email address.
- E. Project Coordination Meetings: Participate in and attend the Project Coordination Meetings as specified below:
 - 1. A minimum of two (2) project coordination meetings will be held at the Owner's office or project site.
 - 2. The meetings will be held when so called for by the Architect/Engineer.
- F. Each Contractor shall sequence and schedule work so as not to interfere with the work by others and to afford each Contractor the time to complete their contractual obligations with the Owner. Coordinate the work of this Contract with the work by others. Coordination includes, but is not limited to, the following:
 - 1. Schedule work with all trades throughout the project to prevent interference.

2. Accomplish work in coordination with the other Contractors in a manner that will allow each Contractor adequate time (at the proper stage of construction as determined by the Owner/Architect/Engineer) to perform and complete the work of their contract.
 3. Each Contractor shall annotate on each of his own shop drawings and submittals, information that is relevant to the work of others or where potential conflicts in the installed work may occur. Each Contractor shall "bubble" in green ink the area of potential conflict so as to alert the reviewer.
 4. Each prime Contractor shall provide the Architect/Engineer with a list of shop drawings that they may require to properly coordinate the work. If a list is not provided to the Engineer within fifteen (15) calendar days from the date of the Notice to Proceed, then it shall be taken that shop drawings of other prime Contractors are not required. Each prime Contractor shall be responsible for providing the list within the time specified.
 5. In case of conflicts due to improper coordination by any Contractor, the Owner/Architect/Engineer's resolution will be final. No compensation will be awarded for extra work required to resolve conflicts or to coordinate the work of all contracts.
 6. Coordinate space requirements, supports, and installation of mechanical, electrical and plumbing work which may be indicated diagrammatically on the Drawings. Follow routing shown for pipes, ducts, and conduit as closely as practicable. Place runs parallel with building lines. Utilize spaces efficiently to maximize accessibility for other installations, maintenance, and to facilitate repairs.
 7. In finished areas, except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of all fixtures and outlets with finish elements and work by all other trades.
- G. Shop Drawings and Submittals Coordination Procedure:
1. The Architect/Engineer will forward copies of relevant shop drawings to all prime Contractors, whose work may be subject to that of others, as solely determined by the Architect/Engineer.
 2. Each Contractor shall then, within five (5) calendar days of receipt, review said shop drawings provided by the Architect/Engineer for the purposes of resolving field and fabrication problems and as a way to coordinate the work.
 3. Immediately notify the Architect/Engineer should a purported conflict in the work be discovered so that the Architect/Engineer can investigate and take appropriate action.
 4. If a shop drawing was so provided by the Architect/Engineer and a conflict in the work was not brought to the attention of the Architect/Engineer, then the conflict shall be immediately corrected by Each Contractor submitting the shop drawing.
- H. Each Contractor shall also coordinate the work by complying with the following:
1. Construction Schedule: Each Contractor shall provide a construction schedule as specified in Section 013216 - Construction Schedules.
 2. Weekly Schedule: By 3:00 PM of each Friday during the construction period, each Contractor shall email a typed memo addressed to the Architect/Engineer/Owner's resident field engineer/inspector and designated office project manager summarizing the work for the following week. The memo shall also be faxed or emailed to the Owner. The memo shall briefly itemize the planned activities for the coming week. The memo shall also include a summary of expected material/equipment deliveries, concrete pours, utility tie-ins, excavated material removals and other heavy construction traffic that may impact the work activities for the coming week.
 3. Email Account: Each Contractor shall maintain an email account that shall be used to improve communication. An email shall not constitute a formal advisement regarding the terms and conditions of the contract. Email shall only be considered an informal way of notifying relevant parties of project related activities.
 4. Email List: Each Contractor, within five (5) calendar days from the Notice To Proceed, shall provide a list of email addresses for each major equipment supplier and local representative, if such exists. A contact person shall be provided for each email address.

5. W/MBE Utilization Plans: All Contractors shall provide a W/MBE Utilization Plan in accordance with the requirements contained in other portions of the Contract Documents, but in no case more than thirty (30) calendar days from the date of the Notice To Proceed.
 6. Work Plan: All Contractors shall within five (5) calendar days from the date of the Notice to Proceed, submit to the Engineer a type written work plan in bullet format of the sequence of construction activities from start to finish of construction. A facsimile will not be accepted. All work plans shall include a description of the different major phases of construction as pertaining to the individual construction contract. As a minimum each work plan shall include the tasks and subtasks specified in Section 013216 for the project schedule.
 - a. Each Prime Contractor's work plan shall be complete and shall address every phase of the scope of the Contract.
 - b. The Engineer/Architect will forward all work plans to all other Prime Contractors.
 - c. Each Prime Contractor shall then prepare a construction schedule as specified below using the work plans prepared by others and his/her own.
 7. Equipment and Startup Schedule: All Contractors shall also submit a preliminary equipment delivery schedule and a preliminary startup schedule for all equipment and systems being furnished under the Contract. This schedule shall be submitted within 30 calendar days from the date of the Notice To Proceed.
 - a. Include an early and late date for each item.
 - b. Indicate the time necessary to physically install and ready each item so that other work can be completed by other Prime Contractors.
 - c. The Engineer/Architect may waive this schedule if Each Contractor has adequately shown the information on the construction schedule, in the opinion of the Engineer/Architect.
- I. Project Coordination Meetings: All Contractors shall participate in and attend the Project Coordination Meetings as specified below:
1. Up to three (3) project coordination meetings will be held at the Architect/Engineer's or Owner's office as specified herein and in Section 013216.
 2. The meetings will be held when so called for by the Architect/Engineer.
 3. Each meeting may last up to eight (8) hours with one hour for lunch.
 4. The Architect/Engineer will prepare the final agreed version of the schedule and distribute it to all Contractors.
 5. The Architect/Engineer reserves the right not to hold these meetings if in his/her opinion they are not needed.
 6. All Prime Contractors shall be required to attend the meetings.
 7. The time associated with attendance at the meetings shall be included in the lump sum bid and be subject to a credit of \$150 per hour for each unused hour that Each Contractor does not attend.

1.08 CONTRACTOR'S JOB SITE SUPERINTENDENT

- A. Each Contractor shall employ an on-site superintendent as specified herein below. He/She shall be a full-time employee of Each Contractor.
- B. Each Contractor shall name the job site superintendent within five (5) days of the Notice To Proceed. A letter to the Architect/Engineer shall be provided.
- C. He/She shall have the authority to sequence and schedule the work, and to staff the project, so as not to interfere with the work by others and to complete the work daily within the time so required.
- D. Each Superintendent shall have a minimum of five (5) years of experience as a job site superintendent for projects of equal size and complexity.

- E. The superintendent shall not be a foreman or crew supervisor.
- F. Contract E superintendent may be a foreman or crew supervisor.
- G. Each superintendent shall be qualified to perform the duties so required to successfully complete the work in accordance with the Contract Documents.
- H. The superintendent for E shall be on the site for each work day, full time, starting within twenty one (21) calendar days from the date of the Notice To Proceed through the date of Final Completion, including all punch list items.
- I. All other construction superintendents shall be on the project site while work under his/her contract is being performed, either by direct forces or by subcontractors as stipulated above for subcontractor coordination.
- J. Each superintendent shall also visit the site daily when work is not being performed under their Contract for coordination purposes, through the Owner/Engineer. He/She shall remain on the site for a minimum of one (1) hour, if work is being performed by others. He shall telephone the Engineer/Architect's designated field representative to advise him/her that they are on the site to discuss matters related to coordination.
- K. Each superintendent shall speak English. If required by the Architect/Engineer, provide a resume for the proposed superintendent that shall be typed and shall list the qualifications of the superintendent. Prior to Each Contractor assigning a superintendent to the project, he may wish to arrange an interview with the Architect/Engineer to determine the proposed superintendent's ability to properly coordinate the work through the Owner/Architect/Engineer. Each Contractor shall employ a superintendent acceptable to the Owner.

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REQUEST FOR INTERPRETATION/INFORMATION (RFI)

OWNER'S NAME: Riverhead Water District

PROJECT NAME & CONTRACT DESIGNATION: Installation of Well No. 3A VFD

CONSTRUCTION CONTRACT NO.: RDWD 18-06

| | |
|---|--|
| Product, Item, or System: | |
| Request Date: | RFI No.: |
| Specification Section: | Paragraph Ref: |
| Contract Drawing Reference(s): | |
| Describe Request: | |
| | |
| | |
| | |
| Signed: | See Contractor's Attachments for Additional Description for Information |
| Owner/Architect/Engineer Response: | |
| | |
| | |
| | |
| Architect/Engineer (Printed): | See Architect/Engineer's Attachments for Additional Information |
| Architect/Engineer's Signature & Date | <i>Response Accepted By Contractor Contractor's Signature & Date</i> |
| The Work shall be carried out in accordance with these supplemental instructions without change in Contract amount or Contract time for completion. Prior to proceeding with these instructions, indicate your acceptance of these instructions by signing where indicated and returning this form to the Architect/Engineer. | |

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Work of this Section includes the requirements for progress meetings.

1.02 PRE-CONSTRUCTION CONFERENCE

- A. Each Contractor is required to attend the pre-construction conference at a location, date, and time selected by the Owner.
- B. The owner, a partner, or a corporate officer representing each Contractor shall attend the conference. The job site superintendent and office project manager for each Contractor shall also attend.
- C. The Architect/Engineer will prepare an agenda for the conference.

1.03 PROGRESS MEETINGS

- A. Progress meetings will be held approximately once every two (2) weeks during the project. The Owner may elect to hold meetings more or less frequently.
- B. At least seven (7) calendar days advance notice will be given by the Architect/Engineer or the date for the upcoming meeting will be set during the progress meeting.
- C. Attendance at progress meetings shall be mandatory. An amount of \$1,000 shall be deducted from the Contract Amount for each announced meeting not attended by the Contractor.
- D. The owner, a partner, or a corporate officer representing the Contractor shall attend each announced progress meeting. The job site superintendent and office project manager for each Contractor shall also attend.
- E. Subcontractors shall attend when requested by the Owner or Architect/Engineer at no cost to the Owner.
- F. Meetings will be conducted by Architect/Engineer at a location selected by the Owner, normally at or adjacent to the project site.
- G. The minimum agenda will cover:
 - 1. Review minutes of previous meetings.
 - 2. Identify present problems and resolve them.
 - 3. Plan work progress during next work period.
 - 4. Review the status of off-site fabrication and delivery schedule.
 - 5. Review shop drawings and submittal schedules.
 - 6. Review change order status.
 - 7. Review status of construction progress schedule.
 - 8. Coordinate access requirements.
 - 9. Other business related to the work.

1.04 OTHER MEETINGS

- A. Attend special meetings which may be required or called for by Federal, State or Local authorities, utility companies, Owner, Architect/Engineer or any other firm, person or organization related to the project.

1.05 CONDUCTING MEETINGS

- A. General - This paragraph covers Owner and/or Architect/Engineer meetings with Contractor and/or his subcontractors. Neither Owner nor Architect/Engineer wishes to meet solely with a subcontractor and requests for such meetings will be discouraged. If a meeting is deemed necessary, every effort will be made to have Contractor attend. If, for some reason, circumstances do not allow such, the meeting may be held, minutes of the meeting will be sent to contractor and decisions on any major questions will be reserved until contractor has been consulted. Subcontractors may accompany contractor to meetings provided contractor notifies Architect/Engineer in advance.
- B. Chairman - When Architect/Engineer/Owner attend meetings, Architect/Engineer, or his duly authorized representative, will act as chairman. Should Owner-Contractor meetings be necessary, Owner will chair such meetings.
- C. Notices - Architect/Engineer or Owner will issue notices of meetings to all parties concerned and will note, thereof, who must attend and who may attend if they so desire. When a Contractor desires a formal meeting, make a request through Architect/Engineer. Except when Architect/Engineer determines that a prompt meeting is essential, all notices will be issued at least one week in advance of the meeting date.
- D. Agenda - All parties shall inform Architect/Engineer of items desired to be discussed and Architect/Engineer will notify all parties of all items to be considered. This is to allow each party to fully prepare for the meeting. This shall not be construed to mean that other items cannot be brought up at the meetings.
- E. Time Limits - It is the intent to hold productive and efficient meetings and to keep them as short as is reasonably possible. The Chairman will be the sole judge as to whether or not further discussion on any matter is warranted and all discussions shall cease when he so orders.
- F. Minutes - Minutes of meetings will be kept, written and distributed by the Chairman or his duly authorized representative. Minutes of all meetings will be available upon request to the Chairman.
- G. Conduct - It is the intent to conduct all meetings in an orderly manner, to reasonably discuss all items and to hear and observe the rights and opinions of all parties. The Chairman will allow each party to speak, however, he reserves the right to order any individual to leave the meeting at any time for any reason.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section specifies the requirements for preparing construction schedules and for keeping them up to date.
- B. Prepare a Gantt Chart type schedule and keep it up to date as specified hereinafter.
- C. All schedules shall be submitted in accordance with the requirements contained herein in Section 013300.
- D. Refer to Section 013100 regarding the requirements for attendance at Project Coordination Meetings and additional requirements concerning the submission of other project coordination and sequencing information.

1.02 SCHEDULE PREPARATION MILESTONE DATES & REQUIREMENTS

- A. Each Contractor shall prepare Draft #1 Construction Schedule for presentation and discussion during Project Coordination Meeting No. 1.
 - 1. The Architect/Engineer will provide at least seven (7) calendar days written notice regarding the date of the first meeting.
 - 2. At the Architect/Engineer's discretion, Project Coordination Meeting No. 1 may immediately take place on the same date and directly following the Pre-Construction Conference. The Notice To Proceed will contain information regarding the Pre-Construction Conference and Project Coordination Meeting No. 1 should it be so decided by the Architect/Engineer.
 - 3. Draft #1 Construction Schedule shall be prepared as specified hereinafter.
 - a. The schedule shall show all the major and subordinate tasks necessary to complete the project in the specified time and interim milestones.
 - b. It shall allow adequate time for other Contractors to complete their related work as best estimated by the Contractor. It being understood that the Contractor's allotted time for others to perform their work is non-binding and does not relieve the Contractor from completing all the work in the specified contract completion time in accordance with the Contract Documents. It also being understood that this is the Contractor's realistic best estimate of the time needed for others to complete their related work.
 - c. The schedule shall also show the dependencies and time allocated for each task.
 - 4. The date, place, and time for Project Coordination Meeting No. 2 shall be established at the first meeting, but in no case be more than ten (10) calendar days from the date of the first meeting.
- B. As a result of the first meeting, a better understanding of each Contractor's time requirements will have been achieved. Within five (5) working days of the date of *Project Coordination Meeting No. 1*, each Contractor shall prepare Draft #2 Construction Schedule and submit it to the Architect/Engineer and each other Prime Contractor for review. Each Contractor shall mail his/her schedule to all parties via Overnight Mail with a Return Receipt Requested.
 - 1. *Project Coordination Meeting No. 2* shall be attended by all Prime Contractors for the purpose of jointly developing a Combined Construction Schedule. The meeting shall focus on the time needed to complete each task and subordinate task and for establishing task dependencies.
 - 2. All Contractors shall deliver to the Architect/Engineer the electronic file of his/her Draft #2 Construction Schedule at the meeting. The Architect/Engineer will use the data files to prepare the Draft Combined Construction Schedule.
 - 3. The date, place, and time for *Project Coordination Meeting No. 3* shall be established at the meeting.

- C. The purpose of *Project Coordination Meeting No. 3* is to review the Architect/Engineer's Draft Combined Construction Schedule and to make minor adjustments as are needed.
- D. The Architect/Engineer, after the third meeting and as soon as possible, will make the agreed upon changes and provide final versions to all Prime Contractors for adoption as the Final Combined Construction Schedule.
 - 1. The final schedule shall be implemented by all Prime Contractors on a daily basis. All tasks and subordinate tasks shall be completed on schedule.
 - 2. Each Contractor shall increase resources as are needed to comply with the established milestone dates should the schedule start to lag.
- E. The Architect/Engineer's decision regarding the time allotted for a given task shall be final and each Contractor shall apply necessary resources to accomplish the work. Submission of a bid shall be intended to mean that the Contractor agrees that the determination is binding.

1.03 PRIME CONTRACTORS SCHEDULE TYPES

- A. Gantt Chart Type: The General Contractor shall prepare a Gantt Chart type schedule as specified hereinafter.
 - 1. Contractor E shall prepare a Gantt Chart type schedule as specified hereinafter.
- B. Critical Path Method (CPM): The General Contractor shall prepare a Critical Path Method (CPM) type schedule as specified hereinafter.
 - 1. Contractor E shall prepare a CPM type schedule as specified hereinafter.

1.04 CONSTRUCTION SCHEDULE - GENERAL

- A. Coordinate the work and maintain the construction schedule. In the event actual progress begins to lag the schedule, promptly employ additional means and methods of construction to make up the lost time.
- B. Keep the construction schedule current and revise and resubmit as often as necessary to accurately reflect the conditions of the work, past progress and anticipated future progress.
- C. The construction schedule shall be completed, submitted, and deemed received by the Architect/Engineer prior to the first payment application.
- D. The schedule, when approved by the Architect/Engineer and the Owner, shall establish the dates for starting and completing work for the various portions of the Contract. It shall be the duty of the Contractor to conform to his/her own schedule and to perform the work within the time limits indicated. Failure to adhere to the approved schedule shall expose the Contractor to disputes, claims and additional costs incurred by others.
- E. Coordinate letting of subcontracts, material purchases, shop drawing submissions, delivery of materials, and sequence of operations, to conform to the schedule.
- F. Coordinate the construction schedule with the proposed schedules of the equipment suppliers and subcontractors.
- G. The schedule shall show the critical sequence items where new units must come online before existing facilities go offline, if applicable to the project. The schedule shall also show, in detail, the proposed sequence of the work and the estimated date of starting and completing each stage of the work in order to complete the project within the contract time.

- H. The schedule shall be plotted out in color and shall be 36-inch by 40-inch. It shall contain as many sheets as are necessary to show all rolled down tasks. Partially printed schedules will not be accepted. Each Contractor shall arrange to have it plotted on a color plotter suitable for the intended application.
- I. Prepare the schedule in a manner so that the actual progress of the work can be recorded and compared with the expected progress.
- J. The schedule shall use the following convention:
 - 1. Tasks for the Contractor in blue ink.
 - 2. Task links/task dependency in blue ink.
 - 3. Work by others in green ink.
 - 4. Milestone dates (zero duration) by a red diamond.
 - 5. The end date for each task and subtask at the end of a bar.
 - 6. The description of all major tasks within the bar. The bar shall be red.
 - 7. Critical path.
- K. The construction schedule shall also show the following:
 - 1. Critical sequence items where new units must come on-line before existing facilities go off-line, if applicable to the project.
 - 2. Lead time for control panels that are packaged as systems.

1.05 CONSTRUCTION SCHEDULE - CPM TYPE

- A. The schedule shall show, in detail, the proposed sequence of the work and the estimated date of starting and completing each stage of the work in order to complete the project within the contract time.
- B. Prepare the schedule in a manner so that the actual progress of the work can be recorded and compared with the expected progress.
- C. Coordinate the construction schedule with the proposed schedules of the equipment suppliers and subcontractors.
- D. Show the "critical path" of the project and task resources.
- E. The CPM schedule shall be prepared using Microsoft Project®, latest version.
- F. It shall be prepared by a qualified scheduler regularly engaged in the preparation of CPM construction schedules.
- G. Project scheduling software manufactured by other companies may be acceptable if the contractor purchases two (2) fully licensed packages for the exclusive use of the Owner and the Architect/Engineer.
- H. One licensed latest version of Microsoft Project® shall be delivered to the Owner, which shall remain registered to the Owner after the project is completed.
- I. The Contractor shall provide two (2) 8 hour training classes using the proposed or specified software at the office of the Owner or Architect/Engineer at a date and time selected by the Owner. The Contractor's site superintendent shall attend both classes. The Owner and Architect/Engineer reserve the right to utilize the Draft Combined Construction Schedule as the training aid. The instructor for the training classes shall be the professional engineer retained by the Contractor who is preparing the schedule for the Contractor as specified above.

1.06 CONSTRUCTION SCHEDULE - GANTT CHART TYPE

- A. The schedule shall show, in detail, the proposed sequence of the work and the estimated date of starting and completing each stage of the work in order to complete the project within the contract time.
- B. Prepare the schedule in a manner so that the actual progress of the work can be recorded and compared with the expected progress.
- C. Coordinate the construction schedule with the proposed schedules of the equipment suppliers and subcontractors.
- D. The schedule shall be plotted out in color and shall be 11-inch by 17-inch. It shall contain as many sheets as are necessary to show all rolled down tasks. Partially printed schedules will not be accepted. Each Contractor shall arrange to have it plotted on a color plotter suitable for the intended application.
- E. The schedule shall show the following:
 - 1. Task links/task dependency in blue ink.
 - 2. Work under the Contract in green ink.
 - 3. Work by others in blue ink.
 - 4. Milestone dates (zero duration) by a red diamond.
 - 5. The end date for each task and subtask at the end of a bar.
 - 6. The description of all major tasks within the bar. The bar shall be red.
 - 7. Critical path.

1.07 REVISION OF PROJECT PROGRESS SCHEDULE

- A. Each Prime Contractor shall evaluate and provide updated construction schedules monthly in accordance with job requirements. Each update shall be submitted to the Architect/Engineer for information purposes and be provided by the last Friday of every month
- B. Each Contractor shall modify his construction schedule to accommodate coordination of the construction contracts by the Owner/Architect/Engineer without claims for additional compensation or delay.
- C. Provide editable schedule to Engineer for inclusion of other trades.
- D. The Architect/Engineer will provide an electronic version of the Final Combined Construction Schedule for use in keeping the schedule up to date.
- E. From time to time, and at stages deemed appropriate by the Architect/Engineer, the Architect/Engineer may request an updated schedule from the Contractor to reflect the project's status. The percent complete for each task may be shown, as determined by the Contractor and Architect/Engineer.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section specifies the requirements for making submissions for the project. Electronic submissions will be required unless expressly noted otherwise.
- B. Refer to Section 013216 - Construction Schedule for the requirements concerning the submission of construction schedules and for making updates thereto.

1.02 IDENTIFICATION OF SUBMITTALS

- A. Each and every submission shall be provided by the Contractor and shall be accompanied by a SUBMISSION TRANSMITTAL FORM. The Contractor shall use the specimen form made a part of this Section. *Submittals not containing the form will be returned to the Contractor un-reviewed.* The Architect/Engineer will not review project submissions until such time as the form is completed in its entirety. Identify each submittal and resubmittal using the form.
- B. Each individual submittal shall be identified with a 'submission log number' as specified here in this example: 033000.01-1
 - 1. The Section number for which the submittal applies, followed by a period, shall be indicated, "033000."
 - 2. The submittal within the Section shall be indicated by the next grouping "01". For instance and in this example, the concrete design mix may be submission "01", the waterstop catalog cut may be "02", and so on. Submittals shall be sequentially numbered within the Specification Section, i.e. 01, 02, etc.
 - 3. The number of times the submission was made shall be preceded by a dash and a numerical suffix as follows: "-1". In this example, the concrete design mix is being submitted for the first time. Use the number "1" for the first time it is being submitted.
 - 4. Subsequent submissions of the concrete design mix shall utilize the original number and a sequential numeric suffix, i.e. "2" for a resubmission, "3" for the second resubmission, and so on. Substitute the new number for the original "1".
- C. Where a layout drawing, containing different elements of the project, is being submitted and there is a question as to what the log number might be, then the Contractor shall contact the Architect/Engineer so that an agreed upon log number can be assigned.
- D. It is incumbent on the Contractor to initially assign the submission log number designation to each submission. Submissions not containing a log number, as specified above, will be returned to the Contractor un-reviewed by the Architect/Engineer.
- E. Every submittal shall also be accompanied by a Transmittal Letter (or "Speed Form") addressed to the Architect/Engineer's Project Manager as hereinafter defined.

1.03 COORDINATION OF SUBMITTALS

- A. Prior to submitting to the Architect/Engineer, fully coordinate all interrelated work. As a minimum, do the following:
 - 1. Determine and verify all field dimensions and conditions by field measuring existing conditions and the installed work of this Contract and work by others.
 - 2. Coordinate with all trades, subcontractors, vendors, system and equipment suppliers and manufacturers, public agencies, and utility companies and secure all necessary approvals, in writing.
- B. Make submittals in groups containing all associated items that in some way depend upon each other.

1. This also applies to color charts, as one color may not be able to be selected without the selection of other colors so as to form a color-coordinated group.
2. The Architect/Engineer may elect not to review partial or incomplete submissions, whereupon he will notify the Contractor of the additional submissions that are required before a review can be made.

1.04 TIMING OF SUBMITTALS

- A. Make submittals far enough in advance of scheduled dates of installation to provide time for reviews, for securing necessary approvals, for possible revisions and re-submittals, and for placing orders and securing delivery. The Architect/Engineer will review submittals in a manner as expedient as possible, and will generally send a written response to the Contractor within seven (7) calendar days of receipt of submittals.
- B. Submissions may be returned reviewed, unreviewed, rejected, returned conditioned upon submission of related items, or for other reasons set forth in the Contract Documents.
- C. Make submissions well in advance as the returning, rejecting or disapproval of submissions or other similar circumstances are possible and are deemed "avoidable delays". Costs for these delays or those attributed to Contractor's tardiness in making submittals shall be borne by the Contractor.
- D. **All** submittals requiring Architect/Engineer's review (except operations manuals) as required under the technical specifications of these documents shall be submitted within **FORTY FIVE (45)** consecutive calendar days after the date of the Notice to Proceed. An amount of **\$250** per calendar day shall be deducted from payment due the Contractor for **each** day that an outstanding submittal exists, said amount being the cost associated with the Architect/Engineer's review.
- E. Operation and maintenance manuals shall be submitted at least **FORTY FIVE (45)** consecutive calendar days prior to scheduled startup of the unit or system.
- F. If material or equipment is installed before it has been deemed to be in general compliance with the Contract Documents, as determined by the Architect/Engineer, the Contractor shall be liable for its removal and replacement at no extra charge and without an increase in contract time.

1.05 DESTINATION OF SUBMITTALS

- A. Each submission of documents shall be accompanied by a transmittal form containing the name of the project, the contract name, the Architect/Engineer's project manager, a submittal ID number, and a description of content for the submitted items.
- B. A copy of the TRANSMITTAL FORM shall also be provided to the Architect/Engineer's inspector at the job site.
- C. Electronic submittals shall be transmitted through the Newforma® Project Center website or by email, pending instruction by the Architect/Engineer. H2M architects + engineers is using a project information application called Newforma® Project Center. One of its components is Newforma Info Exchange, a web application that facilitates sending and sharing transmittals, and file sharing.
- D. As an external team member on this project the Contractor will be required to access the H2M architects + engineers/Newforma Info Exchange website for information related to the project, including file transfers, RFI, Submittals, Action Items, and project Calendar information. The Contractor will have access to this website using any internet-capable computer running Internet Explorer or Firefox. All data transmitted through the H2M architects + engineers/Newforma Info

Exchange website is encrypted and logged. Further instructions will be provided to the Contractor after the contract is awarded.

- E. Other submissions, such as material samples or other items as instructed by the Architect/Engineer, shall be sent to the Architect/Engineer's office as follows:
 - H2M architects + engineers**
 - 538 Broad Hollow Road - 4th Floor East**
 - Melville, New York 11747**
 - Attention: H2M Project Manager (Named at Pre-Construction Conference or in the Notice to Proceed)**

1.06 CLARITY OF SUBMITTALS

- A. All printed materials shall be neat, clean, professionally drafted by hand or by computer, clear, legible, and of such quality that they can be easily reproduced by normal photocopying.
- B. All electronic submittals shall be produced with a minimum resolution of 300 dpi.
- C. Binders of information shall be separated into groups, subsystems, or similar equipment/function. Copies not conforming to this paragraph will be returned to the Contractor without the Architect/Engineer's review.

1.07 CONTRACTOR'S REPRESENTATION

- A. By making a submission, the Contractor represents that he has determined and verified all field measurements and dimensions, field construction criteria, site and building constraints in terms of limitations in moving equipment into an enclosed space, materials, catalog and model numbers and similar data and that he has checked and coordinated each submission with other work at or adjacent to the project site in accordance with the requirements contained in Section 013100 - Project Management and Coordination and the Contract Documents.
- B. Every SUBMISSION TRANSMITTAL FORM shall contain the Contractor's approval stamp and date showing that the submittal has been approved by the Contractor. The Architect/Engineer will not review submittals that have not yet been reviewed and approved by the Contractor.

1.08 ENGINEER/ARCHITECT'S REVIEW

- A. Architect/Engineer will review and comment on each submission conforming to the requirements of this Section.
 - 1. Architect/Engineer's review will be for conformance with the design concept of the project and will be confined to general arrangement and compliance with the Contract Documents only, and will not be for the purpose of checking dimensions, weights, clearances, fittings, laying lengths, tolerances, interference's, for coordinating the work by others or subcontractors.
 - 2. The Architect/Engineer's review of a separate item, or portion of a system, does not represent a review of an assembly or system in which the item functions.
- B. The Architect/Engineer will mark submittals as follows:
 - 1. NO EXCEPTION TAKEN (A) - No corrections, no marks. The content of this submittal has been reviewed by the Architect/Engineer and been found to be in general compliance with the Contract Documents. No further submission of this submittal is required and the information contained in the submittal may be built into the work in accordance with the Contract Documents.
 - 2. MAKE CORRECTIONS NOTED (B) - Minor amount of corrections. The content of this submittal has been reviewed by the Architect/Engineer and has been found in general to be in compliance with the Contract Documents. The notations made on the submittal by

the Architect/Engineer shall be incorporated into the work in accordance with the terms and conditions of the Contract Documents. No further submission of this submittal is required.

3. AMEND AND RESUBMIT (C) - The content of this submittal has been reviewed by the Architect/Engineer and this review has determined that additional data and/or modification to the submitted data or other changes are required to bring the work represented in this submittal into compliance with the Contract Documents. This submittal shall be reviewed and revised in accordance with the Architect/Engineer's comments and resubmitted to the Architect/Engineer for review. The information contained on the resubmittal shall not be incorporated into the work until the submittal is returned to the Contractor marked "NO EXCEPTION TAKEN" or "MAKE CORRECTIONS NOTED".
 4. REJECTED (D) - The content of this submittal has been reviewed by the Architect/Engineer and has been determined not to be in accordance with the requirements contained in the Contract Document and requires too many corrections or other justifiable reason. The submittal shall be corrected and resubmitted or a submittal of an alternate shall be provided. No items are to be fabricated under this mark.
 5. SUBMIT SPECIFIED ITEM (E) - The content of this submittal has been reviewed by the Architect/Engineer and this review has indicated that the work displayed in the submittal is not in compliance with the Contract Documents. The Contractor shall submit another submittal for this portion of the work, which complies with the Contract Documents.
 6. RECEIVED (R) - This submittal is accepted on the project and filed for record purposes only, in accordance with the terms and conditions of the Contract Documents. Documents marked "RECEIVED" will not be returned.
- C. No payment will be made on any item for which a submission is required if such submission:
1. has not been made,
 2. has been made but was not stamped "No Exceptions Taken" by Architect/Engineer,
 3. has been made and stamped "Make Corrections Noted", but contractor has not complied with Architect/Engineer's notes marked on the submittal,
 4. has been made and stamped "No Exceptions Taken", but item provided does not conform to the shop drawing nor to the Contract Documents.
- D. Submittals not required by these specifications will not be recognized or processed.
- E. Suffolk County Department of Public Works standard review stamp will be used containing similar notations.
- F. Provide an 8-inch by 10-inch space for the Architect/Engineer's review stamp.

1.09 RESUBMISSIONS

- A. Prepare new and additional submissions, make required corrections, and resubmit corrected copies until found in compliance with the Contract Documents.
- B. On, or with, re-submittals, clearly describe revisions and changes made, other than the corrections requested by Architect/Engineer, which did not appear on the previous submissions.

1.10 CONTRACTOR'S RESPONSIBILITIES

- A. Architect/Engineer's review of submittals shall not relieve the Contractor of his/her responsibility for any deviation from the requirements of the Contract Documents nor relieve the Contractor from responsibility for errors or omissions in the submittals.
- B. No portion of the work requiring a submission shall be commenced until the Architect/Engineer has found the submission in general compliance with the Contract Documents.

- C. The Contractor shall provide written notification of any specification or drawing deviation.

1.11 EXCESS COSTS FOR ENGINEERING/ARCHITECTURAL SERVICES

- A. The Owner will charge to the Contractor, and will deduct from the partial and final payments due the Contractor, all excess engineering and architectural expenses incurred by the Owner for extra services (work) conducted or undertaken by the Architect/Engineer as stipulated below:
 1. Services and other similar charges because of the Contractor's errors, omissions, or failures to conform to the requirements of the Contract Documents as related to administrative charges associated with non-compliance with the requirements for making project submissions.
 2. Services and other similar charges required to examine and evaluate any changes or alternates proposed by the Contractor and which may vary from the Contract Documents.
 3. Services and other similar charges as a result of the Contractor's proposed substitution of materials, equipment or products which require a redesign of any portion of the project, as contained in the Contract Documents at the time of bid.
 4. Services and other similar charges as a result of the Contractor's proposed substitution of products which require an engineering and/or architectural evaluation, beyond the time stipulated in Section 012500, to determine if the substituted product is equal to that specified.
 5. Services and other similar charges as a result of changes by the Contractor to dimensions, weights, sizes, voltages, phase, horsepower, materials of construction, and similar physical or operating characteristics of the product furnished which require redesign of the project in any way.
 6. Services and other similar charges for the review of resubmissions of shop drawings that have been marked as "No Exceptions Taken" or "Make Corrections Noted".
 7. Services and other similar charges for the review of shop drawings submitted more than two (2) times for the same product or portion of the work.

1.12 MISCELLANEOUS SUBMITTALS

- A. Provide a Submittal Schedule within seven (7) calendar days from the date of the Notice to Proceed. The Submittal Schedule shall list all submittals for the project referenced by draft log number. Provide the estimated date that the submittal will be transmitted to the Architect/Engineer for review.
- B. Within seven (7) calendar days from the date of the Pre-Construction Meeting, submit a Proposed Products List. This list shall be a complete listing of all products proposed for use, with name of manufacturer, service headquarters, trade name and model number of each product. Partial listings will not be accepted.
- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.13 SUBCONTRACTOR LIST

- A. The Contractor shall submit, on AIA Form G705, within THIRTY (30) calendar days after the date of the Notice to Proceed, a list of all subcontractors, including the names of the major subcontractors that were submitted at the time of the bid.
- B. Indicate M/WBE subcontractors in accordance with the requirements contained in other portions of the Project Manual.

1.14 MATERIAL SAFETY DATA SHEETS (MSDS)

- A. Comply with "Right to Know" requirements of Chapter 551 of Laws of New York, 1980, concerning notification of the use of toxic substances.
- B. Any product or substance used by the Contractor or its subcontractors which is listed in Subpart Z of OSHA Part 1910 Title 29 of the Code of Federal Regulations entitled "Toxic and Hazardous Substances" shall be identified to the Owner/Architect/Engineer by the Contractor's submission of a standard Material Safety Data Sheet (MSDS) in accordance with "Right To Know" requirements.
- C. Products will not be permitted to be kept on site without a MSDS.

1.15 SHOP DRAWINGS

- A. Submit shop drawings for all fabricated work, for all manufactured items and for items specifically required by the specifications.
- B. Submit each shop and layout drawing to Architect/Engineer in the form of one (1) quality reproducible transparency and two (2) prints.
 - 1. After the submittal has been reviewed by the Architect/Engineer, the transparency will be annotated, prints will be made for Architect/Engineer's and Owner's use, records, and distribution.
 - 2. Architect/Engineer will return the transparency to the Contractor.
 - 3. Send one print to the Owner as specified above.
- C. Submit one (1) electronic copy of each standard drawing, catalog cut, or other material. All shop drawings or submittals that are not in the standard 8-1/2" x 11" format shall be submitted both electronically and in paper. Samples shall be delivered directly to the office of the Architect/Engineer. The Architect/Engineer will return an electronic copy of each submittal once reviewed.
- D. Subcontractors shall submit shop drawings directly to the Contractor for checking. Thoroughly check subcontractors' shop drawings for measurements, sizes of members, details, materials, and conformance with the Contract Documents.
 - 1. Return submittals which are found to be inaccurate or in error.
 - 2. Do not submit to the Architect/Engineer until all corrections have been made.
- E. Clearly show the relationship of the various parts of the project and where the information provided on the submission depends upon field measurements and existing conditions.
- F. The Contractor shall make all measurements, confirm existing conditions, and include them on the shop drawings before making a submission to the Architect/Engineer.
- G. Submissions for a single item, or group of related items shall be complete.
- H. When submitting manufacturers' catalogs, pamphlets or other data sheets, in lieu of prepared shop drawings, clearly mark the items being submitted for review.
- I. If the shop drawings contain any departures from the contract requirements, specifically describe them in the letter of transmittal.
 - 1. Where such departures require revisions to layouts, structural, architectural, electrical, HVAC or any other changes to the work as shown, Contractor shall, at his own expense, prepare and submit revised drawings accordingly.
 - 2. Make drawings the same size as the Contract Drawings and to the same scale.

1.16 SAMPLES

- A. Where required, or where requested by the Architect/Engineer, submit sample or test specimens of materials to be used or offered for use.
 - 1. Samples shall be representative, in all respects, of the material offered or intended, shall be supplied in such quantities and sizes as may be required for proper examination and tests, and shall be delivered to Architect/Engineer, prepaid, along with identification as to their sources and types of grades.
 - 2. Submit samples well in advance of anticipated use to permit the making of tests or examinations.
- B. Samples will be checked for conformance with the design and for compliance with the Contract Documents.
- C. Work shall be in accordance with the approved sample. The use of materials or equipment for which samples are requested or required to be submitted is not permitted until such time that the Architect/Engineer has completed his review.

1.17 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Architect/Engineer.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation. Provide manufacturer's instructions with shop drawings.

1.18 CERTIFICATIONS

- A. Submit certifications of compliance indicated in the Contract Documents.
- B. Certifications shall be complete and exact, they shall be properly authenticated by the written signature, in ink, of an owner, officer or duly authorized representative of the person, firm or organization issuing such certification and they shall guarantee that the materials or equipment are in complete conformance with the requirements of these specifications.

1.19 COLORS AND PATTERNS

- A. Unless the precise color and pattern are specified, whenever a choice of color or pattern is available in a specified product, submit accurate color and pattern charts for Architect/Engineer's and Owner's review and selection.

1.20 MANUFACTURER'S SERVICE CENTER

- A. The product of a manufacturer who does not maintain an adequate nearby service center and a sufficient stock of spare parts are subject to rejection by Architect/Engineer solely on that basis.
- B. With each submission, submit information on manufacturer's facilities and give complete details of his service policies and capabilities, and a general idea of the stock of spare parts available. Submit this information in the form of a certification. Also include names, addresses and telephone numbers of at least three of the service center's present customers who are in the area of the project.

1.21 TEST RESULTS AND INSTALLATION

- A. Whenever field startup services are specified, the Contractor shall obtain from the manufacturer and submit to the Architect/Engineer Manufacturer Startup Reports (MSR's). The report shall detail the results of the field visit and all special conditions resulting from the startup.
- B. Whenever field or factory tests are required on materials, equipment and systems, such tests shall be performed and the test results submitted to Architect/Engineer in the form of a MSR.
- C. Do not deliver to the project or incorporate into the work any materials or equipment for which Architect/Engineer has not completed his review and found same to be in general conformance with the Contract Documents.
- D. Submit MSR's within thirty (30) calendar days after the date of the startup or factory test.

1.22 SPARE PARTS LIST

- A. Prepare a list of all spare parts specified to be provided in other Sections. Compile the total list for the purposes of reviewing actual spare parts delivered versus spare parts specified to be provided. The list shall reference the Section, model number, and quantity to be provided.

1.23 WAIVER OF CERTAIN SUBMITTAL REQUIREMENTS

- A. Unless otherwise specified, the requirement to submit data and samples for products specified for approval will be waived for products specified by brand name if the specifically named products are furnished for the work. In such cases, the Contractor shall submit two (2) copies of required Product Data directly to the Architect/Engineer's field representative for information and verification during its incorporation into the work. The SUBMISSION TRANSMITTAL FORM shall always be used.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

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CONTRACTOR'S COMPANY NAME
ADDRESS

SUBMISSION TRANSMITTAL FORM
CLIENT NAME: Riverhead Water District
PROJECT TITLE: Installation of Well No. 3A VFD

H2M PROJECT NO.: RDWD 18-06

| | | | |
|---|---|------------------------------|--------------|
| Product, Item, or System Submitted: | | | |
| Submission Date: | | Submission Log No.: | |
| Specification Section: | | Paragraph Reference: | |
| Contract Drawing Reference(s): | | | |
| Manufacturer's Name: | | | |
| Manufacturer's Mailing Address: | | | |
| Manufacturer's Contact Information: | <i>Name</i> | () <i>Tel. no.</i> | <i>Email</i> |
| Supplier's Name: | | | |
| Supplier's Mailing Address: | | | |
| Supplier's Contact Information: | <i>Name</i> | () <i>Tel. no.</i> | <i>Email</i> |
| This item is a substitution for the specified item: | <input type="checkbox"/> No | <input type="checkbox"/> Yes | |
| Contractor's Approval Stamp with Signature & Date | <u>Contractor's Brief Comments or Remarks</u> (attach separate letter as needed): | | |
| | By making this submission, we represent that we have determined and verified all field measurements and dimensions, field construction criteria, site and building constraints in terms of limitations in moving the item into the enclosed space, materials, catalog and model numbers and similar data and that we have checked and coordinated this submission with other work at or adjacent to the installed location in accordance with the requirements contained in the Contract Documents. | | |

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Codes
- B. Governing agencies
- C. Permits

1.02 CODES

- A. Comply with the requirements of the various codes referred to in these Specifications. Such codes shall be the date of the latest revision in effect at the time of receiving bids.
- B. If there is a conflict between local, state, and/or Federal regulatory requirements, seek a consultation with the State Department of Labor. Resolve conflicts to the satisfaction of the State Department of Labor prior to commencing work.
- C. Electrical Work: Conform to the requirements of the National Electrical Code (NEC) unless otherwise shown or specified. The Owner will be the sole judge of the interpretation of these rules and requirements.

1.03 GOVERNING AGENCIES

- A. All work shall conform to and be performed in strict accordance with all governing agencies such as, but not limited to:
 - 1. Occupational Safety and Health Act - OSHA
 - 2. State Department of Environmental Conservation
 - 3. State Building Code
 - 4. State Fire Code
 - 5. National Fire Protection Association - NFPA
 - 6. National Electrical Code
 - 7. State Plumbing Code
 - 8. New York State Energy Code
 - 9. County Department of Health
 - 10. Town Codes, Rules, Laws and Ordinances
 - 11. Local Water District
 - 12. Electric Utility
 - 13. Gas Utility
 - 14. Town Codes

1.04 PERMITS AND INSPECTIONS

- A. Representatives of the Owner shall have access to the work for inspection purposes. The Contractor shall provide facilities suitable to the Owner to facilitate inspections of the installed work.
- B. Obtain and pay for all permits, fees, licenses, certificates, inspections and other use charges required in connection with the work.
- C. Such permits include, but are not limited to:
 - 1. Transportation and disposal of construction debris
 - 2. Building permits that are required by the municipality where the work is located. Arrange for inspections of the work by the municipal building department before closing in the

installed work, if so required. Work will not be accepted for payment until such inspections are performed and accepted by the building department.

- D. Comply with provisions and actions included in the Stormwater Pollution Prevention Plan (SWPPP) that has been prepared by the Architect/Engineer for the project, in regard to erosion and sediment control and pollution prevention of surface waters. The SWPP is available for review at the Architect/Engineer's office.
- E. The following permits and/or certifications will be obtained by the Owner from the appropriate permitting agencies:
 - 1. Suffolk County Department of Health Services 348 – Public Water Supply Improvement.
 - 2. Suffolk County Department of Health Services 347 – Backflow Prevention Devices.
 - 3. Nassau County Industrial Waste/Sewer Discharge Permit.
 - 4. Suffolk County Department of Health Services Article XI – Chemical Storage (for tablet chlorinator).

1.05 LISTINGS

- A. Equipment and materials for which Underwriters' Laboratories, Inc. (UL) provides product listing service, shall be listed and bear the listing mark. Alternately, ETL Testing Laboratories, Inc. Product Safety Testing Listing is acceptable if the listed product has been tested to the applicable UL Standard.

1.06 FIRE RESISTANT CONSTRUCTION MATERIALS AND ASSEMBLIES

- A. Conform to the fire rating classifications based upon the test methods and acceptance criteria in the Standard, Fire Tests of Building Construction and Materials for which Underwriters' Laboratories, Inc. (UL) provides listings.
- B. Materials and assemblies shall comply with the acceptance criteria, detailed description of the assembly, its performance in the fire test and other pertinent details such as specification of materials, Classification coverage, and alternate assembly details.
- C. Alternatively, fire resistance rating classifications by other issuing organizations listed in the Fire and Building Codes are acceptable.

1.07 COORDINATION WITH ELECTRIC UTILITY COMPANY

- A. Comply with the utility company requirements for the incoming electric service.
 - 1. Pay the utility company's charges in connection with the installation of the incoming service.
 - 2. An allowance for the utility company's charges is included in Section 012100.
- B. Comply with the utility company requirements for the incoming electric service. There are no utility company charges associated with the installation of the incoming service.

1.08 UTILITY WORK WITHIN STATE HIGHWAY RIGHT-OF-WAY

- A. Utility Work, either overhead or underground, within the boundaries of the state highway right-of-way, shall conform with procedures set forth in the Department of Transportation publications "Department Rules and Regulations Governing the Accommodation of Utilities Within State Highway Right-of-Way (Part 131 - Title 17 Transportation) and "Issuance of Highway Work Permits" (Code 7.12-2).

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Requirements for monitoring the quality of the constructed project.
- B. Work of this Section also includes services of an independent testing laboratory for quality assurance testing.
- C. The services of the testing laboratory will be paid for out of the cash allowance included by the Contractor in the price as bid in accordance with the requirements contained herein and in Section 012100 - Allowances.

1.02 REFERENCES

- A. ASTM C1077 - Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation.
- B. ASTM D3740 - Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- C. ASTM D4561 - Practice for Quality Control Systems for an Inspection and Testing Agency for Bituminous Paving Materials.
- D. ASTM E699 - Practice for Criteria for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components in Accordance with Test Methods Promulgated by ASTM Committee E6.

1.03 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or workmanship that is more precise.
- C. Perform work by persons qualified to produce workmanship of specified quality.
- D. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
- E. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

1.04 MOCK-UP

- A. Tests will be performed under provisions identified in this Section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashing, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining work.

- D. Where a mock-up has been accepted by the Architect/Engineer and is specified to be removed, then the Contractor shall remove the mock-up and the clear area when directed to do so by the Architect/Engineer.

1.05 QUALITY ASSURANCE - TESTING LABORATORY

- A. In order to establish compliance with the Contract Documents, materials shall be tested, examined and evaluated before they are incorporated into the work. During and after installations, additional tests, examinations, and evaluations shall be made to determine continued compliance throughout the course of the work.
- B. Testing laboratory shall be a reputable, experienced firm that is capable of performing all of the required testing and authorized to operate in the state in which the project is located.
- C. Perform all sampling and testing in accordance with specified procedures and use the materials, instruments, apparatus, and equipment required by the codes, regulations and standards. Where specific testing requirements or procedures are not described, perform the testing in accordance with all pertinent codes and regulations and with recognized standards for testing.
- D. In the event that samples and test specimens are not properly taken, handled, stored or delivered or if other requirements of this Section are not complied with, Architect/Engineer reserves the right to delegate any or all of this work to others, or to take whatever action deemed necessary to ensure that sampling and testing are properly accomplished, for which all costs shall be borne by Contractor.
- E. Architect/Engineer reserves the right to disapprove the use of a specific testing laboratory, even after prior approval, if the laboratory fails to meet or comply with the requirements of this Section. If this should occur, immediately discharge the testing laboratory and retain the services of a different laboratory acceptable to Architect/Engineer.
- F. The testing laboratory shall meet the following criteria:
 - 1. Be capable of performing all of the required tests.
 - 2. Be regularly engaged in performing the types of services required.
 - 3. Have adequate facilities, materials, equipment, and personnel to perform the services.
 - 4. Have an adequately trained, experienced and qualified staff.
 - 5. Have at least one registered professional engineer licensed in the state in which the project is located who shall be capable of performing field tests, supervising laboratory testing and interpreting test results. The professional engineer shall be thoroughly knowledgeable in materials, soils, asphalt paving and concrete.
 - 6. Shall be able to be on the Project site within two hours after being notified.
 - 7. Comply with the requirements of ASTM C1077, ASTM D3740, ASTM D4561, ASTM E548 and ASTM E699.
 - 8. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.

1.06 REFERENCE STANDARDS

- A. Conform to reference standards by date that the project was last bid.
- B. Obtain copies of standards when required by Contract Documents.
- C. Should specified reference standards conflict with Contract Documents, request clarification from Architect/Engineer before proceeding.

- D. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.07 SUBMITTALS

- A. Within fifteen (15) calendar days from the date of the Notice to Proceed, submit documentation from three (3) testing laboratories that clearly indicates experience, location, qualifications of staff, and descriptions of any limitations or restrictions of the firm.
 - 1. Include a price schedule for standard tests and a billing rate schedule for technician classifications.
 - 2. Based upon this information, the Architect/Engineer will select one firm to be the primary testing laboratory and one firm to act as a standby.
- B. Certified copies of each test report shall be mailed directly to the Architect/Engineer. The Contractor shall arrange with the laboratory to secure copies.
- C. Each report shall be in writing and shall include the testing method used, the test results, the specified results, the exact location of where the test specimens were taken, the date taken, Project identification, Contractor's name and other pertinent information required for a complete and meaningful test report.
- D. Each report shall be signed and certified by a responsible officer of the testing laboratory.
- E. E-mail reports directly to Architect/Engineer within 24 hours after the sample is taken, except in those instances when tests cannot be immediately performed because of required curing, incubation periods, or lengthy testing procedures.
- F. The laboratory shall verbally communicate test results when requested by the Architect/Engineer. This does not eliminate nor replace the requirements for a written report.

1.08 SCHEDULING - LABORATORY SERVICES

- A. Except where otherwise specified, the Architect/Engineer will determine the number of samples to be taken, the date and time samples will be taken and tests made, the number and type of tests to be performed, who will collect the samples, how they will be handled and stored and when laboratory personnel are required on site.
- B. Architect/Engineer will notify Contractor of his decision to take samples and/or have tests made and provide him with the pertinent information. Contractor is responsible for notifying the testing laboratory and for having the testing performed, on schedule.
- C. In addition to the above, Contractor shall make his own arrangements for the sampling and testing of materials he proposes to incorporate into the work. This shall not be paid for out of the cash allowance.
- D. Notify Architect/Engineer at least 72 hours in advance of the times at which scheduled samples or tests will be conducted.
- E. If samples and/or tests cannot be taken or performed when required, delay the work until such time that they can be accomplished. Where possible, any work that has been installed but has not been sampled or tested as required, shall be tested by other means. Upon Architect/Engineer's request, uncover any work, which has been buried or covered, and perform special tests designated by Architect/Engineer. If the work cannot be tested by other means, Architect/Engineer may declare the work unacceptable. All costs associated with

noncompliance and for special testing shall be borne by the Contractor and not be paid for out of the cash allowance.

- F. Should the testing laboratory be scheduled to take or collect samples or to perform tests, and finds that it is unable to do so as a result of delays in construction, inclement weather, or any other reason, reschedule the tasks for a date acceptable to Architect/Engineer. Costs associated with times testing laboratory is unable to perform scheduled services shall be borne by the Contractor and will not be paid for under the allowance.
- G. Plan all work and operations to allow for the taking and collection of samples and allow adequate time for the performance of tests. Delay the progress of questionable work until the receipt of the certified test reports.

1.09 TESTING REQUIREMENTS

- A. Dry Paint Thickness Measurement: Perform dry paint thickness using calibrated SSPC Type 2 fixed probe gages.
- B. Compaction Testing - Soil:
 - 1. Perform compaction testing in accordance with ASTM D2922, Standard Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth) or ASTM D1556 Density and Unit Weight of Soil In Place by the Sand Cone Method.
 - 2. Perform tests and analysis of fill material in accordance with ANSI/ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-lb. Rammer and 12-inch Drop.
- C. Compaction Testing - Asphaltic Concrete Pavement:
 - 1. Perform asphaltic concrete compaction testing in accordance with ASTM D2950 - Standard Test Method of Density of Bituminous Concrete in Place by Nuclear Methods.
 - 2. Calibrate nuclear density measurement equipment based on theoretical maximum specific gravity of asphaltic concrete pavement material.
 - 3. Perform test to determine theoretical maximum specific gravity in accordance with ASTM D2041 Theoretical Maximum Specific Gravity of Bituminous Pavement Mixtures. Perform test on mix at plant prior to delivery. Collect sample at plant in accordance with ASTM D979 - Sampling Bituminous Paving Mixtures and perform test in approved laboratory if plant does not have necessary equipment.
- D. Concrete Testing:
 - 1. Collect samples in accordance with ASTM C172, Practice for Sampling Freshly Mixed Concrete.
 - 2. Make test cylinders in accordance with ASTM C31, Standard Practice for Making and Curing Concrete Test Specimens in the Field.
 - 3. Test concrete cylinders in accordance with ASTM C39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - 4. Test slump and air entrainment.
- E. Asphalt Testing:
 - 1. Collect samples at point of delivery in accordance with ASTM D979, Standard Practice for Sampling Bituminous Paving Mixtures.
 - 2. Perform extraction test in accordance with ASTM D2172, Standard Test Methods for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures.
 - 3. Perform gradation test in accordance with ASTM C136, Method for Sieve Analysis of Fine and Coarse Aggregates.
- F. Water Quality Testing:
 - 1. In accordance with Section 331140 - Disinfection of Water Facilities.

1.10 TESTING SCHEDULE

- A. Dry Paint Thickness Measurement:
 - 1. Make five (5) separate spot measurements spaced evenly over 100 square feet of area.
 - 2. For structures exceeding 1000 square feet of finished surface, three 100 square feet areas shall be randomly selected by the Architect/Engineer plus one 100 square foot area for each additional 1000 square feet of finished surface. This requirement shall be subject to change as required by the Architect/Engineer.
- B. Compaction Testing of Soil:
 - 1. Pipe Installation: As directed by the Architect/Engineer.
 - 2. Concrete flatwork: As directed by the Architect/Engineer.
 - 3. Pavement subgrade: As directed by the Architect/Engineer.
- C. Concrete Testing: Make six (6) concrete test cylinders for each 50 c.y. or fraction thereof.
 - 1. Test two (2) cylinders at 7 days.
 - 2. Test two (2) cylinders at 28 days.
 - 3. The remaining cylinders shall be tested at a time to be determined by the Architect/Engineer. This requirement shall be subject to change as required by the Architect/Engineer.
- D. Asphalt Testing: As directed by the Architect/Engineer.
- E. Compaction Testing of Pavement: As directed by the Architect/Engineer.
- F. Water Quality Testing: As directed by the Engineer.

1.11 FIELD OBSERVATION OF CONTRACTOR'S WORK

- A. The Architect/Engineer will provide periodic observation of the Contractor's work.

PART 3 - EXECUTION

2.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions. Verify that the existing substrate is capable of structural support or attachment of new Work being applied or attached. Examine and verify specific conditions described in individual specification sections. Verify that utility services are available, of the correct characteristics, and in the correct locations.

2.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance. Seal cracks or openings of substrate prior to applying next material or substance.
- B. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

2.03 FIELD QUALITY CONTROL

- A. Allow representatives of the testing laboratory access to the work at all time. Provide all equipment, labor, materials, and facilities required by the laboratory to properly perform its functions. Cooperate with and assist laboratory personnel during the performance of their work.

- B. Test specimens and samples shall be taken by the person(s) designated in other Sections, or as directed by Architect/Engineer. Conduct field sampling and testing in the presence of Architect/Engineer. Provide all materials, equipment, facilities and labor for securing samples and test specimens and for performing all field-testing.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section supplements the General Conditions.
- B. The Work of this Section includes temporary facilities, utilities, and controls to be furnished by the Contractors for this project as it is specified herein.
- C. This Section is made a part of all Construction Contracts associated with the project. It contains specific references to the particular Contractor supplying said product or service. If no reference is provided then the requirement applies to all Prime Construction Contractors.

1.02 CARE AND PLACEMENT

- A. All temporary and permanent facilities and controls and all other elements on the project site shall meet all standards of the Occupational Safety and Health Act of 1970 and subsequent revisions. Each Contractor shall comply with all requirements of the Act.
- B. Each Contractor shall take every precaution and shall provide such equipment and facilities as are necessary or required for the safety of its employees and persons at the site.
- C. In the event of damage to existing and/or temporary facilities then immediately make all repairs and replacements to an equal condition prior to the event.

1.03 QUALITY PERFORMANCE

- A. Comply with and perform all work in accordance with the requirements of local authorities and utility companies having jurisdiction, and all applicable codes, regulations and ordinances.
- B. Secure approvals from the appropriate jurisdictions and utility companies on all repairs, relocations, connections, disconnections and the Work.
- C. All barricades, warning signs, lights, temporary signals and other protective devices shall conform with "Manual on Uniform Traffic Control Devices for Streets and Highways", US Government Printing Office.

1.04 SUBMITTALS

- A. Each Contractor shall provide a list of contact numbers as follows:
 - 1. Contractor's superintendent and office project manager (home, beeper, cellular, office, fax, trailer, and email address).
 - 2. All subcontractors.
 - 3. All utility companies.
 - 4. Emergency services such as fire department, police, and ambulance.
 - 5. Contractor shall also submit the following:
 - a. Name and qualifications of person or persons who shall be available to render first aid.
 - b. Names, addresses and telephone numbers of personnel who can be telephoned and act on behalf of Contractor in the event of emergencies or other problems requiring prompt attention during winter shutdown, holidays, nights and other periods when the Contractor's superintendent may be absent from the project site.
- B. The Contractor shall provide a sketch showing routing of temporary water service for construction purposes and for exfiltration tank testing. Provide cuts and plumber's certification for backflow device(s).

1.05 CONTRACTOR'S RESPONSIBILITY

- A. Each Contractor shall be responsible for the installation, performance, maintenance, and repair of all temporary facilities and controls specified herein this Section as originally provided.
- B. The Owner reserves the right to immediately correct a Contractor caused action, if in the opinion of the Owner, the situation may result in the immediate loss of life, property, and degradation of the environment. The costs for actions taken by the Owner shall be deducted from money due or to become due each Contractor. Amounts in excess shall be paid by each Contractor.
- C. If the Contractor caused situation is not deemed immediate, then the Contractor shall, within 24 hours of receipt of written and/or verbal notice, correct the defect or unsatisfactory condition.
- D. The Owner may repair, correct, replace, or install temporary facilities to correct the situation if the Contractor fails to perform within the allowed time. The costs to make the corrections shall be deducted from money due or to become due the Contractor. Amounts in excess shall be paid by the Contractor.

PART 2 - PRODUCTS

2.01 GENERAL

- A. The Owner may use temporary power lines, pipes, roadways or other facilities that each Contractor furnishes, installs, and maintains (then removes at the completion of the work), during the period of construction.
- B. The location of all temporary power lines, roadways, and other necessary temporary facilities shall be subject to the approval of the Architect/Engineer, and these shall be located and operated so as not to interfere with the operation of the facilities.

2.02 WATER FOR CONSTRUCTION PURPOSES

- A. Each Contractor shall obtain water from the nearest potable water source as designated by the Owner.
- B. The Owner will pay for water usage for general construction activities such as dust control and for sanitary purposes, like hand washing.
- C. Potable water, used for pipe exfiltration testing, process tank testing, storage tank testing, or elevated water storage tank testing, will not be paid for by the Owner. The Contractor shall include the costs for water for this purpose in the price as-bid.
- D. Each Contractor shall install his or her own backflow prevention device at the supply point where it is connected to the Owner's system.
 - 1. The water surveyor shall approve the device.
 - 2. The device shall be tested and certified as functioning properly.
 - 3. Post the certification in a location acceptable to the water purveyor.
- E. A water meter shall also be installed on any water service lines used to supply water for exfiltration testing.
- F. Each Contractor shall exercise measures to conserve water.

- G. Provide insulation and heat tracing to prevent freezing of temporary piping. Drain hoses at the end of each use.
- H. All Contractors, subcontractors, and personnel involved in the project shall be permitted to use water for construction purposes as provided under this paragraph.

2.03 SANITARY FACILITIES

- A. Each Contractor shall provide and maintain his or her own temporary toilet facilities and enclosures.
- B. Contractor shall provide and maintain temporary toilet facilities for use by all contractors.
- C. These facilities shall be maintained in a strictly sanitary manner and be screened from the general public.
- D. All facilities shall be in accordance with the Occupational Safety and Health Act (OSHA) standards and all other applicable local codes.
- E. The locations of such facilities shall be determined by the Architect/Engineer or the Owner and be shown on the Contractor's Site Utilization Plan.
- F. All applicable codes and regulations regarding the maintenance and method of waste disposal for these facilities will be strictly enforced. These facilities shall be of the portable type.
- G. The Owner's sanitary facilities will be available for use by any Contractor. Each Contractor shall be required to keep the facilities clean during the period of use.
- H. The Owners sanitary facility will not be available for use by any contractor.

2.04 HEAT

- A. Each Contractor shall provide and pay for heating devices and fuel as required to maintain adequate heat for specific construction operations; i.e. painting, application of coatings, etc. where so specified elsewhere in these specifications.
- B. The Contractor shall heat buildings to properly apply paint in accordance with Section 099100 requirements.
- C. Maintain minimum ambient temperature of 40 degrees F in areas where construction is in progress, unless otherwise indicated in specifications or as required by proposed working conditions and manufacturer's installation/application instructions.

2.05 VENTILATION

- A. Each Contractor shall ventilate enclosed areas to assist in the curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors or gases.
- B. The Contractor shall ventilate buildings to safely apply paint in accordance with Section 099100 requirements.

2.06 BARRIERS AND PROTECTION

- A. Each Contractor shall provide railings, barricades, signs, fences and other protective devices to prevent unauthorized entry to construction areas, to allow for the Owner's safe use of the site and to protect existing facilities and adjacent structures from damage from the work.

- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing buildings.
- C. Provide protection for plant life designated to remain.
- D. Protect vehicular traffic, stored materials, public utilities, site and structures from damage.
- E. Provide warning signs, detour signs and other traffic control devices to insure the safety of plant operators and to adequately direct traffic around the work. Illuminate barricades, obstructions, and warning signs from sunset to sunrise.

2.07 TEMPORARY FENCING

- A. Each Contractor is responsible for performance compliance with OSHA standards.
- B. Each Contractor shall provide temporary safety fence around all open excavations or other dangerous conditions on the construction site.
 - 1. All temporary safety fencing shall be designed and erected in compliance with OSHA standards, but in no case less stringent than these specifications for fencing.
 - 2. Fence is to be bright orange in color, a minimum of 4 feet high, and properly secured using 1" diameter steel pipe at 4'-0" on-center as support posts.
 - 3. Stake each support post to a depth of 18" and tamp securely into place.
 - 4. Each post shall be plumb.
 - 5. Secure fencing to posts using heavy-duty 12" long cable ties or tie wire.
 - 6. The fence and supports shall remain the property of the Contractor and be promptly removed at the appropriate time.
 - 7. Post the following sign every 100-ft. along the perimeter of the fence: "RESTRICTED AREA KEEP OUT".
 - a. Each sign shall be commercially printed and be 18" x 36".
 - b. It shall be secured to the fence with heavy-duty tie wraps.
- C. The Contractor shall install temporary safety fencing around the outside perimeter of each open tank that requires excavation and which is to be constructed under Contract E.
 - 1. Fencing shall be securely installed and maintained in accordance with OSHA regulations until the railing and grating has been installed.
 - 2. Fencing shall be installed on exterior tank walls where excavation is required.

2.08 TEMPORARY HANDRAILS AND SCAFFOLDS

- A. All temporary handrailing and scaffolds shall be designed and erected in compliance with OSHA standards. Each Contractor is responsible for performance compliance with OSHA standards.
- B. Handrails shall be securely installed and maintained in accordance with OSHA regulations until the permanent railing or grating has been permanently installed and approved by the Architect/Engineer.
- C. All scaffolding and platforms shall be erected in a safe and substantial manner complying with OSHA requirements.
- D. All temporary handrails and scaffolds shall be designed by a professional engineer licensed in the state where the project is being constructed.
 - 1. The design drawings and details shall be stamped by the licensed engineer and submitted for record purposes.
 - 2. Each Contractor's design engineer shall visit the site to certify that the handrailing and/or scaffolds have been erected pursuant to the stamped design.

- E. The Contractor shall install temporary handrails around the inside perimeter of each open tank that is to be constructed under Contract E.
- F. The Contractor shall protect all openings in building/structures of any type such as shafts, deck openings, and other building related chases.
- G. The Contractor shall also install two (2) separate temporary handrailing installations at two (2) separate stages of the construction for all structures where OSHA requires handrailing is to be provided.
 - 1. OSHA approved wooden railing shall be installed at the point where the deck platform formwork is proceeding and before reinforcement steel is placed.
 - a. Railing shall be installed using the bridge brackets used to construct the cantilevered platforms or other method as selected by the Contractor in compliance with OSHA.
 - b. Coordinate and advise the Prime Electrical Contractor of the date when the handrailing will be in place so that embedded conduit can be installed.
 - 2. The second installation of railing shall be fabricated of steel structural members with aircraft cable and turnbuckles installed immediately after the deck platform is constructed and the formwork is removed.

2.09 EROSION CONTROL

- A. Each Contractor shall provide measures to keep the ground surface well drained, but avoid erosion of embankments, excavations, the project site, and adjacent areas.
- B. Each Contractor shall comply with all local codes, rules, and regulations concerning soil erosion.
 - 1. Use hay bales or silt fences to control erosion to the satisfaction of the Architect/Engineer and regulatory agencies. Use hay bales or silt fences to stop silt and sediment from reaching surface waters, parking lots and roads.
 - 2. Leave erosion control methods in place until ground cover is established or until date of substantial completion.
- C. The Contractor shall install erosion control measures as shown on the Drawings.
- D. Comply with the requirements also contained in Section 015719 - Environmental Protection.

2.10 DUST CONTROL

- A. Each Contractor shall provide measures to control dust resulting from the work.
- B. Control dust at locations and in such quantities and frequencies as required to prevent dust from becoming a nuisance to the surrounding area.
- C. In the event the Contractor does not adequately provide for dust control, or should insufficient quantities of dust control agents be placed and Contractor fails to place additional quantities within 4 hours after Architect/Engineer's direction, Owner will perform the required work by whatever means deemed expedient and all expenses incurred by Owner will be charged to and paid by Contractor.
- D. Take care in selecting and applying dust control agents so as not to make roadways or walkways slippery, muddy or hazardous. Dust control agents shall be acceptable to the Architect/Engineer.
- E. The Contractor shall provide all roadways with dust control.

2.11 RUBBISH REMOVAL

- A. The Contractor shall be responsible for overall rubbish removal.
- B. Burning of rubbish and trash will not be permitted.
- C. The Contractor shall clean up trash as specified in Section 011400 - Work Restrictions or more often if the trash interferes with the work of others, presents a hazard or if directed by the Architect/Engineer.
- D. Dispose of rubbish and waste materials in accordance with state regulations and local ordinances.
- E. The Contractor shall also place rubbish containers at locations selected by the Architect/Engineer.
 - 1. Furnish adequately sized rubbish containers from the date of initial mobilization to the date of final payment.
 - 2. As a minimum, each Contractor shall furnish two (2) 55-gallon general trash containers. Secure the top of each container to the container.
 - 3. Secure the container itself so that it does not get blown about the site.
- F. The Contractor shall be responsible for maintaining the site free of trash.
- G. The Contractor shall maintain the site free of trash and debris.
 - 1. It shall be the sole responsibility of the Contractor to prevent trash from being blown about the site.
 - 2. Provide a worker to police the site at least for 1 hour at the end of each day that work is being undertaken by the Contractor.

2.12 SNOW REMOVAL

- A. The Contractor shall be responsible for maintaining roads, walkways, sidewalks, and parking areas/lots free of snow. Provide snow plowing during and after each snow fall equal to or greater than 1.0 inch as reported by the local weather service.
- B. Any damage resulting from the Contractor's snow clearing operations shall be immediately repaired at no additional cost to the Owner.

2.13 ENCLOSURES

- A. Each Contractor shall provide and maintain temporary enclosures, sheds, or fenced-in areas to accommodate protection for products, material and equipment.
- B. Store equipment that cannot be exposed to outdoors in accordance with Section 016500 - Product Delivery, Storage and Handling.

2.14 SECURITY

- A. Each Contractor shall provide security and facilities to protect work from unauthorized entry, vandalism and theft.
- B. Coordinate with Owner's security program, if applicable.
- C. Each Contractor has full responsibility for the working area until final acceptance and payment.

- D. The Contractor shall maintain the perimeter fence that pre-existed prior to the start of construction. A temporary perimeter fence shall be required at all times during the construction and until the new perimeter fence is installed, or until the project is accepted by the Owner.
- E. It shall be the Contractor's responsibility to lock all gates to the site, and on the access road, at the end of each work day.
- F. All on-site employees shall bear, at all times, an identification badge, conspicuously worn, which shall include, at a minimum, a passport or similar size photograph, the name of the employee and the name of the company.
- G. Any employee working on site without a photo identification badge will be instructed to leave the site.
- H. All company vehicles shall be conspicuously identified, through sufficiently sized lettering on both the passenger and driver sides, with the company name, address and telephone number.
 - 1. All employee owned vehicles shall have an 8-1/2 inch by 11 inch sign with the company name, address and telephone number placed on the dashboard on the driver side.
 - 2. Vehicles may be subject to search by the Owner or owner's representatives.
 - 3. Any vehicle that does not have the company name, address and telephone number will not be permitted on the Owners' property.
- I. Submit to the Owner a complete listing of all employees that will or might be performing work at the project site.
 - 1. Furthermore, provide sufficient information as may be required for the Owner to conduct background checks, in accordance with the Fair Credit Reporting Act.
 - 2. Background checks may be performed at the discretion of the Owner due to the sensitive nature of the work and the extensive, and sometimes unsupervised, access to Owner property and buildings.
 - 3. Each Contractor shall be required, on request from the Owner, at any time prior to or during the work, to provide releases from its employees and officers to the Owner, H2M, and a background search firm, hired by either the Owner or H2M, to conduct background checks in accordance with the Fair Credit Reporting Act and applicable state law.

2.15 PARKING

- A. The Contractor shall provide an area suitable for parking at least three (3) vehicles by leveling the surface and installing 3 inches of QPS over the level surface.
 - 1. This area shall be used for the exclusive use of the Owner and Architect/Engineer.
- B. Do not allow heavy construction vehicle parking on existing pavement, if existing pavement is not scheduled for replacement or restoration.
- C. Provide and maintain access to fire hydrants, building entrances, process tanks, doors and the work in general.
- D. The Contractor shall have his or her employees and subcontractors park in areas designated by the Owner/Architect/Engineer.
- E. If designated on the Contract Drawings, then only use those areas for parking.
- F. Where trades work from their trucks, then coordinate the parking of trucks with other prime contractors.
- G. If a Site Utilization Plan has been specified, then parking shall be as sited in the plan.

- H. Since the site is limited in space, special transportation may have to be furnished by the respective Contractor to have their employees bused to the site from off-site parking.

2.16 DAMAGES

- A. Each Contractor, with the prior approval of the Owner/Architect/Engineer, shall promptly repair any damage, directly or indirectly caused by the Contractor's operations.
- B. All repairs shall be to the complete satisfaction of the Owner and equal in quality to that which pre-existed.

2.17 FIRST AID FACILITIES & EMERGENCY TELEPHONE NUMBERS

- A. Each Contractor shall provide and maintain adequately equipped first aid facilities in a location or at locations that are readily accessible to workmen, Architect/Engineer and visitors to the site.
- B. Provide at least one on-site employee who is properly trained in first aid and who shall be available to render first aid whenever construction is in progress.
- C. Provide a list of emergency telephone numbers as specified above.
- D. Post the list of emergency telephone numbers as directed by the Architect/Engineer.

2.18 POLLUTION CONTROL

- A. Do not permit pollutants, such as chemicals, fuels, lubricants, calcium chloride, sewage, water containing sediments and other deleterious, poisonous, toxic or oxygen demanding substances to enter or leach into streams, lakes, wetlands, other surface waters, into groundwater, or into the air.
- B. In waters used for public water supply or used for trout, salmon or other game or forage fish spawning or nursery, control measures must be adequate to assure that turbidity in the receiving water will be increased not more than 10 standard turbidity units (s.t.u.) in the absence of other more restrictive locally established limitations, unless otherwise permitted by the State.
- C. In no case shall the classification for the surface water be violated, unless otherwise permitted by the State.
- D. In water used for other purposes, the turbidity shall not exceed State limits.

2.19 TEMPORARY ROADS

- A. The Contractor shall construct temporary roads where shown on the Contract Drawings and as specified in Division 32 specifications.
- B. Maintain the roads through the construction up until substantial completion or until final roads are constructed.
- C. Remove all temporary roads and pavement and restore road area as designated on the Contract Drawings.
- D. All temporary roads shall be properly constructed as detailed, or if not detailed, to the extent required to form a sound driving surface in accordance with trade standards.
- E. The Contractor shall construct temporary roads for site access as detailed on the Drawings.

2.20 REMOVALS

- A. Remove all items provided under this Section except as otherwise specified.

PART 3 - EXECUTION

3.01 PROTECTION OF EXISTING UTILITIES AND PUBLIC WORKS

- A. Maintain and protect existing utilities and public works including, but not limited to, conduits, sewers, water mains, electric and telephone conductors or conduits, and gas mains encountered during the construction.
- B. In the event that it is not possible to cross over, under, around or otherwise avoid the existing utility, the owner of the utility shall be notified that the utility must be altered or moved.
- C. In the event that damage shall result to any service pipe for water or gas, or any private or public sewer or conduit, the Contractor shall immediately, and at its own expense, repair same to the satisfaction of the Architect/Engineer.
- D. Any contents from the pipes, sewers or conduits shall be immediately removed and disposed in accordance with applicable laws.

3.02 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities and materials, immediately following substantial completion and prior to release of retainage.
- B. Remove underground installations to a minimum depth of 2 feet.
- C. Regrade site to restore to existing slope and elevation, and restore the surface.
- D. Clean and repair damage caused by installation or use of temporary work.
- E. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.
- F. Remove temporary parking and access roads.
- G. Regrade area to existing slope and elevation and restore the surface to its existing condition.
- H. Final payment will not be processed until all removals have been completed to the satisfaction of the Owner/Architect/Engineer.

3.03 PROTECTION OF EXISTING PROPERTY

- A. Protect existing structures and finishes during performance of the work.
- B. Protect existing trees and plants during performance of the work.
- C. Do not deposit excavated materials or store materials around trees or plants or attach guy wires to trees.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section includes the general requirements for products that are to be furnished, installed, or otherwise incorporated into the project.

1.02 QUALITY ASSURANCE APPLIES TO ALL PRODUCTS

- A. In addition to the Contractor's warranties and guarantees on materials and equipment required under the General Conditions of the Contract and the Technical Specifications contained hereinafter, the Contractor shall also be responsible for all materials, equipment, and products that have or is planned to be incorporated into the work.
 - 1. The Contractor shall be responsible for the finished work and that it accurately and completely complies with these Contract Documents.
 - 2. The Contractor shall be responsible for work performed by subcontractors, equipment suppliers, and material vendors.
 - 3. The Contractor shall be satisfied as to the product's performance before it is ordered for installation. At the Contractor's option, he/she shall have tested each product to determine compliance with these specifications.
- B. The Architect/Engineer may check all or any portion of the work and the Contractor shall afford all necessary assistance to the Architect/Engineer in carrying out such checks.
 - 1. Such checking by the Architect/Engineer shall not relieve the Contractor of any responsibilities for the accuracy or completeness of the work.
 - 2. Such checking is a courtesy service being provided by the Owner and does not relieve the Contractor of his/her responsibilities under this Construction Contract.
- C. If witnessed shop tests or inspections are required at the point of manufacture, the Contractor shall keep the Architect/Engineer advised as to the progress of the work to allow inspection at the proper time and place. Provide at least two (2) weeks advance notice before scheduled shop tests.
- D. Should a dispute arise as to the quality of workmanship, equipment or material performance, then the final decision regarding acceptability with these Contract Documents shall be that of the Owner.
- E. At the request of the Architect/Engineer, the Contractor shall promptly provide the services of a competent representative of the manufacturer at the project site, fully equipped and prepared to answer questions, perform tests, make adjustments and to prove compliance with the Contract Documents free of all additional charges. Proof of compliance shall be the responsibility of the Contractor, and such special visits to the project site by the manufacturer shall not be eligible under any cash allowances or stipulated man-hours necessary to startup the system and/or train the Owner as may be specified in the Technical Specifications.

1.03 QUALITY ASSURANCE - EQUIPMENT

- A. Erect and install products under the supervision of a competent and experienced superintendent. The method of installation, including anchorage, clearances, and tolerances for rotating assemblies, methods of support for equipment and adjacent piping, shall be as recommended by the equipment manufacturer unless detailed on the Drawings or specified.
- B. All material furnished shall be new, and guaranteed free from defects in workmanship, installation, and design.

- C. Design and fabricate equipment in conformance with ANSI, ASTM, ASME, ASHRAE, IEEE, NEC and NEMA Standards.
 - 1. Equipment shall withstand the stresses that may occur during fabrication, testing, transportation, installation and conditions of operation.
 - 2. Pumps shall conform to the requirements of the Hydraulic Institute.
 - 3. Equipment shall comply with the latest OSHA regulations and the ANSI Safety Standards.
- D. Equipment shall be products of manufacturers who produce evidence of their ability to promptly furnish any and all interchangeable replacement parts as may be needed at any time within the expected life of the equipment.
- E. Manufacturers shall also have readily available access to suitable and accurate testing facilities for performing the required shop tests.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. Equipment shall have been in successful regular operation under comparable conditions for a period of at least five (5) years.
 - 1. This time requirement does not apply when the manufacturer posts an Owner/Architect/Engineer acceptable Performance Bond or Letter of Credit for the duration of the time period that will guarantee replacement of the equipment in the event of failure.
 - 2. The bond shall be in a form that is acceptable to the Owner's legal council.
- B. The Owner reserves the right to reject any material or equipment manufacturer who, although he appears to be qualified and meets the technical requirements, does not provide satisfactory evidence indicating adequate and prompt post-installation repair and maintenance service, as required to suit the operational requirements of the Owner.
- C. Whenever it is required that the Contractor furnish materials or manufactured articles or shall do work for which no detailed specifications are set forth, the materials or manufactured articles shall be of the best grade in quality and workmanship obtainable on the market from firms of established good reputation, or, if not ordinarily carried in stock, shall conform to the usual standards for first-class materials or articles of the kind required.
- D. Perform work in full conformity and harmony with the intent to secure the best standard of construction and equipment of the work as a whole or in part.
- E. Items of any one type of material or equipment shall be the product of a single manufacturer.
 - 1. For ease of the Owner in maintaining and obtaining service for equipment and for obtaining spare parts from as few places as possible, to the maximum extent possible, use equipment of a single manufacturer.
 - 2. The Architect/Engineer reserves the right to reject any equipment from various manufacturers if suitable equipment can be secured from fewer manufacturers and to require that source of materials be unified to the maximum extent possible.
- F. Substitute equipment shall not be fabricated nor installed until after written decision to accept request is received from the Architect/Engineer.

2.02 CONTROL PANELS, MCC'S AND SWITCHBOARDS

- A. All control panels, motor control centers, and switchboards shall be fabricated with pilot lights, selector switches, PLC, graphics display panels, elapsed time meters and other components that shall match.
 - 1. This does not require that all components be one manufacturer, but does require that the like components be of the same manufacturer.
 - 2. The Contractor shall coordinate the shop drawing submittals to indicate that all components have been selected on this basis.
 - 3. This requires the Contractor to advise each control panel supplier that product options are limited in this regard.
- B. Replacement of unlike products delivered to the job site shall be the responsibility of the Contractor.
- C. All costs associated with the replacement shall be borne by the Contractor.

2.03 NAMEPLATES

- A. Each unit of equipment shall have the manufacturer's name or trademark on a stainless steel nameplate securely affixed in a conspicuous place.
- B. The manufacturer's name or trademark may be cast integrally with stamp, or otherwise permanently marked upon the item of equipment.
- C. Such other information as the manufacturer may consider necessary for complete identification shall be shown on the nameplate.

2.04 FABRICATIONS

- A. Insofar as possible, shop prefabricate all items complete and ready for installation.
- B. Accurately fabricate all items to the details shown on the Drawings and on the shop drawings found in compliance with the Contract Documents.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Prior to work under any Section, carefully inspect the work of all other prime trades and verify that all such work is in conformance with the Contract Documents and is complete to the point where the work under that Section may properly commence.
- B. Avoid the need to remove and replace work and to avoid unnecessary cutting and patching.
- C. Inspect all surfaces to be sure that they have been properly prepared before applying new work to such surfaces.
- D. Verify that all work can be installed in strict accordance with the drawings and the approved shop drawings. Immediately report discrepancies to Architect/Engineer.
- E. Do not proceed with the work under any Section until these conditions are obtained.

3.02 INSTALLATION

- A. Furnish and install materials and equipment in accordance with the instructions of the applicable manufacturer, fabricator or processors, except as otherwise provided in the Contract Documents.
- B. All work shall be done in a workmanlike manner and set to proper lines and grades. The work shall be square, plumb and/or level as the case may be.
- C. Where performance criteria are specified, do all work necessary to attain the required end results.

3.03 FIELD QUALITY CONTROL

- A. Neither observations by Architect/Engineer nor inspections, tests or approvals by other persons shall relieve the Contractor from his obligations to perform the work in accordance with the requirements of the Contract Documents.
- B. If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be inspected, tested or approved by some public body, the Contractor shall assume full responsibility therefore, pay all costs in connection therewith, and furnish the Architect/Engineer with the required certificates of inspection, testing or approval.
- C. The Owner reserves the right to independently perform laboratory tests on random samples of material or performance tests on equipment delivered to the site.
 - 1. These tests, if made, will be conducted in accordance with the appropriate referenced standards or specification requirements.
 - 2. The entire shipment represented by a given sample, samples or piece of equipment may be rejected on the basis of the failure of samples or pieces of equipment to meet specified test requirements.
 - 3. All rejected materials or equipment shall be removed from the site, whether stored or installed in the work, and the required replacements shall be made, all at no additional cost to Owner.

3.04 ADJUST AND CLEAN

- A. Upon the completion of installations, and as a condition of its acceptance, visually inspect all work, adjust all components for proper alignment and touch-up abrasions and scratches to make them completely invisible.
- B. Thoroughly examine all materials and equipment with protective or decorative finishes for defects and damage prior to being covered.
 - 1. In the case of buried items of work, restore protective surface covers so as to conform to the Contract Documents prior to being backfilled, buried or embedded, as the case may be.
 - 2. In the case of exposed items of work, for which a decorative finish is required, all scratches, discoloration's, unmatched colors, disfiguration and damages shall be repaired and touched-up so as to provide a neat, clean finish, and be uniform in color.

3.05 UNCOVERING WORK

- A. Unless otherwise specified or directed by Architect/Engineer, no work shall be covered until it has been observed, tested, photographed, measured, and authorized to be covered by Architect/Engineer.

- B. Tie distances to above ground physical structures as reference points to all underground utilities, conduits, pits, manholes, valves, and pipelines shall be obtained by the Contractor prior to covering the work. Immediately comply with the Architect/Engineer's direction to uncover the work if tie distances were not obtained.
- C. If any work has been covered with Architect/Engineer's consent and Architect/Engineer considers it necessary or advisable that covered work be observed or tested, the Contractor, at Architect/Engineer's request, shall uncover, expose or otherwise make available for observation, or testing as Architect/Engineer may require, that portion of the work in question, furnishing all necessary labor, material and equipment.
 - 1. If it is found that such work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, and testing of satisfactory reconstruction, including compensation for additional engineering services and an appropriate deductive change order shall be issued.
 - 2. If, however, such work is not found to be defective, the Contractor shall be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, testing and reconstruction if he makes a claim therefore as provided in the General Conditions.

3.06 DEFECTIVE WORK

- A. The repair, removal, replacement and correction of defective work is a part of this Contract and shall be promptly performed in accordance with the requirements set forth in the General Conditions or other portions of the Contract Documents. All costs in connection with the correction of defective work shall be borne by the Contractor.
- B. Products that fail to maintain the performance or other salient requirements of the Contract Documents, shows undue wear, or other deleterious effects during the maintenance period, shall be considered defective.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. The Section includes the transportation, handling, storage and protection of products that are to be incorporated into the work.
- B. The procedures for turning equipment over to the Owner for installation by others is also included herein.

1.02 GENERAL

- A. Items shall be delivered as complete assemblies direct from the manufacturer with all internal wiring, piping, valving, and control devices intact except where partial disassembly is required by transportation regulations, protection of components, or where physical constraints may exist or be created for the setting of the item.
- B. Coordinate the disassembly and reassembly requirements with the manufacturer. Determine the need and extent of reassembly prior to bid.
 - 1. All labor, material and equipment costs associated with the disassembly and reassembly of the product shall be included in the Contract Price.
 - 2. Where reassembly of equipment is necessary, then the manufacturer shall provide reassembly instruction at the project site.
 - 3. A technician shall be present during the entire reassembly procedure and the manufacturer shall certify, in writing, that the unit was reassembled properly in accordance with instructions provided by the manufacturer and that all as-specified warranties remain in effect.
 - 4. The manufacturer's reassembly inspection time shall be in addition to the field service time specified and shall be included in the Contract Price. This time shall not be eligible for payment under any cash allowance item.
- C. In the case where equipment is to be installed by others, then the supplying contractor shall be responsible for its reassembly. If reassembly is necessary and the unit(s) are to be set inside an enclosure or building, reassemble the equipment inside said enclosure. The equipment once reassembled shall be turned over to the installing contractor as specified below.

1.03 PACKING

- A. Transport products in containers, crates, boxes or similar means such that the products are protected against damage that may occur during transportation.
- B. All parts shall be packaged separately or in container where parts of similar systems are grouped.
- C. Part numbers shall be indicated on the individual part. Use indelible ink to mark part numbers.
- D. All equipment shipments shall be included with a parts list showing a description (name) of the part and the manufacturer's part number.
 - 1. The parts list shall be shipped in a plastic zippered envelope with the words "Parts List" lettered on it in indelible ink.
 - 2. The parts list shall be placed inside the shipping container so that it is on the top of the contents.
- E. Equipment shall be shipped with storage, handling and installation instructions.

1. The Engineer reserves the right to withhold payment for equipment delivered to the site until such time as the storage, handling and installation instructions are supplied by the manufacturer.
 2. In the case where operation and maintenance manuals have been provided by the manufacturer, which includes the installation instructions, then the installation instructions shall also be included with the equipment shipment.
- F. All control panels shall be wood crated.
1. All sides of the control panel shall be covered with 3/4" plywood.
 2. The control panel number or name shall be printed on all sides of the crate in 1' high black lettering.
 3. The manufacturer's name, Contractor's name and project name shall also be printed on the front of the crate.
 4. All control panels and centers shall be packaged with three (3) copies of the approved wiring diagram inside the control panel enclosure in a separate plan holder attached to the inside door. The words "APPROVED FOR CONSTRUCTION" shall be indicated on each page of the wiring diagram.
- G. Delicate instruments and devices, reagents, chemicals, and glassware shall be shipped in packaging normally provided by the manufacturer.
- H. The Contractor shall require the manufacturer to be responsible for the proper packing of all products.

1.04 SHIPPING AND DELIVERY

- A. Product deliveries shall be accompanied with a bill of lading indicating the place of origination and the Contractor's purchase order number.
- B. Inspect shipments immediately upon delivery, to assure compliance with requirements of the Contract Documents and those products are undamaged.
- C. Promptly remove damaged material and unsuitable items from the job site.
- D. Provide equipment and personnel to handle products by methods to prevent soiling; disfigurement or damage.

1.05 STORAGE

- A. Store sensitive products and all spare parts in weather tight, climate controlled enclosures in an environment favorable to product.
- B. Store and protect products in accordance with the manufacturer's instructions.
- C. All other products that are to be installed underground or products such as pipe, valves, and fittings shall be stored outdoors but shall be blocked off the ground and covered with impervious sheet coverings.
- D. Store fabricated products above the ground on blocking or skids.
- E. Store loose granular materials in well-drained areas on solid surfaces to prevent mixing with foreign matter.
- F. Provide adequate ventilation to avoid condensation.

- G. In accordance with manufacturer's instructions protect bearings, couplings, shafts, rotating components, and assemblies. Protection of said equipment shall be continuous until the time the equipment is placed into permanent service.
- H. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.
- I. Do not store volatile liquids in any building on site.
- J. Storage of products shall be the responsibility of the supplying contractor. The installing contractor shall take all necessary precautions to protect the equipment being furnished by others.
- K. Store with seals and labels intact and legible.

1.06 EQUIPMENT INSTALLED BY OTHERS

- A. All products, except products noted on the Drawings or specified, shall be furnished and installed under this Contract.
 - 1. Only noted or specified products shall be furnished under this Contract for installation by others.
 - 2. If it is not noted on the Drawings or specified, then the product shall be furnished and installed under the Contract.
- B. The Contractor shall furnish these products to the Owner. These products shall be stored as specified above.
- C. The Owner will then advise the installing contractor that the product(s) are ready for installation.
 - 1. In the case where the product is stored in a proper enclosure, but not stored inside the building to be constructed under this project, then the installing contractor shall move the product into the building to a location adjacent to the final location shown on the Drawings.
 - 2. In all cases, the installing contractor shall be responsible for moving from storage, uncrating, anchoring, mounting and installing the product as required by the Contract Documents.
- D. The Contractor and installing contractor(s) shall be present at the time the equipment is turned over to the Owner. Immediately thereafter, the Owner will turn the product over to the installing contractor for installation.
- E. The Owner, Contractor, Architect/Engineer and the installing contractor shall inspect the condition of the product at this time.
 - 1. Any defects in the product will be noted and the Contractor will be advised to make all repairs immediately.
 - 2. The installing contractor shall still be required to install the product if the damage is deemed cosmetic by the Architect/Engineer.
 - 3. The manufacturer's installation instructions or wiring diagram shall be turned over to the installing contractor at this time by the Contractor.
 - 4. Any damage occurring to the product during moving, setting and mounting the unit(s) shall be the responsibility of the installing contractor.
 - 5. The Contractor is advised to take photographs to document the condition prior to it being turned over to the installing contractor.
 - 6. The installing contractor is advised to take photographs to document the condition prior to its acceptance.

- F. The supplied unit(s) remain the property of the Contractor until final acceptance of the work.
- G. Any damage caused to the unit(s) due to improper installation, workmanship, and non-compliance with the manufacturer's written installation instructions shall be the responsibility of the contractor who caused said damage. The burden of proof shall rest with the supplying Contractor.
- H. In the event the Contractor discovers misuse, abuse or improper installation of the unit(s) by the installing contractor, then he shall immediately notify the Architect/Engineer in writing. The Architect/Engineer will investigate the accusations and make a determination. The Architect/Engineer's determination shall be binding and agreed to by both parties.
- I. If the Architect/Engineer's determination substantiates the accusations of the Contractor, then the Contractor shall install the unit(s), the costs for which will be paid for as extra work. All costs associated with the extra work change order, including engineering and attorney fees of the Owner and Contractor will be deducted from money due the installing contractor.

1.07 PROTECTION OF WORK

- A. The Contractor shall protect the installed work. All costs for protection shall be borne by the Contractor. Provide coverings as necessary to protect installed products from damage, from traffic and subsequent construction operations. Remove when no longer needed.
- B. Cover and protect equipment from dust, moisture or physical damage. Protect finished floor surfaces prior to allowing equipment or materials to be moved over such surfaces. Maintain finished surfaces clean, unmarred and suitably protected until accepted by the Owner.
- C. Additional time required to secure replacements and to make repairs will not be considered by the Architect/Engineer to justify any extension in the Contract Time of Completion. In the event of the damage, promptly make replacement and repairs to the approval of the Engineer at no additional costs.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Cleaning during the progress of the work
- B. Cleaning prior to final payment

1.02 SCHEDULING

- A. Sequence, schedule, and coordinate final cleaning work with the final cleaning work to be performed by other prime contractors.
- B. Perform final cleaning at least five (5) days before the date set for ceremonies to dedicate the new facility wherein the Owner will provide tours to the general public and/or dignitaries. The site shall be clean, organized, and totally free of construction debris, tools, and equipment.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Cleaning materials shall be appropriate to the surface and materials being cleaned.
- B. Provide pads to protect finished surfaces from cleaning materials.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Post signs to advise building occupants if wet and/or slippery floor conditions exist during cleaning operations.

3.02 PROGRESS CLEANING

- A. Keep all buildings, enclosures, and confined areas where work is being performed under the Contract free from unattended combustible materials.
- B. Remove rust spots as they develop.

3.03 FINAL CLEANING

- A. Remove dust, dirt, grease, stains, paint drips and runs, plastic, labels, tape, glue, rope, and other foreign materials from visible interior and exterior surfaces.
- B. Do not move dust from spot to spot. Remove directly from the surface on which it lies by the most effective mean such as appropriately treated dusting cloths or vacuum tools. When doing high cleaning, do not allow dust to fall from high areas onto furniture and equipment below.
- C. Dismantle and remove all temporary structures, scaffolding, fencing, and equipment. Remove waste materials, rubbish, lumber, block, tools, machinery, and surplus materials.
- D. Perform the following prior to final payment:
 - 1. Broom clean all exterior concrete surfaces and vacuum clean all interior concrete surfaces.
 - 2. Dust and spot clean painted and vinyl covered walls.

3. Clean and polish all unpainted metal on doors such as trim, hardware, kickplates and doorknobs.
4. Vacuum clean carpets and mats.
5. Vacuum clean acoustic ceilings.
6. Repair, patch, and touch-up marred surfaces to specified finish and to match adjacent surfaces.
7. Remove foreign material from brick.
8. Replace all broken and scratched glass and mirrors.
9. Replace all damaged insect screens.
10. Wash and clean interior and exterior window surfaces. All glass shall be clean and free of dirt, grime, streaks and excessive moisture. Wipe drippings and other marks from windowsills, sashes and woodwork. Do not use windowsills in lieu of ladders.
11. Polish bright metal by damp wiping and drying with a suitable cloth. If a polished appearance is not thereby produced, apply appropriate metal polish.
12. Clean and polish all stainless steel surfaces, including control panels supplied under this Contract.
13. Clean furniture and equipment in accordance with manufacturers instructions.
14. Clean all paved roads, lots and drives which were paved as work under this Contract and all existing paved surfaces using a mechanical street cleaner.
15. Repair or repaint damaged pavement markings.
16. Wash all existing floors that were in any way impacted by the construction operations.
17. Inspect interior and exterior surfaces, and all work areas, to verify that the entire work is clean and ready for use by the Owner. The project will not be considered substantially complete until all final cleaning has been performed.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Work of this Section includes the following:
 - 1. Starting systems
 - 2. Testing, adjusting, and balancing
 - 3. Updating of manufacturer's operations and maintenance manuals and wiring diagrams
- B. Work of this Section also includes stipulated man-hours that shall be provided by the **Prime Electrical Construction Contractor** for startup participation of equipment and systems.

1.02 STARTING SYSTEMS

- A. The Contractor shall coordinate, schedule, and sequence the start-up of various equipment and systems.
- B. Where the start-up of a system or piece of equipment is dependent upon the start-up of other system(s) or equipment, then the Contractor shall schedule and sequence the start-ups to coincide.
- C. Notify the Architect/Engineer at least 14 calendar days prior to the start-up of each item or system so that he can schedule the startup with the Owner, utilities, and other Prime Contractors.
- D. Where applicable, verify that each piece of equipment or system has been checked for proper:
 - 1. lubrication,
 - 2. drive rotation,
 - 3. belt tension,
 - 4. motor starter heater size,
 - 5. fuse size,
 - 6. water pressures,
 - 7. terminal connections,
 - 8. control sequence,
 - 9. for conditions which may cause damage or delay the start-up procedure.
- E. Verify that the equipment has been installed in accordance with the manufacturer's requirements.
- F. Complete all pre-startup checklists that may be required by the system vendor.
 - 1. In the event that start-up activities are delayed as a result of the Contractor's failure to properly check the completed installation and a manufacturer's representative is on the job site waiting for corrections to be made, then the Architect/Engineer may, at his/her sole discretion, postpone start-up until such time as the corrections have been made without any extra costs.
 - 2. The Owner may deduct from money due the Contractor the excess cost of engineering associated with having the Architect/Engineer present during the start-up.
 - 3. The deduction shall be equal to the Architect/Engineer's effective billing rate times the total number of hours delayed during the start-up activities.
- G. Verify that tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- H. Verify that wiring and support components for equipment are complete and tested.

- I. Execute start-up under supervision of applicable Contractor's personnel in accordance with manufacturer's instructions.
- J. The Contractor shall have the job site superintendent present during all start-up activities.
- K. Provide manufacturer's authorized technician at the site when specified and in accordance with the requirements contained in Section 014500 - Quality Control.
- L. Submit manufacturer's start-up reports (MSR's) in accordance with Section 013300.

1.03 STIPULATED STARTUP PARTICIPATION FOR PRIME ELECTRICAL CONSTRUCTION CONTRACTOR

- A. The **Prime Electrical Construction Contractor** shall provide the services of the job site foreman or superintendent who shall participate in the startup of equipment or systems that were furnished by others so as to achieve proper and sustained service.
- B. The Prime Electrical Construction Contractor shall include in the Contract price **SIXTEEN (16)** man-hours of participation service exclusively dedicated for providing startup services for equipment furnished by other Contractors.
 - 1. The Owner reserves the right to receive a credit for each unused hour at the prevailing wage in effect at the time, said amount not being less than **Seventy Five Dollars (\$75)** per hour in any case.
 - 2. This service shall be provided when directed by the Architect/Engineer. Sufficient advance notice will be provided.
- C. The **Prime Electrical Construction Contractor** shall provide a separate line item in the Schedule of Values for this service.
 - 1. Provide with each requisition for payment, concerning this stipulated amount, a field report documenting the equipment item or system, date(s) of service, name of Contractor's worker(s), hour(s) worked, brief description of work performed during startup, and the prevailing wage rate paid them.
 - 2. The field report shall be signed by the Architect/Engineer's field representative.
- D. Requisitions for payment out of this stipulated amount will not be processed without an executed field report unless proof of manhours expended can be proved otherwise.

END OF SECTION

PART 1 - GENERAL

1.01 SUBMITTALS

- A. Submit the following documents to the Architect/Engineer before Substantial Completion:
 - 1. Project Record Documents as specified in Section 017839.
 - 2. Operations and Maintenance Manuals prepared in accordance with Section 017823 and be updated as a result of start-up activities.
 - 3. Manufacturer's Start-up Reports (MSR's) for all equipment and systems where manufacturer field time is specified.
 - a. Each MSR shall be signed by the field technician(s) who attended the start-up.
 - b. If the manufacturer is taking exception to the installation or if the warranty is voided, he shall provide a statement to that effect and provide reasons and justification to explain the company's position.
 - 4. One binder containing original counterparts of all warranties, guarantees, bonds, or affidavits as specified in the Technical Specification Sections. These documents shall contain the original signatures and be placed in a plastic sheet protector, one document per protector.
 - 5. Spare parts checklist itemizing all spare parts furnished under the Contract summarized by Section.
 - 6. Electrical Underwriter's Certificate where the prime construction contract includes electrical construction or where this Contract is for a Prime Electrical Construction Contract.
- B. Submit the following items to the Architect/Engineer with the final application for payment:
 - 1. Final Application for Payment prepared by the Architect/Engineer for Contractor's execution showing final amount of Contract including change orders.
 - 2. Maintenance Bond prepared in accordance with the Contract or General Conditions.
 - 3. Utility company signoffs and inspection approvals, if applicable.
 - 4. Federal, state, county, town and local signoffs and inspection approvals, where applicable.
- C. All documents shall be complete, signed, dated, and notarized (where applicable) and be subject to the Architect/Engineer's acknowledgment of receipt or approval.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section specifies the requirements for Operations and Maintenance Manuals required to be prepared by system suppliers and equipment manufacturers.
- B. The Contractor shall submit Operations and Maintenance Manuals for all equipment.
- C. Where the technical specifications call for the submission of manuals, said manuals shall be prepared in accordance with the requirements contained herein. It being understood that manuals shall be submitted for all equipment even if it is not specifically called out in the specifications.

1.02 MANUAL CONTENTS AND FORMAT

- A. All paper Operations and Maintenance Manuals shall be as specified hereinafter.
- B. The binder shall be 8 1/2" x 11", metal hinge, vinyl, large capacity by National or Equal. It shall show the name of the manufacturer or supplier and project name on the spine of the binder.
- C. A cover shall be provided showing the names of the Owner, Architect/Engineer, Contractor, and Manufacturer.
 - 1. It shall show the Contractor's order number and manufacturer's project number.
 - 2. The address of the manufacturer, service station telephone number, project title, contract number, and year shall also be shown.
- D. Provide tabbed color dividers for each separate product and system.
 - 1. The name of the product shall be typed on the tab.
 - 2. A separate tab shall also be provided for information such as troubleshooting instructions, spare parts list, etc.
- E. An index shall be provided in the back of the binder, with a separate tab, providing a quick way for the operator to find key and important topics contained in the manual.
- F. A separate listing for all charts, graphs, tables, figures and shop drawings shall be provided directly following the table of contents.
- G. Each manual shall contain one (1) copy of all shop drawings deemed in compliance with the Contract Documents by the Architect/Engineer submitted for the equipment or system for which the manual is prepared.
 - 1. Only these shop drawings shall be included in the manual.
 - 2. All shop drawings larger than 8 1/2" x 11" shall be folded and placed in a heavy duty, top loading plastic sheet protector with the title of the drawing showing; one (1) drawing per protector page.
- H. For systems being furnished with control panels, each manual shall contain a catalog cut for every electrical device installed inside the control panel or motor control center.
- I. Where emergency generator(s) are included as work of this Contract, the manufacturer's standard manual will be allowed if the manual clearly shows the instructions for the particular model of generator. Cross out chapters and paragraphs that do not apply to the Owner's generator.
- J. Where manuals are prepared for treatment systems for water, a process chapter, written in plain language for the operators, shall be prepared by the manufacturer providing the following:

1. A general discussion regarding the theory of the process.
 2. A specific discussion relating the theory to the project as designed and constructed. Provide capacities, sizes, loading rates, application criteria, design values, and design assumptions.
 3. Provide model numbers for equipment comprising the system.
 4. Provide figures, tables, and graphs to assist the operator in understanding the operation of the treatment system.
 5. Where operator interfaces are provided, provide step-by-step instructions for changing a process control variable such as set points.
 - a. The instructions shall be numbered and written such as "press", "hold" "scroll", etc.
 - b. Each operator interface instruction sheet shall be laminated and placed in the binder.
 - c. Another laminated sheet shall be provided and placed inside the control panel.
- K. Each manual shall contain the following as a minimum:
1. Table of contents
 2. Final version of the warranty statement approved by the Architect/Engineer
 3. Nameplate data of each component, year of installation, contract number and specification number
 4. Name, address and telephone number of the manufacturer and the manufacturer's local representative(s)
 5. Installation instructions
 6. Operation instructions including adjustments, the interrelation of components and the control sequence describing break-in, start-up, operation and shutdown
 7. Emergency operating instructions and capabilities
 8. Maintenance requirements include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair and reassembly instructions; and alignment, adjusting, balancing, and checking instructions
 9. Troubleshooting guide and corrective maintenance (repair) procedures for all electrical and mechanical equipment. These guides shall list the most frequent and common problems, together with the symptoms, possible causes of the trouble, and remedies
 10. Drawings (pictures or exploded views) which clearly depict and identify each part, suitable for assembly and disassembly of entire system and each component
 11. Wiring and control diagrams, if applicable
 12. Panelboard circuit directories including electrical service characteristics, if applicable
 13. Part list with current prices; ordering information; and recommended quantities of spare parts to be maintained in storage
 14. Charts of valve tag numbers, with location and function of each valve, keyed to the process and instrumentation diagram prepared as part of the Contract Documents
 15. Name, address, and telephone number of nearest parts supply house and nearest authorized repair service center.
 16. List of recommended spare parts and the recommended number of each per unit and per group of units.
- L. All electronic Operations and Maintenance Manuals shall be as specified hereinafter.
1. All files shall be in Adobe PDF format and submitted on compact discs.
 2. Files shall be organized by specification section and then by product.
 3. An electronic index and list of all charts, graphs, tables, figures, and shop drawings shall be included.
 4. All information provided in the paper Operations and Maintenance Manual shall be included in the electronic version.
- M. Submit one (1) copy of a preliminary draft manual at least fourteen (14) calendar days prior to the date set for start-up.
1. The Architect/Engineer will review the manual for content and compliance with these specifications.

2. Written comments will be provided, but the manual will not be returned.
 3. The manual will be used at start-up, to record changes that should be made to the final manual.
 4. The manual will be retained on the site until such time as the final, updated manual is provided.
- N. Two (2) weeks after the date the unit was placed into service and the Owner has gained beneficial use, submit one (1) paper copies and two (2) electronic copies of the final updated Operations and Maintenance Manual. Refer to Section 017500 - Starting and Adjusting for requirements related to updating the manual(s).
- O. Where installation instructions are not included with the manual, they shall be shipped at least ten (10) days prior to the date the equipment is scheduled for installation.

1.03 RETAINAGE

- A. The Architect/Engineer will retain from payment due the Contractor, for failure to submit manuals as specified, an amount equal to 2% of the scheduled value for the equipment or system for which the manual applies. This Contract requirement only applies when a manual is specified to be provided in the Technical Specifications for a particular system or piece of equipment.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This Section includes:
 - 1. Maintenance of documents
 - 2. Recording of record information
 - 3. Submission of record documents
- B. Work of this section also includes the furnishing of underground pipeline documentation.

1.02 PLANS AND SPECIFICATIONS FURNISHED TO THE CONTRACTOR

- A. One (1) complete set of Contract Documents (plans, specifications and addenda) will be furnished to the Contractor in electronic portable document format (PDF).
- B. Additional sets will be furnished to the Contractor at \$250 per set.

1.03 MAINTENANCE OF DOCUMENTS

- A. Each Contractor shall maintain at the site one (1) set of the following: drawings, specifications, addenda, change orders, approved shop drawings, test reports, operations and maintenance manuals, and shop drawing log.
- B. Each Contractor shall make these documents available for use by the Owner, Architect/Engineer, regulatory agencies and other parties designated by the Owner.
- C. Provide a drawing rack for storage of plans.
- D. Maintain these documents in a clean, dry, legible condition throughout the entire contract period.

1.04 RECORDING OF RECORD INFORMATION

- A. Affix a stamp to each Contract Drawing and Shop Drawing reading as follows: "RECORD DOCUMENT" - "NAME OF PROJECT" - "CONTRACTOR NAME" in 2-inch high printed letters. The stamp shall be specifically prepared for this project.
- B. Keep the record documents current as the work progresses. Record information concurrent with construction progress.
- C. The Contractor shall include a lump sum amount of [\$25,000] in the bid amount for preparation of record drawings.
 - 1. Stipulated amount will be released when the record drawings have been accepted by the Architect/Engineer.
 - 2. Satisfactory evidence shall be provided by the Contractor demonstrating compliance with these specifications and said drawings have been delivered and deemed in compliance with the specifications by the Architect/Engineer.
 - 3. Progress payments will be allowed against the line item in the Schedule of Values only if record documents are considered accurate and up-to-date by the Architect/Engineer.
- D. Do not permanently conceal any work until required information has been recorded.
- E. Legibly mark the Contract Plans to record actual construction, including, but not limited to the following:
 - 1. All as-built work.

2. All approved field changes and conditions.
 3. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 4. Location of underground conduits, boxes, devices. Wire sizes (AWG) and types installed. Number of active and spare wires in each conduit and conduit size (applicable where work involves electrical construction).
 5. Tied-down location of all underground process lines and buried valves.
- F. Shop Drawings: Maintain as record documents. Legibly mark-up to show changes made due to field conditions encountered during construction.

1.05 PROJECT RECORD DOCUMENTS

- A. Maintain a complete and accurate log of control and survey work as it progresses.
- B. Each Contractor's surveyor site drawings shall also show the location of property line perimeter fence. The property line of the site shall be indicated on the plans.
- C. The primary electric service installed by utility shall also be located on the record drawings prepared by the Contractor's surveyor.
- D. If applicable, the primary electric service, gas service, and communication lines installed by the respective utility shall also be located on the record drawings prepared by each Contractor's surveyor.

1.06 SUBMITTAL OF RECORD DOCUMENTS

- A. Each Contractor shall deliver to the Architect/Engineer one (1) full-size sets of drawings and one (1) PDF electronic copy detailing as-built chemical treatment installations, one (1) month prior to the date of startup of the plant site as outlined in the construction schedule. These shall be submitted to the Health Department by the Engineer for certification of installation and inspection. Drawings shall be submitted by each Contractor to the Architect/Engineer in accordance with the requirements of this Section.
- B. At Substantial Completion, each Contractor shall deliver one (1) preliminary record set of as-built documents to the Architect/Engineer with all changes conspicuously ballooned or otherwise emphasized.
- C. The work will not be considered substantially complete until such time as the preliminary record documents are delivered and acceptable to the Architect/Engineer. Mark this set "Preliminary Record Drawings".
- D. Prior to Final Completion, each Contractor shall conform the preliminary record drawings to the comments made by the Architect/Engineer. The Contractor shall provide one (1) set of full-scale paper as-built drawings and one (1) electronic copy in portable document format (PDF).
- E. As-built drawings shall be the same size as the Contract Drawings, with 1/2-inch margins space on three sides and a 2-inch margin on the left side for binding.
- F. Each drawing shall bear in the title box the words "FINAL RECORD DRAWINGS" and the name of Each Contractor in heavy black lettering 1/2 inch high and be certified as complete and accurate.
- G. As a convenience, Architect/Engineer will make available to each Contractor electronic media of the Contract Drawings for the sole purpose of each Contractor preparing as-built drawings.

- H. Electronic media made available is without guarantee of compatibility with each Contractor's software or hardware.
 - 1. If each Contractor wishes to take advantage of this offer, each Contractor will be required to execute an indemnification and hold harmless agreement with the Architect/Engineer.
 - 2. Pay the Architect/Engineer \$20.00 per Contract Drawing sheet to cover the cost of providing mylar sepias.
 - 3. Electronic media will be provided free of charge on disc in a zipped format.
 - 4. Payment shall be by check, payable to H2M architects + engineers, in advance of picking up the requested materials.
 - 5. Electronic media shall be returned to the Architect/Engineer upon acceptance of the as-built drawings by the Owner.

1.07 RELATED DOCUMENTS

- A. Provide certificate of release of liens if requested by the Architect/Engineer.

1.08 UNDERGROUND PIPELINE DOCUMENTATION

- A. The installing Contractor shall document the location of all underground pipelines by taking digital photographs of the installed pipelines prior to backfilling. At least 3 digital photographs shall be taken of each pipe section before it has been backfilled.
- B. Each Contractor shall provide each pipe installation crew with a digital camera capable of a 3 mega-pixel quality picture using Smart Media, Compact Flash Media, or Memory Stick cards as the media within the camera.
- C. At the end of each day that pipe has been installed, the crew foreman shall hand deliver to the Architect/Engineer the removable media.
 - 1. The Architect/Engineer will then download the photographs and delete the photographs from the media.
 - 2. The media will be returned to the crew foreman within two working days from the date it was delivered.
 - 3. Each Contractor shall have at least three (3) 256 MB media cards available for this purpose to be used on a rotating basis.
- D. Installed work will not be eligible for payment until documentation is provided.
- E. In addition, the underground piping shall be marked with construction grade spray paint before the photos have been taken to indicate the pipelines in the pictures.
 - 1. The Contractor shall assign a separate paint color to each line to be shown in the picture.
 - 2. The paint color, once selected by the Contractor, shall be used for the entire run of piping.
 - 3. The marks shall be large and long enough to be visible in the picture. Where practical, spray paint the name of the contents that will be conveyed in the pipe, e.g. "POTABLE WATER", "BACKWASH EFFL."
 - 4. This requirement is necessary so that the pipe lines shown in the pictures can be easily named and referenced at a later date.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Demolition of existing electrical systems.
- B. Secondary power wiring and distribution system.
- C. Electrical control systems and interlock wiring.
- D. Wiring for built-in equipment.
- E. Motor Control Centers.

1.02 RELATED WORK

- A. Foundations and pads required for equipment furnished under this division of specifications.
- B. Field painting, except such painting as is required to maintain shop coat painting and factory finish painting.
- C. Flashing and sealing of conduits through outside walls.
- D. Cutting and patching for electrical work, except for errors and omissions under this Division.

1.03 QUALITY ASSURANCE

- A. It is understood that the rights and benefits given the Owner by the guarantees found in the technical specifications are in addition to and not in derogation of any rights or benefits found in the special and general provisions of the contract.
- B. Electrical equipment provided under this Division shall be turned over in operating condition. Instruction on further operation and maintenance shall be included in the operating and maintenance instructions.

1.04 REFERENCES

- A. Perform work in accordance with standards listed below. Where these specifications are more stringent, they take precedence. In case of conflict, obtain a decision from the Engineer.
 - 1. NFPA-70: National Electrical Code
 - 2. NFPA-101: Life Safety Code
 - 3. New York State Energy Code
 - 4. New York State Building Code
 - 5. Applicable New York State Administrative Code
 - 6. Applicable Town Ordinances.
 - 7. Electric utility rules and regulations.
 - 8. Telephone utility rules and regulations.

1.05 PERMITS AND FEES

- A. The Contractor shall obtain and pay for all permits, construction charges, fees, licenses, certificates, inspections and other use charges required in connection with the work.
- B. Such permits include, but are not limited to:
 - 1. Transportation and disposal of debris.
 - 2. Temporary Electrical Services and Permanent Electrical Service.

3. Telephone Service.
4. Electrical Inspectors, Inc., or a pre-approved electrical inspection agency.
5. Road opening permits.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. All materials and equipment used in carrying out these specifications shall have UL listing and label. Specifications and drawings indicate name, type, or catalog numbers of materials and equipment to be used as standards. Proposals shall be based on these standards. Contractor may use materials and equipment equivalent to those specified, subject to Engineer's approval.

PART 3 - EXECUTION

3.01 COORDINATION

- A. Carefully examine specifications, drawings and project site to be thoroughly familiar with items which require electrical connections and coordination. Electrical drawings are diagrammatic and shall not be scaled for exact sizes.
- B. Notify other Contractors of any deviations or special conditions necessary for the installation of work. Interferences between work of various contractors to be resolved prior to installation. Work installed not in compliance with specifications and drawings and without properly checking and coordinating as specified above shall, if necessary, be removed and properly reinstalled without additional cost to the Owner. Engineer to be mediating authority in all disputes arising on project.
- C. Equipment shall be installed in accordance with manufacturer's recommendation. Where conflicts occur between contract documents and these recommendations, a clarification shall be requested of the Engineer for decision before proceeding with such work.
- D. Insofar as it is possible to determine in advance, advise masonry tradesmen to leave proper chases and openings. Place all outlets, anchors, sleeves, and supports prior to pouring concrete or installation of masonry work. Should the Contractor neglect doing this, any cutting and/or patching required to be done is at this Contractor's expense.
- E. FIRE ALARM – For any facilities that utilize an existing fire alarm system, the contractor shall coordinate with the owner and fire alarm monitoring company prior to removing or disabling any devices. It shall be the contractor's responsibility to provide fire watch as per the latest addition of the Fire Code of New York State. The contractor shall provide fire watch for all areas of a facility while occupied and unoccupied when any device or part of the fire alarm system is de-activated or put into "test mode".

3.02 CUTTING AND PATCHING

- A. Repair or replace routine damage caused by cutting in performance of work under this Division.
- B. Correct unnecessary damage caused due to installation of electrical work, brought about through carelessness or lack of coordination.
- C. Holes cut through floor slabs to be core drilled with drill designed for this purpose. All openings, sleeves, and holes in slabs to be properly sealed, fire proofed and waterproofed.
- D. Repairs to be performed with materials which match existing materials and to be installed in accordance with appropriate sections of these specifications.

3.03 TESTS

- A. On completion of work, installation shall be completely operational and entirely free from ground, short circuits, and open circuits. Perform a thorough operational test in presence of the Engineer. Balance all circuits so that feeders to panels are not more than 10% out of balance between phases with all available load energized and operating. Furnish all labor, materials and instruments for above tests.
- B. Furnish Engineer with a copy of such tests including identification of each circuit and readings recorded, also the main service ground resistance test as described in Section 260526 of these specifications. Test information to include ampere readings of all panels and major circuit breakers, isolation resistance reading of motors and transformers.

3.04 IDENTIFICATION OF EQUIPMENT

- A. Properly identify the following:
 - 1. Motor Control Centers including all individual devices.
 - 2. Individually mounted circuit breakers.
 - 3. Relays.
 - 4. Pilot lights and control switches.
- B. Use permanently attached black phenolic plates with 1/4-inch white engraved lettering on the face of each, attached with two sheet metal screws.
- C. Panelboard identification plates shall indicate panel by name.

3.05 INSTALLATION

- A. The Contractor shall carefully move and replace existing equipment, appliances and all related items, as required to conduct proposed work.
- B. Install and conduct all work per applicable NEC, State and local codes.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Electrical demolition.
- B. Removal of all existing control equipment in MCC's and instrumentation panels.

1.02 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Shop Drawings: Indicate demolition and removal sequence and location of salvageable items; location and construction of temporary work.

1.03 REGULATORY REQUIREMENTS

- A. Conform to applicable code for demolition work, safety of structure and dust control.
- B. Obtain required permits from authorities.
- C. Notify affected utility companies before starting work and comply with their requirements.
- D. Do not close or obstruct egress width to exits.
- E. Do not turn off electric equipment without authorization from Owner.
- F. Conform to procedures applicable when discovering hazardous or contaminated materials.
- G. Obtain a utilities mark-out of all buried underground utilities for telephone, electric, gas, sewer and water, including all customer owned utilities.

1.04 SCHEDULING

- A. Schedule Work to coincide with new construction.

PART 2 - PRODUCTS

2.01 NOT USED.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify field circuiting arrangements at all Buildings.
- B. Verify that abandoned wiring and equipment serve only abandoned facilities.
- C. Demolition drawings are based on visual field observation. Report discrepancies to the Engineer before disturbing existing installation.
- D. Beginning of demolition means installer accepts existing condition.

3.02 PREPARATION

- A. Coordinate utility service outages with Utility Company.

- B. Provide power, wiring and connections to maintain all existing power, control and telemetry systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.

3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

- A. Remove, relocate, and extend existing installations to accommodate new construction, as indicated on drawings.
- B. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.
- C. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets which are not removed.
- D. Repair adjacent construction and finishes damaged during demolition and extension work.
- E. Provide caps and filler plates/plugs for all openings in equipment and enclosures after removal of conduits.
- F. Maintain access to existing electrical installations which remain active. Modify installation or provide access panel as appropriate.
- G. Remove demolished materials from site as work progresses.
- H. Completely remove and dispose of all electrical power, control, and telemetry feeds including conduits, conductors, boxes and supports not scheduled to remain after new construction is tested and operational.
- I. Where existing devices and equipment are called to be removed, Contractor shall maintain circuit continuity to all existing devices and equipment remaining on that circuit. Contractor shall provide all required conduit, conductors and boxes as required.

3.04 CLEANING AND REPAIR

- A. Clean and repair existing materials and equipment which remain or are to be reused.
- B. Remove temporary work.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Wires and cables.
- B. In general, the wires and cables included under this Section shall include, but not be limited to, the following:
 - 1. 600V power and control cable
 - 2. Instrumentation wires
 - 3. Communication cables
- C. All conductors to be continuous from origin to panel or equipment termination without splices.

1.02 REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.
- B. NECA Standard of Installations.

1.03 SUBMITTALS

- A. Submit product data under provisions of Section 013300.

1.04 QUALITY ASSURANCE

- A. Products used in the work of this Section shall be produced by manufacturers regularly engaged in the manufacturing, installing and servicing of similar items with a history of successful production acceptable to the Engineer as specified herein and in accordance with the General Conditions.
- B. Contractor shall submit the following information pertaining to the manufacturer(s):
 - 1. Complete literature, performance, and technical data describing the proposed equipment and listing of items made by the manufacturer.
 - 2. Location of closest service office from which this equipment shall be serviced.
 - 3. Location of closest parts inventory for item installation.

1.05 COORDINATION

- A. Coordination:
 - 1. Coordinate wire and cable required with the equipment being furnished by others for the satisfactory operation of the equipment or system.
 - 2. Review installation procedures under other sections and contracts and coordinate them with the work specified herein.
 - 3. Notify other prime contractors in advance of the installation of the work included to provide them with sufficient time for installation and coordination of interrelated items that are included in their contracts and that must be installed in conjunction with the work included in this Section.

1.06 PROJECT CONDITIONS

- A. Verify that embedded conduit, in masonry and concrete, is installed as shown on the Drawings prior to the work being enclosed by others.
- B. The Contractor shall be present at all concrete pours made by the General Contractor.

- C. Conductor sizes are based on copper at 75°C.
- D. Wire and cable routing shown on Drawings is approximate unless dimensioned or specifically called for such as where conduit is to be embedded in concrete or masonry. Route wire and cable as required to meet project conditions and shall be routed above ceilings, directly under joists, in pipe trenches, where available, and in masonry. Where exposed conduit is permitted, it shall be run to maximize wall space.
- E. Field verify destination location to determine cable routing.
- F. Where wire and cable routing is not shown for proposed destination, determine exact routing and lengths required. Routing shall be reviewed with the Engineer.

PART 2 - PRODUCTS

2.01 CONDUCTORS

- A. Install products in accordance with manufacturer's recommendations.
- B. Single copper conductors with 600-volt insulation.
- C. Minimum size of feeder conductors and grounds shall be No. 12 AWG.
- D. Insulation: No. 12 AWG and No. 10 AWG, provide ANSI/NFPA 70, Type THWN-2.
- E. Use solid conductor for feeder and branch circuits, 10 AWG and smaller.
- F. All conductors shall include complete set of manufacturer's markings for insulation and conductor size.
- G. Manufacturers shall be ANACONDA, TRIANGLE, ROME, or approved equal.
- H. Provide white colored neutral conductors; provide black, color coded phase conductors; provide green colored ground conductors.

2.02 300 VOLT INSTRUMENTATION SIGNAL CABLE - FOR INDOOR USE

- A. Indoor Application:
 - 1. The 300-volt instrumentation signal cable for indoor use shall consist of single or multiple twisted pairs or triads of coated, stranded copper conductors with polyvinyl chloride (PVC) insulation and nylon jacket. Each individual pair or triad of wires shall have an aluminum/polyester tape shield with a tinned copper drain wire. For multiple pair or triad cables, an overall aluminum/polyester tape shield with a tinned copper drain wire shall enclose the individual wire assemblies. The overall jacket shall be PVC. Cables shall have a 105°C rating.
 - 2. The conductors shall be annealed, tin-coated copper with Class B stranding per ASTM B8. Minimum size conductor shall be AWG No. 16.
 - 3. The insulation shall be PVC. The insulation thickness shall be 15 mils.
 - 4. Individual Conductor Insulation: The jacket over each individual wire shall be nylon and shall have a thickness of 4 mils.
 - 5. The shield for each individual pair or triad shall be an aluminum/polyester tape. The shield shall be 1.35 mils thick and shall be overlapped to provide 100% coverage. The shield shall also contain a 7-strand tinned copper drain wire which shall be a maximum of two sizes smaller than the conductors. All individual shields shall be completely isolated from each other.

6. The overall shield for multiple pair or triad cables shall be an aluminum/polyester tape. The shield shall be 2.35 mils thick and shall be overlapped to provide 100% coverage. The shield shall also contain a 7-strand tinned copper drain wire which shall be the same size as the conductors.
7. The overall jacket shall be PVC and shall meet the requirements of UL 13.
8. The jacket thickness shall be as follows:

| Wire Size | No. of Pairs | No. of Triads | Jacket Thickness |
|-----------|--------------|---------------|------------------|
| 16 AWG | 1 | - | 35 Mils |
| 16 AWG | 2,4 | - | 50 Mils |
| 16 AWG | 8,10,12 | - | 60 Mils |
| 16 AWG | - | 1 | 35 Mils |
| 16 AWG | - | 2,4 | 50 Mils |
| 16 AWG | - | 8 | 60 Mils |
| 16 AWG | - | 12 | 70 Mils |

9. Manufacturers and their products shall be equal to:
 - a. Cablec APVIC
 - b. Okonite A Type P-OS and Type SP-OS
 - c. Or approved equal

B. Outdoor Use in Conduits:

1. The 300-volt instrumentation signal cable for outdoor use in conduits shall consist of single or multiple twisted pairs or triads of coated, stranded copper conductors with polyvinyl chloride (PVC) insulation and nylon jacket. Each individual pair or triad of wires shall have an aluminum/polyester tape shield with a tinned copper drain wire. For multiple pair or triad cables, an overall aluminum/polyester tape shield with a tinned copper drain wire shall enclose the individual wire assemblies. The overall jacket shall be chlorinated polyethylene (CPE). Cables shall have a 105°C rating.
2. The conductors shall be annealed, tin-coated copper with Class B stranding per ASTM B8. Minimum size conductor shall be AWG No. 16.
3. The insulation shall be PVC. The insulation thickness shall be 15 mils.
4. The jacket over each individual wire shall be nylon and shall have a thickness of 4 mils.
5. The shield for each individual pair or triad shall be an aluminum/polyester tape. The shield shall be 1.35 mils thick and shall be overlapped to provide 100% coverage. The shield shall also contain a 7-strand tinned copper drain wire which shall be a maximum of two sizes smaller than the conductors. All individual shields shall be completely isolated from each other.
6. The overall shield for multiple pair or triad cables shall be an aluminum/polyester tape. The shield shall be 2.35 mils thick and shall be overlapped to provide 100% coverage. The shield shall also contain a 7-strand tinned copper drain wire which shall be the same size as the conductors.
7. The overall jacket shall be CPE and shall meet the requirements of UL 13.
8. The jacket thickness shall be as follows:

| Wire Size | No. of Pairs | No. of Triads | Jacket Thickness |
|-----------|--------------|---------------|------------------|
| 16 AWG | 1 | - | 35 Mils |
| 16 AWG | 2,4 | - | 50 Mils |
| 16 AWG | 8,10,12 | - | 60 Mils |
| 16 AWG | - | 1 | 35 Mils |
| 16 AWG | - | 2,4 | 50 Mils |
| 16 AWG | - | 8 | 60 Mils |
| 16 AWG | - | 12 | 70 Mils |

9. Manufacturers and their products shall be as follows:
 - a. Cablec APZIC
 - b. Okonite AOkobon Type P-OS and Type SP-OS
 - c. Or approved equal

2.03 MECHANICAL CONNECTORS

- A. Conductor tapping connectors shall be BURNDY Servit split bolt, Series KS and KS3, or approved equal.
- B. Split bolt connectors shall use BURNDY Type SC Servit cover on indoor applications.
- C. Terminal lugs shall be BURNDY Universal Terminal Series. Terminal lugs shall be sized for proper ampacity and proper number of conductor holes. Each conductor shall occupy only one hole on a terminal lug.
- D. Conductor tapping connectors for multiple conductors shall be BURNDY Series V-Tap with V-Tap covers, and V-Blok mounting platforms.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General:
 1. Make terminations in accordance with cable manufacturers instructions for the particular type of wire and cable.
 2. Splices are not allowed in the underground duct and manhole systems. If splices are required, the Contractor shall obtain approval in writing from the Engineer prior to splicing.
 3. All splices shall be in made in terminal boxes.
- B. Wire and Cable Sizes: The sizes of wire and cable shall be as shown on the Contract Drawings, or if not shown, as approved by the Engineer. Minimum size wire shall be No. 12 AWG for all power, lighting and receptacle circuits. Wires for control circuits shall be No. 14 AWG minimum. Wire for instrumentation circuits shall not be smaller than No. 16 AWG. If due to field routing the voltage drop exceeds 2.5%, the size of conductors shall be increased such that 2.5% is the maximum voltage drop incurred.
- C. Number of Wires: The number of wires indicated on the Contract Drawings for the various control, indications, and metering circuits were determined for general schemes of control and for particular indication and metering systems. Coordinate wiring schemes with equipment schematics.
- D. Wiring Identification: All wiring shall have a unique wire number and be labeled at both ends. Wire numbers shall correspond with the equipment terminal wire numbers. Where no wire numbers are indicated, the Contractor shall assign wire numbers. Wire numbers shall not be duplicated.
- E. Cable Identification Tags: The Contractor shall furnish all labor and materials and affix in a permanent way to each cable in manholes, cable compartments and vaults, junction boxes, pull boxes and points of termination, a laminated plastic tag, bearing clearly printed, the cable number indicated on the Contract Drawings or some other approved identification number or symbol. All cables shall be temporarily tagged with its full ID number immediately after it has been pulled.

- F. Wiring Supplies: Only electrical wiring supplies manufactured under high standards of production and meeting the approval of the Engineer shall be used. Friction tape shall be in accordance with ASTM D69.
- G. Training of Cable: Furnish all labor and material required to train cables around cable vaults within buildings and in manholes in any outdoor underground duct system. Sufficient length of cable shall be provided in each manhole and vault so that the cable can be trained and racked in an approved manner. In training or racking, the radius of bend of any cable shall be not less than the manufacturer's recommendation. All manhole cables shall be arc and fireproofed.
- H. Connections at Control Panels, Limit Switches and Similar Devices:
- Where stranded wires are terminated at panels, and/or devices connections shall be made by solderless lug, crimp type ferrule or solder dipped.
 - Where enclosure sizes and sizes of terminals at limit switches, solenoid valves, float switches, pressure switches, temperature switches, and other devices make 7-strand, No. 12 AWG, wire terminations impractical, the Contractor shall terminate external circuits in an adjacent junction box of proper size and shall install No. 14 AWG stranded wires to the junction box in a conduit.
- I. Pulling Temperature: Cable shall not be flexed or pulled when the temperature of the insulation or of the jacket is such that damage will occur due to low temperature embrittlement. When cable will be pulled with an ambient temperature within a three day period prior to pulling of 40°F or lower, cable reels shall be stored during the three day period prior to pulling in a protected storage with an ambient temperature not lower than 55 degrees F and pulling shall be completed during the work day for which the cable is removed from the protected storage.
- J. Color Coding:
- Conductor jacket shall be color coded as follows:

AC POWER

| 480V/277 Volt 3 phase | 208Y/120 Volt 3 phase (PSEGLI) | 208Y/120 Volt 3 phase (NEC) | 240/120 Volt 3 phase (PSEGLI) | 240/120 Volt 3 phase (NEC) |
|----------------------------------|---|--|--|---|
| Phase A Brown | Phase A Blue | Phase A Black | Phase A Blue | Phase A Black |
| Phase B Orange | Phase B Black | Phase B Red | Phase B Black | Phase B Orange (HiLeg) |
| Phase C Yellow | Phase C Red | Phase C Blue | Phase C Orange | Phase C Blue |
| Neutral White | Neutral White | Neutral White | Neutral White | Neutral White |
| Ground Green | Ground Green | Ground Green | Ground Green | Ground Green |

- Control (Per ICEA Method 1, K-2):

| WIRE NUMBER | COLOR |
|--------------------|--------------|
| 1 | Black |
| 2 | Red |
| 3 | Blue |
| 4 | Orange |

| WIRE NUMBER | COLOR |
|-------------|-------------------|
| 5 | Yellow |
| 6 | Brown |
| 7 | Red With Black |
| 8 | Blue With Black |
| 9 | Orange With Black |
| 10 | Yellow With Black |
| 11 | Brown With Black |
| 12 | Black With Red |
| 13 | Blue With Red |
| 14 | Orange With Red |
| 15 | Yellow With Red |
| 16 | Brown With Red |
| 17 | Black With Blue |
| 18 | Red With Blue |
| 19 | Orange With Blue |

3. DC Power
 - a. Positive Lead - RED
 - b. Negative Lead - BLACK
4. Instrumentation Signal
 - a. Pairs - Black and White
 - b. Triads - Black, Red and White
5. Equipment Ground - GREEN

K. Instrumentation Cable Installation:

1. Where instrumentation cables are installed in panels, etc., arrange wiring to provide maximum clearance between cables and other conductors. Instrumentation cables shall not be installed in same bundle with conductors of other circuits.
2. Grounding of cable shield shall be accomplished at one point only, unless otherwise required by instrumentation systems manufacturer.
3. Special instrument cable shall be as specified or recommended by the vendor of the equipment or instruments requiring such wiring. Installation, storage, terminations, etc., shall be per manufacturer's recommendations.

3.02 IDENTIFICATION

- A. Identify wire and cable under provisions of Section 260553.
- B. Identify each conductor with its circuit number.

3.03 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 014500.
- B. Inspect wire and cable for physical damage and proper connection.
- C. Measure tightness of bolted connections and compare torque measurements with manufacturer's recommended values.
- D. Field Testing:
 1. Wires and cables shall be tested before being connected to motors, devices or terminal blocks.

2. If tests reveal defects or deficiencies, the Contractor shall make the necessary repairs or shall replace the cable as directed by the Engineer, without additional cost to the Owner.
 3. All tests shall be made by and at the expense of the Contractor who shall supply all testing equipment.
- E. Continuity Tests: All cables, wires and shields shall be tested for continuity. Testing for continuity shall be by test light or buzzer.
- F. Insulation-Resistance Tests:
1. 600V power and control cables and wires shall be tested for their insulation-resistance values. Test shall utilize a megohmmeter with applied voltage to be 1000VDC for one (1) minute. Insulation-resistance test shall be performed on each conductor with all other conductors grounded. The resistance value shall be 20 megohms or greater.
 2. 300V instrumentation signal cable shall be tested from conductor to conductor, conductor to ground, and conductor to shield using a digital volt-ohm meter. The resistance value shall be 10 megohms or greater.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Grounding electrodes and conductors.
- B. Equipment grounding conductors.
- C. Bonding.

1.02 REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.

1.03 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc.

PART 2 - PRODUCTS

2.01 COMPONENTS

- A. Ground clamps: OZ ELECTRICAL MANUFACTURING COMPANY, Type "CG", or equal by STEEL CITY or APPLETON.
- B. Raceways, conductors, outlet boxes, pull and junction boxes to be furnished in accordance with applicable sections of these specifications.
- C. Rod Electrode: Copper, 3/4-inch diameter, 10 feet long.
- D. Wire: Copper, sized to meet NFPA 70 requirements.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General:
 - 1. Clean all conductive surfaces on equipment to be grounded, to assure good electrical continuity.
 - 2. Effectively bond all grounding conductors to grounding rod electrodes, equipment enclosures and ground busses.
 - 3. Locate all grounding attachments away from areas subject to physical damage. Provide protective covering as required.
- B. Feeder/Branch Circuits:
 - 1. All circuits shall have a separate green grounding conductor in conduit sized in accordance with NFPA 70. Minimum size of conductor shall be No. 12 AWG.
 - 2. Flexible conduit will not be approved as achieving continuity of ground. All flexible conduit to have a jumper wire sized to ampacity of branch breaker and to be connected to conduit system on both ends; this applies to fixtures, motors, controls, etc.

3.02 TEST

- A. Test ground on main service. Ground system resistance shall be no greater than 10 ohms using test equipment similar to a "Biddle" test. Test data to be submitted to the Engineer for approval and such approved test data to become a part of the Record Documents.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. System of supporting devices and hangers for support or bracing for conduit, electrical equipment, safety switches, fixtures, panelboards, outlet boxes, junction boxes and cabinets.

1.02 REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.

1.03 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc.

PART 2 - PRODUCTS

2.01 EQUIPMENT REQUIREMENTS

- A. Provide appropriate corrosion-resistant supporting devices and hangers for electrical equipment, as manufactured by ERICO PRODUCTS, INC., CADDY FASTENERS, STEEL CITY, MINERALLAC or equivalent.
 - 1. "Z" purlin clips.
 - 2. Conduit clips.
 - 3. Beam clamps (universal and vertical flange).
 - 4. Beam clamps (set screw type).
 - 5. Combination push-in conduit clips.
 - 6. Combination conduit hanger clamps.
 - 7. Flexible conduit clips.
 - 8. Special combination conduit clips.
 - 9. One hole steel straps.
 - 10. Conduit hangers.
- B. Provide materials, sizes and types of anchors, fasteners and supports to carry the loads of equipment, wire in conduit and conduit.

2.02 CHANNEL SUPPORT SYSTEM

- A. Channel systems and supports shall be manufactured by KINDORF/THOMAS & BETTS, or approved equal.
- B. Channels shall be 1-1/2" x 1-1/2".
- C. Channels and all associated accessories and bolts shall be hot dipped galvanized.
- D. Channels shall have 9/16" bolt holes on 1-1/2" centers.
- E. Provide end caps for all channels.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Secure conduits to within 3 feet of each outlet box, junction box, cabinet, fitting, etc., and at intervals not to exceed 10 feet in accordance with currently effective edition of the National Electric Code.
- B. In seismic zones, support conduits 1 inch and smaller at 6 foot intervals.
- C. Install clamps secured to structure for feeder and other conduits routed against structure. Use drop rods and hangers to support conduits run apart from the structure.
- D. Provide and install suitable angle iron, channel iron or steel metal framing with accessories to support or brace electrical equipment including safety switches, fixtures, panelboards, etc.
- E. Paint all supporting metal not otherwise protected, with rust inhibiting primer and then with a finish coat if appropriate to match the surrounding metal surfaces. Prepainted or galvanized support material is not required to be painted or repainted.
- F. Do not use chains, perforated iron, baling wire or tie wire for supporting conduit runs. Use of clips to support conduit to top of t-bar ceiling grid will not be permit-ted.
- G. Obtain permission from Engineer before drilling or cutting structural members.
- H. Install surface mounted cabinets and panelboards with a minimum of four anchors.
- I. Do not fasten supports to pipes, ducts, mechanical equipment and conduit.
- J. Install products in accordance with manufacturer's instructions.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Conduit system with associated couplings, connectors and fittings. Conduits to be mechanically and electrically continuous from outlet to outlet and from outlets to cabinets, pull or junction boxes.
 - 1. Conduit Use - Rigid Galvanized Conduit:
 - a. All interior and exterior circuits above and below ground.
 - 2. Conduit Use - Flexible Liquid-tight Metal Conduit:
 - a. Connecting motors, generators and other equipment subject to vibration, maximum length - 3 feet.
 - b. Passing through building expansion joints.
- B. Device Boxes: Provide each fixture switch, receptacle and other wiring device with a box of appropriate size and depth for its particular location use unless indicated otherwise.
- C. Pull boxes, junction boxes and wire troughs

1.02 REFERENCES

- A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
- B. ANSI/NFPA 70 - National Electric Code.
- C. NECA Standard of Installation.
- D. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- E. NEMA TC 3 - PVC Fittings for use with Rigid PVC conduit and tubing.
- F. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated.
- G. ANSI/NEMA OS1 - Sheet-steel outlet boxes, device boxes, covers and box supports.
- H. NEMA 250 - Enclosures for electrical equipment (1000 volts maximum).

1.03 SUBMITTALS

- A. Submit product data under provisions of Section 013300.

1.04 REGULATORY REQUIREMENTS

- A. Furnish products listed and classified by Underwriters Laboratories, Inc.
- B. Conform to requirements of ANSI/NFPA 70.

1.05 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 017839.
- B. Accurately record actual routing of all conduits.

1.06 FIELD SAMPLES

- A. Provide under provisions of Section 014500.
- B. Provide field sample of conduit two each at 2 feet in length.
- C. Provide field sample of expansion/deflection fitting, two each.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect, and handle products in accordance with manufacturers' recommendations.
- B. Accept conduit on site. Inspect for damage.
- C. Protect conduit from corrosion and entrance of debris by storing abovegrade. Provide appropriate covering.

1.08 PROJECT CONDITIONS

- A. Verify all conduit routings by field measurements.
- B. Verify routing and termination locations of conduit prior to rough-in.
- C. Conduit routing is shown on Drawings in approximate locations unless dimensioned. Route as required to complete wiring system. Provide all required sweeps, boxes and fittings.

PART 2 - PRODUCTS

2.01 RIGID GALVANIZED CONDUIT

- A. Rigid conduit shall be hot dipped, galvanized, or electro-galvanized steel by Wheatland, Triangle, Republic or approved equal.
- B. Associated couplings, connectors and fittings shall be as manufactured by THOMAS & BETTS CORP., O.Z. GEDNEY CO., EFCOR or approved equal. Catalog numbers used below are those of THOMAS & BETTS CORP. based on 3/4-inch size and are considered standards by which equivalents are to be judged.
- C. ERICKSON couplings, Series 676 or approved equal, shall be used where neither length of conduit can be rotated.
- D. Conduit connectors shall be threaded type. Set screw and compression type connections ARE NOT acceptable.
- E. Sealing fitting locknuts shall be Series 142SL.
- F. Steel or malleable iron insulated bullet hub, Series 370-379, complete with sealing "O" ring. DO NOT use "die cast" material.
- G. Entrance ells shall be Series 1491 or approved equal.
- H. Combination coupling shall be Series 531 for connecting rigid galvanized conduit to electrical metallic tubing.

2.02 FLEXIBLE LIQUID-TIGHT METAL CONDUITS AND FITTINGS

- A. Liquid-tight flexible metal conduit shall be ANACONDA or approved equal.
- B. Description: Interlocked steel construction with PVC jacket.
- C. Provide flexible liquid-tight conduits and fittings as manufactured by THOMAS & BETTS CORP., O.Z. GEDNEY CO. or approved equal. Catalog numbers used below are those of the THOMAS & BETTS CORP., based on 3/4" size and are to be considered as standards by which equivalents are to be judged. All conduit shall be liquid-tight flexible type, UL type UA, or suitable for exposure to continuous or intermittent moisture.
- D. Flexible liquid-tight connectors shall be Series 5333 or approved equal.

2.03 OUTLET AND DEVICE BOXES

- A. Acceptable Manufacturers: Raco, General Electric or approved equal.
- B. Sheet Metal Outlet Boxes - All concealed boxes shall be NEMA OSI, galvanized steel:
 - 1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported. Provide 1/2" male fixture stubs where required.
- C. Concrete Ceiling Boxes: Concrete type.
- D. Cast Boxes: All exposed surface mounted boxes shall be NEMA FB1, Type FD, cast fer alloy. Provide gasketed cover by box manufacturer.

2.04 JUNCTION BOXES

- A. Acceptable Manufacturers: RACO, GENERAL ELECTRIC or approved equal.
- B. Sheet metal boxes: NEMA OS1, galvanized steel.
- C. Covers: Galvanized steel.

2.05 ELECTRICALLY CONDUCTIVE CORROSION-RESISTANT THREAD COMPOUND

- A. KOPR-SHIELD or approved equal.

PART 3 - EXECUTION

3.01 INSTALLATION OF CONDUITS

- A. Minimum size of conduits shall be 3/4-inch.
- B. Minimum conduit depth shall be 24" below grade, measured to the top of the conduit on exterior underground installations.
- C. Conduit joints shall be cut square, threaded, reamed smooth, and drawn up tight so conduit ends will butt in couplings, connectors and fittings.
- D. All threaded conduits and fittings shall have KOPR-SHIELD compound applied to all threads prior to assembly.
- E. Make bends or offsets with standard ells or field bends with an approved bender.

- F. Run concealed conduits in direct line with long sweep bends or offsets. Run exposed conduits parallel to and at right angles to building lines. Group multiple conduit runs in banks.
- G. Secure conduits to all boxes and cabinets with double locknuts and bushings so system will be electrically continuous from service to all outlets.
- H. Install conduit in accordance with NECA Standard of Installation.
- I. Cap ends of conduits to prevent entrance of water and other foreign material during construction.
- J. Complete all conduit systems before pulling conductors.
- K. Support conduits under provisions of Section 260529.
- L. Provide approved expansion joints or fittings and bonding jumpers where conduits in concrete pass through building expansion joints.
- M. Provide cable supports in conduits rising vertically in accordance with the National Electric Code, Article 300-19.
- N. Provide No. 12 AWG copper pull wires or nylon cord in all empty conduits. Steel wire not acceptable as pull wire.
- O. Install conduit to preserve fire resistance rating of partitions and other elements.
- P. Ground and bond conduit under provisions of Section 260526.
- Q. Where neither length of conduit can be rotated, ERICKSON couplings Series 676 shall be used.
- R. In areas where enclosed and gasketed fixtures and weatherproof devices are specified, where rigid conduit enters a sheet metal enclosure, junction box and outlet box, and not terminated in a threaded hub, a steel, or malleable iron nylon insulated bullet hub, complete with recessed sealing "O" ring, shall be used, Series 370-379 . DO NOT use die cast material.
- S. In concrete slabs block up conduit from forms and securely fasten in place. All conduits in slabs shall be installed below concrete slab.
- T. Where conduits running overhead pass through building expansion joints, install flexible liquid tight conduit of same size with sufficient slack to allow conduits on either side of expansion joint to move a minimum of 3-inches in any direction. Provide supports as required on each side of expansion joint, all in accordance with seismic requirements of specific area.
- U. Failure to route conduit through building without interfering with other equipment and construction shall not constitute a reason for an extra charge. Equipment, conduit and fixtures shall fit into available spaces in building and shall not be introduced into building at such times and manner as to cause damage to structure. Equipment requiring servicing shall be readily accessible.
- V. Arrange supports to prevent misalignment during wiring installation.
- W. Support conduit using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- X. Group related conduits; support using conduit rack. Construct rack using steel channel; provide space on each for 25 percent additional conduits.

- Y. Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports.
- Z. Do not attach conduit to ceiling support wires.
- AA. Arrange conduit to maintain headroom and present neat appearance.
- AB. Route exposed conduit parallel and perpendicular to walls.
- AC. Route conduit installed above accessible ceilings parallel and perpendicular to walls.
- AD. Route conduit in and under slab from point-to-point.
- AE. Do not cross conduits in slab.
- AF. Maintain adequate clearance between conduit and piping.
- AG. Maintain 12-inch clearance between conduit and surfaces with temperatures exceeding 104°F (40°C).
- AH. Bring conduit to shoulder of fittings; fasten securely.
- AI. Use conduit hubs with sealing locknuts to fasten conduit in damp and wet locations.
- AJ. Install no more than equivalent of three 90-degree bends on interior locations between boxes. Use conduit bodies to make sharp changes in direction, as around beams. Use factory elbows for bends in metal conduit larger than 2-inch size.
- AK. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.
- AL. Do not use dissimilar strap or clamp supports. Provide dielectric tape, fittings, straps, and bushings where dissimilar metals are used.
- AM. Where fittings for liquid-tight flexible conduit are brought into an enclosure with a knockout, a gasket assembly, consisting of one piece "O" ring, with a Buna-R sealing material, Series 5200, shall be installed on outside of box. Fittings shall be made of either steel or malleable iron only, and shall have insulated throats or insulated bushings.
- AN. A copper ground wire sized in accordance with NEC shall be installed on the inside of the conduit as a jumper around flexible conduit to assure a continuity of ground.
- AO. Install a copper jumper across all flexible conduit including lighting fixtures, controls and other utilization equipment.
- AP. Install liquid-tight flexible conduit in such a manner as to prevent liquids from running on surface toward fittings.
- AQ. Allow sufficient slack conduit to reduce the effect of vibration.
- AR. Complete all conduit systems before pulling the conductors.
- AS. Support in accordance with requirements of National Electric Code.

3.02 INSTALLATION OF BOXES

- A. Install boxes concealed in finished walls.

- B. Locate boxes to prevent moisture from entering or accumulating within them.
- C. Support boxes independently of conduit, as required by the National Electric Code.
- D. Provide 4" x 1-1/2" octagonal, 4" x 1-1/2" square or 4" x 2-1/8" square ceiling outlet boxes.
- E. Where required to hang a specific fixture, provide a fixture stud of the no-bolt, self-locking type on ceiling outlets.
- F. Provide 2-1/2" x 3-3/4" one gang masonry boxes for switches and receptacles installed concealed in concrete block walls. For increased cubic capacity, provide 3-1/2" x 3-3/4" one gang masonry boxes. Where more than two conduits enter the box from one direction, provide 4" square boxes with square cut device covers not less than 1" deep specifically designed for this purpose. Use round edge plaster rings only if the block walls are to be plastered. Use sectional or gang-type outlet boxes only in drywall construction.
- G. Provide 4-11/16" square outlet boxes with square cut device corners for block walls or round edge plaster rings for plastered walls for telephone outlets. Single gang device boxes are not acceptable.
- H. Provide fittings with threaded hubs for screw connections and with the proper type covers for switches and receptacles served by exposed conduit. Use pressed steel outlet only for ceiling fixture outlets.
- I. Provide condulets with threaded hubs and covers and with proper configurations for all changes of direction of exposed conduits. Standard conduit ells may be used if they do not interfere or damage or mar the appearance of the installation.
- J. Use boxes of sufficient cubic capacity to accommodate the number of conductors to be installed, in accordance with the National Electric Code.
- K. Effectively close unused openings in boxes with metal plugs or plates.
- L. Set boxes so that front edges are flush with finished surfaces.
- M. Support boxes from structural members with approved braces.
- N. Install blank device plates on outlet boxes left for future use.
- O. Provide bushings in holes through which cords or conductors pass.
- P. Install boxes so that the covers will be accessible at all times.
- Q. Electrical boxes may be installed in vertical fire resistive assemblies classified as fire/smoke and smoke partitions without affecting the fire classification, provided such openings occur on one side only in each framing space and that openings do not exceed 16 square inches. All clearance between such boxes and the gypsum board shall be completely filled with joint compound or approved fire-resistive compound. The wall shall be built around outlet boxes larger than 16 square inches so as not to interfere with the wall rating.

3.03 INSTALLATION OF PULL BOXES, JUNCTION BOXES AND WIRE TROUGHS

- A. Provide junction boxes as shown on Drawings and otherwise where required, sized according to number of conductors in box or type of service to be provided. Minimum junction box size 4-inch square and 2-1/8-inches deep. Provide screw covers for junction boxes.

- B. Install boxes in conduit runs wherever necessary to avoid long runs or too many bends. Do not exceed 100-foot runs without pull boxes. Install pull boxes at all 90-degree bends.
- C. Rigidly secure boxes to walls or ceilings. Conduit runs will not be considered adequate support.
- D. Install boxes with covers in accessible locations. Size boxes in accordance with the National Electric Code.
- E. Do not install pull boxes or junction boxes for joint use of line voltage and signal or low voltage controls unless all conductors are insulated for the highest voltage being used in the same box.
- F. Coordinate installation of exterior pull boxes with General contractor to establish elevations of finished grades and pavements. All castings shall have chimney adjustment of + 6".

3.04 CONDUIT LOCATIONS

- A. Route all conduit concealed in walls or above finished ceilings. Provide boxes and conduits concealed in walls for all power and controls. Conduit will not be permitted within new floor slab at treatment building.
- B. Surface mounted conduits will only be allowed in pipe trenches and existing block walls. Surface mounted conduits shall only be permitted for vertical runs. All horizontal runs shall be installed above finished ceilings.
- C. Surface mounted raceway (wiremold) conduit will only be allowed on finished block walls or on plaster walls, where conduit cannot be run concealed. All horizontal runs shall be installed above finished ceilings, where drop ceilings are located.
- D. All conduit and wiremold shall be primed and painted to match existing adjacent wall color.
- E. J-Hooks are only permitted to be used above finished ceilings for telephone, PA, CAT 6 data and fire alarm cable.
- F. Be more specific.
- G. Contractor shall not route conduits over pump motors, roof hatches and trolley beams which would prevent removal of pump motors.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Nameplates and labels.
- B. Wire and cable markers.
- C. Conduit markers.

1.02 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.

1.03 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Provide catalog data for nameplates, labels and markers.
- C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Underwriters Laboratories, Inc. Include instructions for storage, handling, protection, examination, preparation and installation of product.

1.04 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2 - PRODUCTS

2.01 NAMEPLATES AND LABELS

- A. Nameplates: Engraved three-layer laminated plastic, white letters on black background.
- B. Locations:
 - 1. Motor Control Centers.
 - 2. Distribution panelboards.
 - 3. All control switches and pilot light devices.
 - 4. Transfer Switches.
 - 5. Generator Enclosure.
- C. Letter Size:
 - 1. Use 1/4 inch (6 mm) letters for identifying all control pilot lights.
- D. Labels: Embossed adhesive tape, with 3/16" (5mm) white letters on black background. Use for identifying existing equipment, distribution panels, switchboards, disconnect switches, and individual electrical devices.

2.02 WIRE MARKERS

- A. Manufacturers:
 - 1. 3M ELECTRICAL SPECIALTY DIV., Product Scotch Code.
 - 2. THOMAS & BETTS CORP., Product E-Z Code.

3. Substitutions shall be permitted only after receiving written approval from the Engineer.
- B. Description: Epoxy film tape type wire markers.
- C. Locations: Each conductor at panelboards, auxiliary gutters, pull boxes, outlet and junction boxes, circuit breakers and each load connection.
- D. Legend:
 1. Power and Lighting Circuits: Branch circuit or feeder number indicated on drawings.
 2. Control Circuits: Control wire number indicated on interconnection diagrams on drawings.

2.03 CONDUIT MARKERS

- A. Manufacturers:
 1. THOMAS & BETTS CORP.
 2. Substitutions shall be permitted only after receiving written approval from the Engineer.
- B. Description: Self-sticking vinyl; black letters on orange background.
- C. Location: Furnish markers for each conduit longer than 6 feet (1.8 m).
- D. Spacing: 20 feet (6 m) on center.

2.04 UNDERGROUND WARNING TAPE

- A. Manufacturers:
 1. THOMAS & BETTS CORP., Model NAF-0700.
 2. Substitutions shall be permitted only after receiving written approval from the Engineer.
- B. Description: 6 inch (150 mm) wide plastic tape, detectable type, colored red with suitable warning legend describing buried electrical lines.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Degrease and clean surfaces to receive nameplates and labels.

3.02 APPLICATION

- A. Install nameplate and label parallel to equipment lines.
- B. Secure nameplate to equipment front using screws, rivets or adhesive.
- C. Secure nameplate to inside surface of door on panelboard that is recessed in finished locations.
- D. Apply conduit markers at 20 foot (6 m) intervals.
- E. Identify underground conduits using underground warning tape. Install one tape per trench at 3 inches (75 mm) below finished grade.

3.03 ELECTRICAL EQUIPMENT IDENTIFICATION

- A. The Contractor shall identify all existing circuits in existing distribution panels, switchboards and disconnect switches to remain.

- B. Label all circuits identifying the load served including all individual circuit breakers.
- C. Label all new circuit breakers and switches used for new feeder and branch circuits.
- D. Contractor shall furnish a minimum of 5 custom engrave three-layer laminated plastic labels with up to 20 words per label as directed by the engineer/owner in addition to the required labels for all pilot devices, switches, controls and timers.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Motor starters.

1.02 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Include electrical ratings, dimensions, mounting, materials, running overcurrent protection, branch circuit overcurrent protection, wiring diagrams, starting characteristics, interlocking and accessories.
- C. Submit 5 copies of a summary list to the Engineer indicating and identifying each motor controller installed, including catalog numbers for the correct size of protective devices for the motor controllers.

1.03 REFERENCES

- A. ANSI/NFPA 70 - National Electric Code.
- B. NEMA No. ICS-1, General Standards for Industrial Control and Systems; No. ICS-2, Industrial Control Devices, Controllers and Assemblies; No. ICS-6, Enclosures for Industrial Control and Systems.

1.04 QUALITY ASSURANCE

- A. Perform work in accordance with NEMA ICS 2.3.

1.05 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc.

1.06 EXTRA MATERIALS

- A. Ten (10) spare pilot light bulbs.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. NEMA rated IEC Contactor:
 - 1. SIEMENS, Sirius 3RT10.
 - 2. Specifically approved equal.

2.02 FULL VOLTAGE STARTERS

- A. Input/Output and Bypass contactors shall be NEMA rated IEC contactor for the load it serves.
- B. Manufacturers: SIEMENS, Sirius 3RT10.

2.03 MISCELLANEOUS CONTROLS AND EQUIPMENT

- A. Provide phase failure/phase reversal relays and voltage sensitive relays for undervoltage and overvoltage protection for all phases. Relays shall be SIEMENS, or approved equal. The Contacts for these relays shall be in series with all Motor Starter Control Circuits.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Installation shall be in accordance with NFPA 70 and as shown on the Drawings.
- B. All starters shall be installed in Motor Control center.

3.02 DESCRIPTION OF CONTROL, VARIABLE SPEED DRIVES/ISOLATION/OUTPUT/BYPASS CONTACTORS

- A. Refer to the Description of Controls specification for control requirements of all motor controllers. Contractor is responsible for coordinating with system integrator for proper operation of motor controllers and all associated equipment. Any discrepancies shall be brought to the attention of the Engineer immediately for final coordination.
- B. In the AUTOMATIC position the H-O-A selector switch will provide control power to the motor starter circuit through the isolation and output contactors and variable speed drive. The bypass contactor will be electrically and mechanically interlocked via the bypass starter.
- C. In the HAND position the H-O-A switch the motor shall start and run whether or not the demand is called for based on level controls. Motor shall operate as in A above except speed control will be via the speed control potentiometer.
- D. In the AUTOMATIC position of the bypass-automatic selector switch, the switch shall provide control power to the HAND-OFF-AUTOMATIC (H-O-A) selector switch and the motor shall be controlled as described in A & B above. In the bypass position the selector switch shall provide control power to the H-O-A selector switch to maintain either automatic or manual motor control with the addition of disabling both the isolation and output contactor and the variable speed drive from the running/starting sequence. In bypass position, the motor shall start and run via bypass contactor (full voltage starter) which is electrically and mechanically interlocked via the bypass contactor.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Motor control centers.

1.02 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Include electrical ratings, dimensions, mounting, material, running overcurrent protection, branch circuit overcurrent protection, wiring diagrams and accessories.
- C. Provide detailed control drawings on 24" x 36" blueprints for all motor controls which shall include all interface wiring between motor controls and instrumentation drawings as described in Section 265012 - Description of Controls. Provide point to point wiring diagrams showing interface between motor controls and instrumentation drawings.
- D. Provide detailed scaled 1/2" = 1'-0" drawings of motor control center including instrumentation and control drawings on 24" x 36" blueprints for floor plans showing MCC layout, locations and clearances.
- E. Provide detailed scaled 3/4" = 1'-0" elevation drawings of motor control center including instrumentation and controls. Elevation drawings shall show all switches, pilot lights, timers, keypads, timers and meters including scaled locations of all knockouts and cutouts on exterior of enclosures for review and approved by Engineer.
- F. Provide detailed scaled 3/4" = 1'-0" elevation drawings of motor control center including instrumentation and controls for interior mounting of all equipment. Drawings shall show sealed locations of all drives, starters, contactors, relays, protective devices, circuit breakers, fuses, wiring, timers, terminal blocks and cable connection points.
- G. Provide catalog cuts for each device including pilot lights, switches, timers, breakers, fuses, meters, protective devices, etc.

1.03 REFERENCES

- A. National Electrical Manufacturers Association (NEMA) - No. ICS-1, General Standards for Industrial Control and Systems; No. ICS-2, Industrial Control Devices, Controllers and Assemblies; No. ICS-6, Enclosures for Industrial Control and Systems.
- B. ANSI/NFPA 70 - National Electrical Code.
- C. ASTM D 178 - Specification for Rubber Insulating Matting.
- D. Underwriters Laboratories, Inc. (UL) - No. 845, Motor Control Centers, Electric.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. SIEMENS: Tiastar.
- B. Specifically Approved Equal. Substitute manufacturers shall be responsible to fit MCC line-up as detailed on drawings to the exact dimensions detailed on the drawings. Motor Control Center manufacturer shall provide applicable U.L. labeling for all sections shown on drawings and for complete installation of all equipment specified to be packaged into the Motor Control

Center. All equipment specified to be installed in Motor Control Center shall be factory installed by Motor Control manufacturer. No exceptions.

2.02 MOTOR CONTROL CENTERS

- A. Motor control centers shall be in accordance with UL, NEMA, NEC and as shown on the Drawings.
- B. Motor control center shall be same manufacturer for motor controls and all instrumentation and control cubicles.
- C. Motor control center is based on SIEMENS system Tiastar dimensions. Contractor shall be responsible to meet dimension requirements if substitution is proposed.
- D. Motor control centers shall be complete, floor mounted, metal enclosed, grounded, indoor type. The motor control centers shall be NEMA Standard, Class 11, Type C except where other NEMA Standard classes and types are shown on the Drawings.
- E. Ratings shall be 65,000 AIC for all motor control centers.
- F. Shall conform to the arrangements and details of the Drawings and to the spaces designated for installation. All MCC door enclosures shall open 90° with all accessories mounted. All doors shall be hinged left hand side.
- G. All MCC doors shall be removable with a wiring plug harness for quick removal of doors with disconnecting wire terminations.
- H. Design the centers to withstand the mechanical stresses caused by rough handling during shipment in addition to the electrical and mechanical stresses which will occur during operation of the centers.
- I. Coordinate components of the centers and their arrangements electrically and mechanically. The components and the control wiring shall conform to the approved shop drawings as furnished for the various applicable electrical and mechanical sections of the specifications.
- J. Assemble, connect and wire the centers at the factory in accordance with the NEMA Standard class and type for each of the centers.
- K. Thoroughly clean, phosphatize and paint the metal surfaces at the factory with primer and baked enamel or lacquer finishes.
- L. Shall have the following features:
 - 1. Standard Vertical Sections:
 - a. Approximately 90 inches high, front and rear line-up, fabricated by a single manufacturer.
 - b. Rugged steel assemblies with bracing, reinforcing gussets and jig-welding to assure rectangular rigidity. The sections shall be completely metal-enclosed, including their bottoms.
 - c. Steel shall not be less than code gauge, leveled.
 - d. Bolts, nuts and washers shall be rustproof metal.
 - e. Spaces within the sections shall be suitable and adequate.
 - f. Mount the sections on adequate structural steel supports at the factory, front and rear, for the full length of each center. Install the centers so the supports will rest on top of the concrete floor surfaces except where concrete pads are indicated. Anchor the centers with bolts, not less than 1/2-inch diameter.

- g. Each present and future motor controller shall have an individual door with hinges and latches.
 - h. End panels shall be screw-removable to facilitate future additions.
 - i. Removable panels shall have screws which remain in the panels when the panels are removed. Screws shall be received by self-aligning, self-retaining nuts attached within the assemblies.
 - j. Isolated vertical full height wiring troughs.
2. Bus Bars and Interconnections:
- a. Shall be copper, rated as indicated on drawings. Minimum size shall be 600 amps.
 - b. Shall be totally enclosed.
 - c. Bus bar joints and interconnection joints shall be plated, constant high-pressure type with high strength copper-silicon bolts and nuts.
 - d. Provide continuous bars through dead corner cubicles to adjoining cubicles.
 - e. Insulation:
 - 1) High strength polyester glass or equal.
 - 2) High track-resistance.
 - 3) High impulse and dielectric strength, especially at elevated temperatures, for withstanding the maximum short circuit currents.
 - 4) High flame-retardant, self-extinguishing.
 - 5) NEMA Standard for 65°C temperature rise shall apply.
 - f. Shall have horizontal main buses and vertical buses for connecting the motor controllers, circuit breakers and switches.
 - g. Shall have an adequate ground bus which extends across the entire width of each center.
 - h. Bus bars shall be designed to extend to additional sections when so shown on the Drawings in addition to extending through dead corner cubicles.
 - i. Temperature rises shall not exceed the NEMA Standards.
3. Completely equipped spaces for future motor controllers, circuit breakers and switches.
4. Motor Controllers:
- a. Stab-on type except for large ratings which require bolted connections.
 - b. Shall conform to the applicable requirements in Section 262913. Include built-in H-O-A selector switches and red and green pilot lights.
 - c. Products of a single manufacturer, SIEMENS, or approved equal.
 - d. Interchangeable for the same ratings in all of the motor control centers being installed for this contract.
 - e. Disconnecting contact devices:
 - 1) Silver plated copper, full-floating, self-aligning, self-coupling, designed for cleaning action during engaging and disengaging movements.
 - 2) Adequate flexibility between the stationary and movable components.
 - 3) Adequate pressure maintained on the contacts.
 - 4) Shall engage silver plated buses.
 - f. Doors mechanically interlocked to prevent their opening unless the disconnect is opened. Incorporate "defeater" mechanisms for inspection by qualified personnel.
 - g. External operating handles with lock-open pad-locking provisions and ON and OFF position indicators.
5. Identify each motor controller, circuit breaker and switch with a separate nameplate of laminated black phenolic resin with white core and engraved lettering not less than 3/16-inch high. Identify each motor by its number or other designation and indicate function fulfilled by the motor. Identify pilot light with ON and OFF designation.
6. Line Monitoring Devices:
- a. The motor control center shall be equipped with a three phase monitoring relay to interlock each starter upon phase failure, phase loss or phase reversal. The phase monitor shall be manufactured by SIEMENS, Class 47.

- b. A separate line voltage monitor shall be included in the motor control center for each motor to interlock motor when either undervoltage, overvoltage phase loss or phase reversal occurs.
- M. Test the motor control centers at the factory to assure that the centers do not have any defects.
- N. Provide Eagle Cycle-Flex Timers for all timers mounted on motor control center enclosures as indicated on drawings.
- O. All circuit breakers shall be rated 65,000 AIC. AIC based on stand alone ratings. Manufacturers rating using combined systems ratings to use lower AIC rated breakers is not acceptable.
- P. Pilot Lights shall be LED type with push-to-test capabilities. No incandescent pilot lights shall be permitted.
- Q. Push buttons and selector switches shall be 30.5 mm heavy duty oiltight.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install in accordance with NEC and manufacturer's instructions, and as shown on the Drawings.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Variable frequency controller.

1.02 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Shop Drawings: Include front and side views of enclosures with overall dimensions and weights shown; conduit entrance locations and requirements; and nameplate legends.
- C. Product Data: Provide catalog sheets showing voltage, controller size, ratings and size of switching and overcurrent protective devices, short circuit ratings, dimensions, and enclosure details.
- D. Test Reports: Indicate field test and inspection procedures and test results.
- E. Manufacturer's Installation Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of Product.
- F. Manufacturer's Field Reports: Indicate start-up inspection findings.
- G. Manufacturer's recommended spare parts list.

1.03 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Furnish products listed and tested by Underwriters Laboratories, Inc. as suitable for purposes specified indicated.

1.04 EXTRA MATERIALS

- A. Provide two of each fuse size and type.
- B. Provide one complete set of spare logic boards for each system provided.

PART 2 - PRODUCT

2.01 MANUFACTURERS

- A. Yaskawa IQPump.
- B. Approved equal.

2.02 DESCRIPTION

- A. Provide enclosed variable frequency controllers suitable for operating the indicated loads. Conform to requirements of NEMA ICS 3.1.
- B. Minimum efficiency at full load: 98 percent.

2.03 ENVIRONMENT RATINGS

- A. Operating Ambient: 0 degrees C to 40 degrees C.
- B. Relative Humidity: 5 to 95% non-condensing, all power ratings.
- C. Altitude: 3,300 feet (1,000 meters) maximum without derating.
- D. Vibration: 0.006 inches (0.152 mm) displacement, 1G peak.
- E. Shock: 15G peak for 11ms duration (+-1.0 ms).

2.04 INPUT POWER RATINGS

- A. Voltage: 460V AC +-10%
- B. Frequency: 48 to 62 Hz
- C. Phase: 3-phase
- D. Motor Horsepower: Refer to drawings for H.P. sizes
- E. Line Transient Protection: Line transients up to 5,000 volts peak. 320 Joules phase-to-phase 380 Joules phase-to-ground.
- F. Logic Power Ride-Thru: 2 seconds or longer -- subject to the integrity of user supplied external circuits.
- G. Drive Characteristics: Drive shall use isolated gate bi-polar technology.
- H. Control Logic Noise Immunity: Showering arc transients from 350 to 2,000 volts peak.
- I. Voltage: **Drive Rating BOO3-B200**
0 to applied input voltage, 230V AC, maximum output voltage cannot exceed applied input voltage.
- J. Frequency Range: 0 to 250 Hz with local programmable minimum and maximum limits
- K. Frequency Resolution: **Digital**
Preset speeds (serial interface or pulse train input) to 0.005 Hz of set frequency within the minimum and maximum limits.
Analog
Equal divisions between minimum and maximum limits to the nearest 0.005 Hz as a function of signal type.

Local speed pot, 1003 divisions.
Remote speed pot, 633 divisions.
4 to 20 mA input (TB2, Terminals 4 and 6), 726 divisions.
- L. Frequency Regulation: Digital Frequency Source: 0.0013% of set frequency, 0 to 40°C temperature range.
- M. Volts-per-Hertz: Fully programmable - Minimum 1 to 14.3 V/Hz through local programming.
- N. Intermittent Overload Capability: Programmable MOPC from 50 to 150% of rated output current for up to 1 minute maximum.
- O. Carrier Frequency: Carrier frequency shall be adjustable up to 15 KHz. No exceptions.

2.05 DRIVE ACCESSORIES

- A. Display: Provide integral digital display to indicate output voltage, output frequency, and output current. Display shall be flush mounted on VFD enclosure door.

- B. Elapsed Time Meter: Non-resettable 6 digit.
- C. Input Signal: - 20 mA DC.
- D. Disconnecting Means: Include integral circuit breaker on the line side of each controller.
- E. One (1) 0 to 30 mA D.C. ammeter to monitor 4-20 mA input signal from PID controller. (3-1/2" square minimum).
- F. Hand-Off-Automatic Selector Switch.
- G. Drive-Bypass Selector Switch
- H. Ten (10) turn speed control pot.
- I. Isolation contactor (NEMA Rated).
- J. Output/Bypass contactors (NEMA Rated).
- K. Start Delay Timer: Eagle Cycle-Flex.
- L. Auxiliary NO and NC contacts.
- M. Three (3) programmable preset speeds to be initiated through contact closure.
- N. Lightning/surge arrestor with individual line to line and individual line to ground protection. Clamping voltage levels shall be specifically sized for the applied system voltage.
- O. Provide solid state overload relay on load size of bypass contactor and thermal overload relay on load side of output contactor as manufactured by SIEMENS.
- P. Fast-acting fuses on load side of main circuit breaker sized in accordance with manufacturers recommendations.
- Q. Isolated 4-20 mA input for follower signal input.
- R. Smart Keypad: Key pad shall have 1K memory for downloading information to any drive. Removable flush mounted on enclosure door.
- S. 4-20 mA scaled output proportional to drive speed. Input to PLC.
- T. Drive shall have three inputs for preset speeds initiated by remote contacts.
- U. Drive shall have speed contacts to close when speed is reached and be input to the PLC.
- V. Drive shall have fault and not in Auto Contacts and shall be input to the PLC.

2.06 VARIABLE SPEED DRIVE SYSTEM

- A. The variable speed drive system shall include a diode bridge converter, filter network and a transistorized inverter section. Base driver signals used to control firing of the power transistors shall be designed with optically-coupled-isolators for optimum drive protection. The output must be sinusoidal wave, pulse width modulated, voltage wave form for reduced harmonic heating in the motor. The systems shall include all the necessary control circuits, synchronizing the equipment and protective devices as required by design. The drive unit shall be able to

withstand a phase-to-phase and a phase-to-ground short without damage to the drive unit. The systems protection as a minimum shall provide the following:

| | |
|--|--|
| Current Limit: | 115% of rated current |
| Overcurrent: | 180% of rated output current IET (trip fault) |
| Shortcircuit: | Phase-to-phase (trip fault) |
| Overvoltage: | High D.C. bus voltage (trip fault) |
| Undervoltage: | 20% below line voltage (trip fault) |
| Momentary Power Failure: | 30 to 500 milliseconds |
| Burn-out: | D.C. bus fuse protection or 3 phase input fusing |
| Terminal Strip for Remote Alarms: | Fault contact (Form C) |
| Digital Indication Individual Fault Condition: | Overcurrent of a transistor. Output overcurrent or shortcircuit. Overcurrent while running. Thermal overload. Overvoltage of the D.C. bus due to regeneration. Overvoltage of the D.C. bus due to high line voltage. Overtemperature of the enclosure. Ground fault. |
| LED Indication: | D.C. bus capacitor charge |
| Stall Protection: | Prevents current limit activation during overload condition to prevent stall |
| Ground Fault: | Detects output shortcircuit due to a ground (trip fault) |
| Voltage Limit: | Prevents the overvoltage of the D.C. bus during deceleration |
| Accel & Decel Time: | Fully programmable. |

The control shall contain system adjustments. The adjustments shall be by potentiometers. The potentiometer shall be accessible through the front portal door on the unit which prevents exposure to lethal voltage to the operator.

The system parameters shall be shown on the digital display meter before, during and after the adjustment. The digital display shall indicate the actual setting of the adjustment, not percentage of setting. The following adjustment shall be provided:

| | |
|------------------------|-------------------|
| Acceleration: | 0.1 to 60 seconds |
| Deceleration: | 0.1 to 60 seconds |
| Upper Frequency Limit: | 0 to 80 Hz |
| Lower Frequency Limit: | 0 to 80 Hz |
| Auto Reference Bias: | 0 to 80 Hz |
| Auto Reference Gain: | 0 to 80 Hz |

The unit shall be self-protecting to prevent any misadjustments by the operator. The upper limit cannot be set below the lower limit, and will signal the operator of this misadjustment.

2.07 DESIGN

- A. Employ microprocessor based inverter logic isolated from power circuits.
- B. Employ IGBT inverter system.
- C. Adjustable carrier frequency up to 15 KHz.
- D. Employ switching power supply operating off DC link.
- E. Design for ability to operate controller with motor disconnected from output.
- F. Design to attempt five automatic restarts following fault condition before locking out and requiring manual restart.
- G. In the event of sustained power loss, the control shall shut down safely without component failure. In the event of momentary power loss, the control shall shut down safely without component failure. Upon return to power the system shall automatically return to normal operation, being able to restart into a rotating motor, regaining positive speed control without power failure.

2.08 FABRICATION

- A. Wiring Terminations: Match conductor materials and sizes indicated.
- B. Enclosure: NEMA 250, Type 1.
- C. Finish: Manufacturer's standard enamel.

2.09 SOURCE QUALITY CONTROL

- A. Inspect and production-test each product specified in this section.
- B. Test shall include simulated operation.
- C. Notify engineer at least five (5) days prior to test. Owner or Engineer may witness test.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Controllers shall be factory installed in Motor Control Center by same manufacturer of Motor Control Center.
- B. Install controller in accordance with manufacturer's written instructions and NEMA ICS 3.1.
- C. Tighten accessible connections and mechanical fasteners after placing controller.
- D. Install fuses in fusible switches.
- E. Select and install overload heater elements in controllers to match installed motor characteristics.

- F. Provide engraved plastic nameplates under the provisions of Section 260553.
- G. Provide neatly typed label inside each motor controller door identifying motor served, nameplate horsepower, full, load amperes, code letter, service factor, and voltage/phase rating.

3.02 ADJUSTING

- A. Make final adjustments to installed drive to assure proper operation of system. Obtain performance requirements from installer of driven loads.

3.03 DEMONSTRATION

- A. Demonstrate operation of controllers in automatic and manual modes.
- B. Provide the services of the manufacturer's trained personnel to completely check the VFD system installations and adjust the drive for operation. An additional period shall be included for trained personnel at the time of acceptance and field tests. A minimum amount of six days and three trips shall be required for this work.
- C. Manufacturer's trained personnel, after initial field startup shall remove all logic PC boards for the pump program logic and install and adjust a spare set of PC boards. These boards shall remain in the drives and the initial boards shall be provided as spares.
- D. Service Contract - Provide a one-year service contract for the pump control system. Service contract shall include the services of a manufacturer trained engineer to provide preventive maintenance service and calibration of the equipment. At least four routine service trips shall be made as scheduled by Owner. In addition, whenever trouble occurs with the system, a serviceman shall come and repair/replace defective parts at no additional cost. All parts required for repair shall be included at no additional cost. This service contract shall take effect one year after acceptance of the equipment and after the one-year guarantee period has lapsed.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Charger/rectifier unit.
- B. Inverter unit.
- C. Batteries.

1.02 REFERENCES

- A. IEEE 519 - Guide for Harmonic Control and Reactive Compensation of Static Power Converters.
- B. NEMA PE 1 - Uninterruptible Power Systems.
- C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
- D. NFPA 70 - National Electrical Code.

1.03 OPERATION AND MAINTENANCE DATA

- A. Submit operation and maintenance data.
- B. Operation Data: Description of operating procedures.
- C. Maintenance Data: Description of servicing procedures; list of major components; recommended remedial and preventive maintenance procedures; spare parts list.

1.04 WARRANTY

- A. Provide one (1) year warranty, including parts and factory service.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. APC American Power Conversion Corp. - Model BR700G - 700VA

2.02 UNINTERRUPTIBLE POWER SUPPLY

- A. Components:
 - 1. Batteries.
 - 2. Rectifier/charger to maintain battery charge and to provide input to inverter when utility power is available.
 - 3. Inverter to provide power to load during normal operation.
 - 4. Static switch to transfer load automatically and without disturbance between inverter and utility power.
 - 5. Manual switch to bypass static switch for maintenance.
 - 6. Monitors, sensors and control circuits.
 - 7. Design Standards: IEEE 519 and NEMA PE 1.

2.03 SYSTEM RATINGS AND OPERATING CHARACTERISTICS

- A. Performance Requirements.

- B. System Configuration shall be the non-redundant, line-interactive type. All power connections, in and out, AC and DC, shall enter from the bottom or rear of the UPS cabinet. Compression-type terminal blocks shall be standard connections.
- C. System Operation.
- D. During normal operation, utility power is delivered to the load through the tap-switching power conditioner, while DC is delivered to recharge the batteries through the bi-directional converter. At the same time, the bi-directional on-line converter provides the regulation of voltage to the UPS output. AC output provided to load should be galvanically isolated from input including neutral.
- E. In case of UPS failure, when any part of the converter system fails so as to adversely affect the quality of the UPS performance, 100% of the load shall be automatically be provided by the power conditioner through the power transformer.
- F. The manual bypass switch shall be a standard feature, selecting clean, regulated AC from the UPS output, or raw AC power from the UPS input terminal blocks.
- G. When the utility power suffers and outage, or when it is out of tolerance as described in Item J (below), the battery bank shall supply DC power without any switching required and thus maintain the UPS in action. During such operation, the load power shall remain within the limits set in Item K (below).
- H. Battery charging shall be automatic based upon battery state of charge. The charging current is limited to prevent damage to the batteries, which will be the specially sealed, maintenance-free type.
- I. Summary of Characteristics - The characteristics specified in this section are the minimal ones to be considered.
- J. Input to UPS:
 - 1. Nominal Voltage: 120 VAC + 20%, -30%, 1-phase, 3-wire, plus ground.
 - 2. Frequency: 60 Hz +3 Hz.
 - 3. Input Power Factor: Between .9 leading and .8 lagging at full loads and nominal input voltage.
 - 4. Input Current Distortion: Less than 5% at full load and nominal input voltage.
- K. Output to UPS:
 - 1. Voltage: 120 VAC, 1-phase, 3-wire, including ground.
 - 2. Voltage Regulation:
 - 3. +3% for all load conditions.
 - 4. Wave Form: Sine wave.
 - 5. Frequency: 60 Hz +0.1% Slew Rate: 1 Hz/sec, synchronized to input +0.5, +1.0, +2.0 or +3.0 Hz selectable.
 - 6. Harmonic Distortion: Maximum 5% RMS total harmonic distortion (THD) and maximum of any single harmonic of 3%.
 - 7. Audible Noise: 50 dBA at 1 meter.
 - 8. Efficiency: 95% AC to AC.
- L. Battery System:
 - 1. A sealed maintenance-free battery, full wired and enclosed in a matching cabinet shall be provided. Provide optional battery ½ pack for a total battery run time of 11 minutes at full load.

M. Equipment: Environment:

1. Temperature and Humidity: The UPS shall be capable of operating between +10°C and 40°C, with a relative humidity between 0 and 95%, non-condensing. The non-operating temperature range shall be between -20° and +60°C.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install inside PLC cabinet.

3.02 WARRANTY AND SERVICE REQUIREMENTS

- A. Manufacturer shall warrant the UPS to be free from defects in design, material and workmanship under normal use and service for a period of one (1) year from shipment.
- B. Manufacturer shall guarantee a maximum response time of 24 hours.

3.03 DEMONSTRATION

- A. Demonstrate proper operation of the uninterruptible power supply by simulating an outage.

3.04 INTERFACING WITH NEW CONTROL SYSTEMS

- A. Contractor shall provide power from the UPS receptacles to new UPS power terminal blocks located in the new and existing instrumentation and control cubicles. Label "UPS 120V control power".
- B. Contractor shall provide 120volt power feeds for the following electrical equipment.
 1. Programmable logic controller.
 2. Indicator recorders power supply.
 3. All communication equipment.

3.05 QUANTITY

- A. Quantity required: One (1). Install one at Well No. 3A.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Programmable logic controllers.
- B. Input/output hardware.
- C. Programmer/programming requirements.

1.02 REFERENCES

- A. NEMA ICS 1 - General Standards for Industrial Control and Systems.
- B. NEMA ICS 2 - Standards for Industrial Control Devices, Controllers and Assemblies.
- C. NEMA ICS 3 - Industrial Systems.
- D. NEMA ICS 6 - Enclosures for Industrial Controls and Systems.

1.03 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Submit shop drawings indicating layout of completed assemblies, interconnecting cabling, dimensions, weights, external power requirements and a complete I/O list of control points.
- C. Submit wiring and schematics diagrams for the new PLC's and existing controls.

1.04 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum five (5) years documented experience, which maintains service facilities within 50 miles of project.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. ALLEN BRADLEY Model MicroLogix with 1766-LRP Controller.
- B. Approved equal.

2.02 PROGRAMMABLE LOGIC CONTROLLER HARDWARE CHARACTERISTICS

- A. The CPU shall be a self-contained unit and be capable of displaying Ladder Rung program execution through its RS-232/RS-485 and EtherNet/IP communication ports. The CPU will control all I/O scanning and communications servicing.
- B. All components of the controller system shall be housed in a single chassis (power supply, embedded I/O circuitry, CPU, Memory and communications shall reside in one enclosure).
- C. The CPU within the system shall perform internal diagnostic checking and give visual indication to the user by illuminating a "green" indicator when no fault is detected and a "red" indicator when a fault is detected.

- D. The packaged controller shall be designed to operate in a free air flow environment (convection cooling only, no fans or other air moving devices shall be required).
- E. The controller shall provide a simple embedded Human Machine Interface (HMI). This HMI must provide the ability to monitor/change user data and also to display messages and data to the user. The ability to receive numeric input from the HMI which can be utilized by the controller's program must also be supported.
- F. The controller must provide a mechanism to manually set the communication port to a known state (factory out-of-box preferred). Systems that do not provide a mechanism to manually set the communications port to a known state are not acceptable.
- G. The controller must provide at least two digital trim potentiometers that are accessible from the front of the controller while the controller is operating.
- H. The controller must support front accessible memory modules that can be inserted or removed while the system is operating (in run).
- I. The main front panel of the controller shall include the following indicators: Power, Run, Fault, and Force.
- J. J. Processor mode shall be selected by a command from a programming device. Available settings must include modes:
 - 1. RUN - Control program executing.
 - 2. PROGRAM - Controller not executing, user program can be uploaded or downloaded.
 - 3. SINGLE SCAN TEST - The PLC scans and solves the user program once, does NOT control the real world outputs, and stops.
 - 4. CONTINUOUS SCAN TEST - The PLC continuously scans the user program but does NOT control the real world outputs.
- K. Non-volatile memory shall store the operating system, user program, and all user data to protect against memory loss in the case of power loss or system shut-down.
- L. The Programmable Controller shall have downward compatibility whereby all new module designs can be interchanged with all similar modules in an effort to reduce obsolescence.
- M. The Programmable controller shall have the ability to be updated electronically to interface with new modules.
- N. All hardware of the Programmable Controller shall operate at an ambient temperature of 0 to 55 degrees C (32 to 131 degrees F), with an ambient temperature rating for storage of -40 to +85 degrees C (- 40 to +185 degrees F).
- O. The Programmable Controller hardware shall function continuously in the relative humidity range of 5% to 95% with no condensation.

2.03 MEMORY CHARACTERISTICS

- A. The program storage medium shall be a solid state non-volatile type.
- B. The controller shall be capable of addressing up to a minimum of 10K data words, where each word is comprised of 16 data bits.
- C. Available user memory shall consist of a minimum of 20K words of program and data.

- D. Controller shall support up to 128K bytes for data logging.
- E. Controller shall support up to 64K bytes for recipe storage.
- F. The controller must provide the capability to use a non volatile memory module that can be inserted or removed while power is applied to the controller.
- G. The memory module must support the ability to selectively protect multiple areas of user data from being overwritten if/when a download occurs.
- H. Memory modules must be capable of write once read many operations. This is a write once feature that if enabled inhibits a user from clearing the program currently stored in the memory module.
- I. The memory module must support automatic program download whenever power is applied.
- J. The memory module must support the ability to detect if a fault is present during the power up sequence, if a fault is present download the program that is in the memory module and enter the run mode. If a fault is not present the controller proceeds normally without memory module intervention.
- K. The operator should be able to backup memory, including data and program logic onto a CD, DVD, hard disk, or memory module.
- L. The packaged controller system must be capable of storing the following data:
 - 1. External Output Status.
 - 2. External Input Status
 - 3. Timer Values
 - 4. Counter Values
 - 5. Signed Integer Numbers (16-bit) SECTION 40 00 00 Page 9 of 14 Publication 1764-SR001A-EN-P August 2010
 - 6. Signed Integer Numbers (32-bit)
 - 7. Binary data (bit, BCD, HEX)
 - 8. ASCII String Data
 - 9. Internal Processor Status Information
- M. The above listed data shall be distinguishable to the CPU by the addressing format. Management of the data into memory subsections shall be an automatic function of the CPU operating system. Data can be displayed in Binary, Hexadecimal, or Decimal. Function-specific data such as processor status shall have dedicated displays that annotate the meaning of specific control bits and words within them and allow for selective control where appropriate.
- N. If contacts or entire rungs are intentionally deleted from an existing logic program, the remaining program shall be automatically repositioned to fill this void. Whenever contacts or entire rungs are intentionally inserted into an existing program, the original program shall automatically be repositioned to accommodate the enlarged program.
- O. The controller must support a minimum of 12 pulse inputs. Pulse inputs allow a fast signal to be captured and held long enough for the controller to detect the signal, once read the signal is automatically reset.
- P. The number of times that a normally open (N.O.) and/or normally closed (N.C.) contact of an address can be programmed shall be limited only by the memory capacity to store these instructions.

- Q. Ladder logic programs must have immediate access to the sub elements of control structures (timers, counters, sequencers, etc.) by word (presets, accumulators, etc.) and bit (status bits).

2.04 INPUT/OUTPUT (I/O) CHARACTERISTICS

A. Inputs/Outputs – General:

1. A minimum of four isolated digital input groups, one isolated analog input group, six isolated digital output groups and one isolated analog output group shall be located on the self-contained controller. At least four relays shall be individually isolated.
2. The system must support at least 112 discrete I/O points using expansion I/O modules.
3. Isolation shall be between all internal logic and external circuits.
4. Each input and output point shall have a visual indicator to display ON/OFF status.
5. All user wiring to I/O modules shall be through a heavy-duty terminal strip. Pressure-type screw terminals shall be used to provide fast, secure wire connections.
6. Inputs shall have adjustable filter time constants to improve input performance in high speed applications, and to limit the effects of voltage transients.
7. The system must support seven expansion modules (input/output, discrete or analog).

B. Inputs/Outputs - Specific:

1. The controller manufacturer shall offer input/output hardware consisting of the following types:
 - a. Standard Inputs
 - 1) Inputs: 120V AC, 240V AC, 24V DC sink, 24V DC source, 4-20 mA Analog , 0-10V Analog, RTD and Thermocouple SECTION 40 00 00 Page 10 of 14 Publication 1764-SR001A-EN-P August 2010.
 - b. High Speed Counter (HSC)
 - 1) Each controller with 24V DC inputs must have at least three HSCs capable of detecting a 100 kHz pulse stream built onboard.
 - 2) Each HSC must be capable of detecting pulses as narrow as 5 microseconds (100 kHz) and directly control (turn on or off) controller outputs independent of the processor scan.
 - 3) Each HSC must be cable of detecting single ended inputs, quadrature inputs, and high speed inputs with external controls (hold and reset).
 - 4) Each HSC must be completely configurable (input filters, modes of operation, etc.) using computer based software. Runtime control of the HSC must be allowed through commands (instructions) in the user (ladder) program (Reset accumulator, change presets, change output patterns and setpoints, enable/disable HSC operation, etc.).
 - 5) Data and status within each HSC must also be accessible from external devices through the controller's communication ports.

C. High Speed Inputs:

1. Each controller with 24V DC inputs must have at least 12 inputs that can catch and hold for one inputs scan a 5 microsecond input signal.
2. Each controller with 24V DC inputs must have four high speed inputs capable of generating an input interrupt. When used for input interrupt functionality, the controller must be capable of executing a predefined range of logic. Each input must be configurable to run its own user defined block of logic.

D. Standard Outputs:

1. Outputs: Relay (some of which must have individual isolation), 24V DC source, 4-20 mA Analog, 0-10V Analog and Triac.
2. Relay outputs for DC devices which operate at 5-125V DC, with 2 amp continuous current capacity at 24V DC and 1 amp continuous current capacity 125V DC.

3. Relay outputs for AC devices which operate at 5-264V AC with 5 amp continuous current capacity for UL508 up to 40° C (3A above 40° C) and 3 amp continuous current capacity for UL1604, Class 1, Division 2, Hazardous Locations, Groups A, B, C, and D.
- E. High Speed Output
1. Each controller with 24V DC outputs must have at least three high speed outputs. The outputs must be capable of generating PTO (pulse train output) signals. The PTO signals must be capable of generating motion profiles using either trapezoid or S-curve acceleration and deceleration profiles.
 2. The outputs must also be configurable for PWM (pulse width modulated) signals. When configured for PWM the controller must provide trapezoid acceleration/deceleration of either the frequency or duration portions of the PWM waveform.

2.05 SPECIFIC FUNCTION CHARACTERISTICS

- A. Program timers shall be available in both on-delay and off-delay.
- B. Counters shall be available in both count up and count down.
- C. Sequencers shall be cascable, time-driven or event-driven.
- D. Shift registers shall be cascable, time-driven or event-driven.

2.06 POWER SOURCE

- A. The packaged controller shall operate in compliance with one of two types of electrical service:
 1. 120/240 V AC, single phase, in power systems that operate on 50/60 Hz. It must be capable of autodetect to operate with either of these AC voltages or frequencies without the user needing to jumper or setup the unit.
 2. 24V DC Class 2 SEL.
- B. All AC powered controllers with 24V DC inputs must be capable of supplying a minimum of 24V DC at 200 mA. This can be used to provide external 24V DC power for input devices (sensors, switches, etc.).
- C. The onboard power supply must be capable of supplying all necessary power to all subsystems (CPU, Memory, local I/O, etc.) plus a minimum of seven expansion I/O modules without external wiring.
- D. The power supply shall provide surge protection, isolation, and power outage carry-over of at least one cycle of the AC line.
- E. In cases where the AC line is especially unstable or subject to unusual variations, it shall be possible to install a constant voltage transformer having a sinusoidal output waveform.
- F. At the time of power-up, the power supply shall inhibit operation of the processor and I/O modules until the DC voltages are within specifications.
- G. The manufacturer shall be able to provide as standard equipment a system power supply capable of converting AC standard low voltage line power to the DC power required to operate the Programmable Controller system.
- H. A single main power supply shall have the capability of supplying power to the CPU and local input/output modules. Other power supplies shall provide power to remotely located racks.

- I. The power supply shall automatically shut down the Programmable Controller system whenever its output power is detected as exceeding 125% of its rated power.
- J. The power supply shall monitor the incoming line voltage for proper levels. When the power supply is wired to utilize AC input, the system shall function properly within the range of 85 to 265 VAC. When the power supply is wired to utilize DC input, the system shall function properly within the range of 19.2 to 32 VDC. In addition, the power supply shall provide surge protection, isolation, and outage carry-over up to 2 cycles of the AC line.
- K. Design features of the Programmable Controller power supply shall include a diagnostic indicator mounted in a position to be easily viewed by the user. This indicator shall provide the operator with the status of the DC power applied to the backplane. In addition, a means of disabling power to the CPU shall be possible from a power disconnect switch mounted in a position easily accessible by the operator.
- L. At the time of power-up, the power supply shall inhibit operation of the processor and I/O modules until the DC voltages of the backplane are within specifications.
- M. In addition to the electronic protection described above the power supply shall offer a failsafe fuse that is not accessible by the customer.
- N. Provide one (1) spare power supply to the owner.

2.07 NETWORKING AND COMMUNICATION

- A. The controller shall support direct connection to a programming computer equipped with a standard RS-232 serial port.
- B. The controller shall support direct connection to a programming computer equipped with a standard RS-485 port.
- C. The controller shall support direct connection to a programming computer equipped with a standard 10/100Mbps EtherNet/IP port
- D. The controller shall support direct connection to a modem for remote programming functionality. SECTION 40 00 00 Page 11 of 14 Publication 1764-SR001A-EN-P August 2010.
- E. The packaged controller shall support full function peer-to-peer communications (program management, controller-to-controller messaging, etc.):
 - 1. When directly connected by an RS-232 cable, RS-485 cable or Ethernet cable.
 - 2. A "local" (hard wired) peer-to-peer network that supports up to 32 devices.
- F. The controller shall directly support EtherNet/IP peer-to-peer messaging.
- G. The controller family shall support connectivity with DeviceNet. The controller must provide DeviceNet slave I/O functionality to a DeviceNet master, peer to peer messaging over DeviceNet, explicit messaging support over DeviceNet.
- H. H. The controller shall support half-duplex slave communications on a network capable of at least of 250 nodes. The half-duplex network shall support program upload/download, monitoring, and peer-to-peer (slave to slave) communications.
- I. The controller shall support connectivity to up to 31 other devices across a DH-485 network.
- J. The controller shall support the DF1 Radio Modem protocol.

- K. The controller shall support Modbus RTU master and slave communications.
- L. The controller shall support bi-directional ASCII communications to send initialization strings to a modem, text with embedded data to a printer or terminal, receive ASCII from smart scales, bar code devices, etc.
- M. The controller shall provide the ability to change the RS-232 communications port between the out-of-box factory default settings, and the user configuration settings. This operation must be allowed to occur at any time.
- N. The controller must support baud rates from 300 to 38.4K baud.
- O. The controller shall support Modbus/TCP over Ethernet.
- P. The controller shall support DNP3 serially and over Ethernet.

2.08 PROGRAM STORAGE

- A. The program storage medium shall be of solid-state RAM (volatile) type.
- B. Memory capacity shall be sized to allow for future programming expansion of 30% minimum.
- C. Memory shall contain battery backup capable of retaining all stored program data through a continuous power outage of 12 months under worst case conditions. The capability shall exist to remove all batteries from the system without removing system power.

2.09 DIGITAL INPUT/OUTPUT MODULES

- A. The programmable controller shall utilize discrete input/output hardware consisting of the following as required of this project:
 - 1. Inputs (Isolated type):
 - a. AC/DC input for devices which operate at 120 VAC, 50/60 Hz or 120 VDC, 220 VAC, 50/60 Hz or 220 VDC.
 - b. Isolated AC input which provides isolation of 120 VAC or 120 VDC input signals
 - 2. Outputs (Isolated type):
 - a. AC output for devices which operate at 120 VAC, 50/60 Hz.
 - b. Isolated AC output which provides six (6) isolated outputs capable of switching 120 VAC or 220 VAC power.
 - c. Contact output which provides four (4) normally open and four (4) normally closed reed relay outputs.
- B. Memory shall contain battery backup capable of retaining all stored program data through a continuous power outage of 12 months under worst case conditions. The capability shall exist to remove all batteries from the system without removing system power.

2.10 ANALOG INPUT/OUTPUT MODULES

- A. Analog input which accepts analog signals and converts them to 3-digit BCD, 4-digit BCD or 14-bit binary values. Digital resolution shall be available in 1 part in 256, 1 part in 1,000 (BCD), or 1 part in 4,096 (binary). Analog inputs shall be available in single-ended and sourcing and differential and differential isolated versions. Analog inputs shall be available in the following ranges:
 - 1. Voltage range: +1 to +5 VDC.
 - 2. Current range: 4 to 20 mA

- B. Analog output converts a 3-digit BCD number, a 4 digit BCD number, or a 12-bit binary number into an equivalent single-ended analog output signal. Output isolation shall be available. Analog outputs shall be available in the following ranges:
 - 1. Voltage range: +1 to +5 VDC
 - 2. Current range: 4 to 20 mA

2.11 PLC SOFTWARE CHARACTERISTICS

- A. A. The PLC's memory shall consist of data table and program logic areas. The PLC shall examine the status of its inputs prior to every program scan and store the status in the "Input" data table area of its memory. The PLC shall update the "Output" data table area of its memory during every program scan, and then set the real world outputs accordingly. The updating of inputs, program logic and outputs should be repeated continuously while the PLC is in the run mode. The user application program shall be stored in the program logic area of memory as a ladder diagram. The status of a group of inputs and/or outputs controlling an output or outputs shall be called a ladder diagram rung. The program shall consist entirely of ladder diagram rungs to carry out the control plan. The time that the PLC requires to scan 4,096 typical program instructions shall be less than or equal to 500 ms (milliseconds).
- B. Provide registered copy of latest edition of programming software and final accepted source code to District for each CPU furnished as part of this project.
- C. Inputs/Outputs:
 - 1. Well No. 3A - Digital Inputs
 - a. Well No. 3A Start/Stop Signal : Relay or Dry Contact Required
 - b. Tank-Tracking Selector Switch: Relay or Dry Contact (2) Required
 - c. Well No. 3A VFD Run: Relay or Dry Contact Required
 - d. Well No. 3A VFD Fault: Relay or Dry Contact Required
 - e. Reset: Relay or Dry Contact Required
 - 2. Well No. 3A - Analog Inputs
 - a. System Pressure: 4-20 mA
 - b. Well No. 3A Flow: 4-20mA
 - 3. Well No. 3A - Analog Outputs
 - a. Well No. 3A speed reference: 4-20 mA
 - b. Chlorine pump speed reference: 4-20 mA
 - c. Lime pump speed reference: 4-20 mA
 - d. PO4 pump speed reference: 4-20 mA

2.12 PLC SURGE PROTECTION

- A. PLC surge protection shall be provided for PLC circuits.
- B. Manufacturer shall be MCG ELECTRONICS, INC., Model PLC-15A-60V.
- C. Surge protection shall be for both AC power and 4-20 mA loop data lines.
- D. Provide surge protection for each new PLC including remote I/O.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions on PLC.
- B. Install PLC unit at Well No. 3A pump station.

- C. New PLC, I/O modules and associated components shall be installed in a NEMA 12 enclosure. Enclosure shall be manufactured by Saginaw Control Engineering (SCE) or approved equal.
- D. Install all analog and digital spare I/O. Label as spare.

3.02 PROGRAMMING

- A. The Contractor shall be responsible to develop, document, program and debug the control sequence and logic necessary to assure system operation as stipulated in the specifications and on the contract drawings. The ladder logic shall be directly programmed in the PLC's. This Contractor shall be responsible for complete programming and verification of performance to be consistent with the intended control operation.

3.03 MANUFACTURER'S FIELD SERVICE

- A. Provide operating instruction manuals with adequate information pertaining to the following:
 - 1. Source Code.
 - 2. System specifications.
 - 3. Electrical power requirements.
 - 4. Application considerations.
 - 5. Assembly and installation procedures.
 - 6. Power up procedures.
 - 7. Troubleshooting procedures.
 - 8. Programming procedures.
 - 9. Explanation of internal fault diagnostics.
 - 10. Shutdown procedures.
 - 11. Documentation: Provide two copies of all working programs on CD as well as a printed program listing.
 - 12. Product Support Services: The Service Department of the Supplier shall have experienced representatives capable of providing telephone consultation, prompt on-site service and field replacement stock.

3.04 DEMONSTRATION

- A. Provide complete system demonstration and performance verification services.
- B. Demonstrate operation and programming of controllers. Provide as part of the start-up and demonstration service described in Section 265012, instruction for operating personnel, to be conducted at project site with manufacturer's representative.
- C. Customer Training Programs: Provide a customer training program designed to teach the owner's personnel in the understanding and application of the programmable controller. The training program shall include training manuals and "hands-on" programming experience on a programmable controller of the type provided under this contract.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Programmable logic controller software development.

1.02 SUBMITTALS

- A. Submit PLC and Relay Logic Control drawings in accordance with Section 013300.
- B. Provide registered copy of PLC programming including final accepted program to District for each PLC furnished as part of this project.
- C. Provide submittal drawings for PLC/Communication cubicles for each plant.

PART 2 - PRODUCTS

2.01 CONTROL SYSTEM INTEGRATION

- A. Instrumentation control system shall be integrated and manufactured by EAGLE CONTROL., YAPHANK, NEW YORK or approved equal. Instrumentation control system shall be provided by a single source supplier.
- B. The contractor shall provide satisfactory evidence to the engineer that the instrumentation system supplier has demonstrable qualifications in performance of this kind of work with a minimum of ten (10) years related SCADA experience to substantiate:
 - 1. That the instrumentation system supplier has been regularly engaged in providing similar SCADA services and equipment for a minimum of ten (10) years.
 - 2. That the instrumentation system supplier has provided at least five (5) SCADA installations of comparable scope and complexity, with references.
 - 3. That the instrumentation system supplier has a service center within 50 miles of the project location.
 - 4. No shop drawing submittals shall be made, nor any equipment delivered or installed with respect to instrumentation or control prior to the contractor having obtained written approval of the instrumentation system supplier.
 - 5. That the instrumentation supplier has an office within 50 miles of the project site complete with the following:
 - a. Office has a minimum of two (2) field technicians staffed full time at this office which provides 24-hour, 7 days a week service with a minimum response time of 2-hours.
 - b. Office has a minimum of two (2) PLC programmers staffed full time at this location.
 - c. Office has a minimum of two (2) electrical engineers staffed full time at this location experienced with SCADA systems, PLC's and knowledge of water supply system operations.
 - d. The Water District and District's engineer shall have the right to inspect office, spare part supply and meet and interview service technicians, PLC programmers and engineers as part of determining qualification of system integrater.
- C. The contractor shall bear full responsibility for the instrumentation and controls. The contractor shall have the instrumentation system supplier:
 - 1. Design the instrumentation system, communication system and monitoring system described in these specifications.
 - 2. Prepare shop drawings for submittal by the contractor to the engineer.
 - 3. Provide the necessary information or modifications to the shop drawings to obtain approval.
 - 4. Supervise the installation.

5. Perform debugging, testing, maintenance and operation of all instrumentation and control systems.
- D. The instrumentation system supplier shall prepare for submission by the contractor, detailed point-to-point wiring diagrams. Point-to-point wiring diagrams shall be provided for all existing electrical equipment to be interfaced with. Submittals not including this will be rejected. Engineering services shall be provided by the instrumentation system supplier during start-up and testing as required by other sections of the specification.
- E. The contractor shall require the instrumentation system supplier to verify all connections and operational features of all equipment controlled, directly or indirectly, by equipment furnished under this contract prior to submission of shop drawings, schematics shall show all remote connections and respective terminal numbers of all such equipment.
- F. The contractor shall have the instrumentation system supplier develop and provide details for installation of all field mounted control devices, communication equipment, transmitters, receivers, etc. per recommended practices of the equipment manufacturer and in a manner acceptable to the engineer. Such details shall include specific location, method of support and connection details, as a minimum.
- G. Qualified personnel of the instrumentation system supplier shall be provided, as specified hereinafter, for the purpose of instructing the owner's personnel in the operation, maintenance and troubleshooting of all instrumentation systems and related equipment.
- H. It is the intent of this specification that all devices, insofar as practical shall be purchased from a single manufacturer to simplify maintenance and operation.

2.02 CONTROL SYSTEM

- A. Contractor will not be furnished any record drawings of existing conditions for execution of this project. Contractor shall provide all required field investigation by system integrator to develop existing conditions record drawings and verify existing controls are operational. Once Contractor begins installation, no claims shall be made for existing conditions not operational.
- B. Control system integrator shall provide all relays, timers, pilot lights, selector switches and contactors required for operation of control system.
- C. Contractor shall provide all wiring required for operation of control system as specified.
- D. Contractor shall provide all relays and controls for interfacing with new and existing I/O points.
- E. Drawings do not show all required wiring and conduits. Contractor shall refer to specifications Section 265010 for description of I/O for circuits required. Provide shielded twisted pairs for analog I/O and minimum 2c-#14AWG for each digital I/O.
- F. Contractor shall field verify new telephone service locations and install new telephone circuits to new dialers and PC Workstations.
- G. Contractor shall provide minimum of two (2) 120 volt, 20 amps circuit from existing distribution system for all controls, at each location. Provide additional circuits for blowoff valves.
- H. Digital I/O and 120 volt power shall be permitted in common conduit.
- I. Analog signals shall be in dedicated conduit.

- J. Contractor is responsible for coordinating control systems with equipment manufacturers for proper operation of all equipment. Any discrepancies shall be brought to the attention of the Engineer immediately for final coordination.

PART 3 - EXECUTION

3.01 1.1 WELL NO. 3A SYSTEM OPERATION

- A. The existing automatic start/stop signal via the existing H-O-A switch on the MCC shall remain as is.
- B. The parallel remote start/stop signal from the Administration building shall remain as is.
- C. Existing Well Blowoff sequence and time delays shall remain as is.
- D. A new Tank-Pressure Tracking selector switch shall be installed in the existing Administration building control cabinet. The new selector switch shall be interface with the new PLC at Well No. 3A.
- E. When the Well H-O-A switch is in the Automatic position, the Well shall start based off of the Tank-Pressure Tracking selector switch.
- F. When the Tank-Pressure Tracking selector switch is in the Tank position:
 - 1. When the Well is called to start, the Well shall go through its existing blowoff sequence. After blowoff, the Well shall start pumping to system and shall run on a fix speed (fix frequency) as set by the operator via the HMI. The Well shall continue to run until a stop signal is sent from the Administration building or when H-O-A switch is switch to off.
- G. When the Tank-Pressure Tracking selector switch is in the Pressure Tracking position:
 - 1. A PID pressure setpoint level shall be set via the HMI. A single set of start and stop level setpoints shall be set via the HMI. This will be the only setpoints for the Well.
 - 2. When the Well is called to start, the Well shall go through its existing blowoff sequence. After blowoff, the Well shall start pumping to system and shall run at a selectable speed for a selectable time. After this time elapses the lead pump shall follow the PID follower signal. The PID control shall be through the PLC.
 - 3. If the Well has run at 4mA and the off level setpoint is reached for an adjustable time period, the Well pump shall stop.

3.02 PROPORTIONAL INTEGRAL DERIVATIVE CONTROL (WELL PRESSURE CONTROL)

- A. The proportional integral derivative controllers shall include an analog proportional controller to provide a continuous current output signal (0-20 or 4-20mA) to regulate the speed of the VFD. At minimum output (0 to 4 mA), the control output shall be programmable to be fully "on" or "off" depending on type of element used. At maximum output (20mA), control output shall be programmable to be fully modulated from its original position.
- B. The controller shall provide an output to the variable frequency drive to regulate the pressure level to a desired system setpoint set through the HMI. The controller shall combine adjustable proportional gain and integral functions to allow the process to attain the desired setpoint value within the shortest amount of time and with a minimum of overshoot by comparing the instantaneous difference between actual level and desired level (setpoint) as well as the recent history of difference between actual and desired pressures.
- C. LOOP GAIN controls shall be provided to adjust the overall gain of the control loop. PROP GAIN control shall be provided to tune the controller to the process dynamics.

- D. One PID loop control systems is required.

3.03 PROPORTIONAL INTEGRAL DERIVATIVE CONTROL (CHEMICAL PUMP CONTROL)

- A. The proportional integral derivative controllers shall include an analog proportional controller to provide a continuous current output signal (0-20 or 4-20mA) to regulate the speed of the Chemical Pump Controller. At minimum output (0 to 4 mA), the control output shall be programmable to be fully "on" or "off" depending on type of element used. At maximum output (20mA), control output shall be programmable to be fully modulated from its original position.
- B. The controller shall provide an output to the chemical pump controller to regulate the flow level to a desired system setpoint set through the HMI. The controller shall combine adjustable proportional gain and integral functions to allow the process to attain the desired setpoint value within the shortest amount of time and with a minimum of overshoot by comparing the instantaneous difference between actual level and desired level (setpoint) as well as the recent history of difference between actual and desired pressures.
- C. LOOP GAIN controls shall be provided to adjust the overall gain of the control loop. PROP GAIN control shall be provided to tune the controller to the process dynamics.

3.04 DEMONSTRATION

- A. Demonstrate operation of control system.
- B. Demonstrate procedure for changing set points and timer settings.

3.05 STARTUP & DEMONSTRATION SERVICE

- A. The Contractor shall engage the control system supplier/integrator to provide startup for the control system. A factory-trained engineer that is thoroughly familiar with the equipment supplied and its specific application on this project shall perform the startup service. The same factory trained engineer shall provide a minimum of 1 (1) 8-hour day for demonstration of the new control system to the Owner's personnel.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Operator Terminals.

1.02 REFERENCES

- A. NEMA ICS 1 - General Standards for Industrial Control and Systems.
- B. NEMA ICS 2 - Standards for Industrial Control Devices, Controllers and Assemblies.
- C. NEMA ICS 3 - Industrial Systems.
- D. NEMA ICS 6 - Enclosures for Industrial Controls and Systems.

1.03 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Submit shop drawings indicating layout of completed assemblies, interconnecting cabling, dimensions, weights, and external power requirements.
- C. Submit scaled drawings of graphic screen generations including systems overview, controls settings, reports and alarms for approval by Engineer prior to development.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. ALLEN BRADLEY Panelview 800 Model 2711R-T4T,

2.02 HUMAN MACHINE INTERFACE (HMI)

- A. Operator Terminal shall have the following features:
 1. 4-inch Color, TFT 480x277 WQVGA.
 2. Full Analog resistive Touch screen.
 3. Serial and Ethernet Communication.
 4. 128MB of Battery Backed Application Memory.
 5. Panel mount design to fit into motor control center.
 6. Operating System: Microsoft Windows CE.
 7. Provide two (2) copies of Panelview screen development software to the owner.
 8. Provide cable to allow download/upload of panelview operator terminal to IBM PC computer.
 9. Provide cable to connect the operator terminal to the PLC complete with connectors.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. HMI Terminal
 1. Install the HMI in NEMA 12 enclosure shown on plan at Well No. 3A. Install all interconnections and wiring between programmable logic controller and operator terminal as recommended by manufacturer.
 2. Develop the HMI program for the graphics, alarms, controls and settings functions for the Well No. 3A.

3.02 HMI FUNCTION

- A. The HMI terminal shall allow operator access to the operating system to view the system overview and change the variable settings for the Boosters. Access code is required for changing setpoints, alarms acknowledge and resetting.
- B. Pressure set points, time delays and alarm settings can be changed on the screen. It is required that an access password and any change shall be recorded.
- C. Generate a system graphics as indicated on the drawings to include the following:
 - 1. Pump station overview shall represent all process to include the following:
 - a. Well No. 3A Start/Stop Pressure setpoints.
 - b. Start/Stop delay timer setpoints.
 - c. Alarm screen including time and date stamping for all alarms.
 - d. History screen (Pressure Levels).
 - e. Wetwell Level.
- D. Pump shall change color and stay illuminated when operating.
- E. Pressure levels shall change level on screen proportional to 4-20 mA signal and display instantaneous level.
- F. Upon an alarm, the Alarm screen button will flash indicating that an alarm has occurred.

END OF SECTION

PART 1 - GENERAL

1.01 REFERENCES

- A. NFPA 70 - National Electric Code.

1.02 SYSTEM DESCRIPTION

- A. Flow monitoring, water level monitoring and system control devices for potable water.

1.03 SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Provide catalog cuts indicating materials, ratings and descriptive data and accessories.
- C. Provide installation instructions and calibration data.

1.04 OWNERS INSTRUCTIONS

- A. Provide the services of a manufacturers trained representative on operation and maintenance of equipment

PART 2 - PRODUCTS

2.01 PRESSURE TRANSMITTER/LEVEL TRANSMITTER

- A. Manufacturers:
 - 1. Foxboro, Model No. IGP20 Gauge Pressure Transmitter.
- B. Transmitter Housing: NEMA 4X.
- C. Pressure Cell Module: Type 316 Stainless Steel.
- D. Silicone Sensor Fill Fluid.
- E. Universal wall/pipe mounting bracket.
- F. Digital Indicator: LCD display, integrally mounted.
- G. Accuracy: $\pm 0.10\%$ of full span.
- H. Lightning and surge protection.
- I. Span Limits: 10 and 300 inches of water column.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install equipment in accordance with manufacturer's installation instructions.
- B. Calibrate flow, level and pressure transmitters based on flow, level and pressure levels.
- C. Provide all taps, pressure sensing lines, valves and miscellaneous equipment as indicated on drawings.

- D. Mount pressure switches and transmitters in vertical position.
- E. Install copper Type K piping from pressure taps to switches and transmitters.
- F. Provide vent and drain valves in accordance with meter manufacturer's installation instructions.
- G. Calibrate booster flow for low and high flow using two (2) wide range transmitters.
- H. Contractor shall provide a portable clamp on flow meter and differential pressure gauge to calibrate new and existing flow transmitters.

3.02 FIELD QUALITY CONTROL

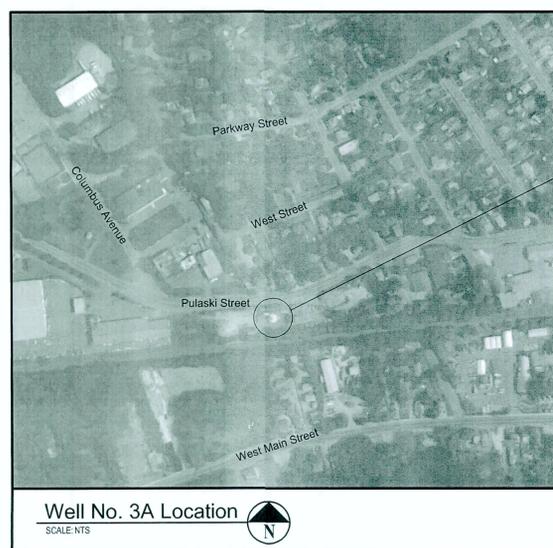
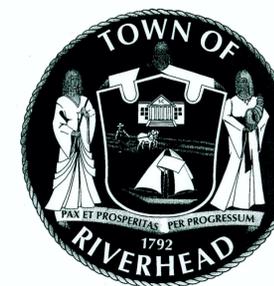
- A. Verify tubing installation is leak free.
- B. Demonstrate performance and operation of installed equipment.
- C. Calibrate all transmitters and pressure switches.

END OF SECTION

RIVERHEAD WATER DISTRICT

Installation of Well No. 3A VFD Riverhead, New York 11901

**RDWD 18-06
NOVEMBER 2018**



AREA OF WORK

TOWN SUPERVISOR

Sean Walter

TOWN COUNCIL

John Dunleavy
Jodi Giglio
Timothy Hubbard
James Wooten

TOWN CLERK

Diane Wilhelm

SUPERINTENDENT

Mark Conklin

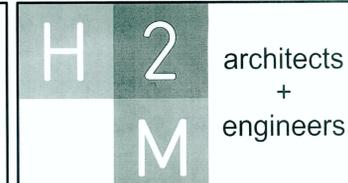
DRAWING LIST

INFORMATIONAL DRAWINGS

G0.0 COVER SHEET

ELECTRICAL DRAWINGS

E0.0 ELECTRICAL LEGENDS
E1.0 ELECTRICAL DEMOLITION, POWER, AND CONTROL PLANS
E2.0 ELECTRICAL SINGLE LINE DIAGRAM AND MCC ELEVATIONS



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|---------------------------|-----------------------|-------------------|-------------|
| DESIGNED BY VLV | DRAWN BY VLV | CHECKED BY | REVIEWED BY |
| PROJECT No. RDWD 18-06 | DATE NOVEMBER 2018 | SCALE AS SHOWN | |

**RIVERHEAD
WATER DISTRICT**

INSTALLATION OF
WELL NO. 3A VFD

RIVERHEAD, NEW YORK 11901

STATUS
FINAL BID DOCUMENT

DRAWING No.
G0.0

SHEET No.
1
OF
4

