



George Latimer, Westchester County Executive

**General Requirements and Proposals
Information for Bidders
General and Special Clauses
Technical Specifications**

**SECONDARY SYSTEM REHABILITATION
YONKERS JOINT WASTEWATER TREATMENT PLANT
YONKERS, NEW YORK**

**Contract No. 16-512
Bid Opening: October 5, 2022**

By Bidder (Please Print)

Firm/Business Name: _____

Address: _____

For Official Use Only

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION

Division of Engineering

SPECIAL NOTICE

County of Westchester
New York

ADDENDA TO THE BID DOCUMENTS

Addenda to the Bid Documents will be published on the Empire State Purchasing Group website at (<http://www.bidnetdirect.com/new-york>). **It is the responsibility of each potential bidder to check the website on a regular basis for further information relative to the bid documents including information relating to any and all addenda** prior to submitting its bid. All Bidders are deemed to have reviewed and considered all addendums in their Bid.

SUBMISSION OF BIDS

Bidders should not submit the entire bid document with its bid submission. Instead, each bidder is required to submit the full set of designated Proposal Pages. The Proposal Pages are denoted by a border and are titled on the bottom as “Proposal Page ___”. The Proposal Pages must be accompanied by the “Bid Bond and Consent of Surety” (as set forth in the Proposal Pages) attached to the outside of the sealed bid. A Bid Bond is NOT required for contracts of \$100,000 or less. Failure to submit in this manner may cause the bid to be rejected.

The successful bidder will be required to furnish a Performance and Payment Bond.

SPECIAL NOTICE

County of Westchester
New York

MANDATORY PRE-BID SITE INSPECTION

- A. Superseding the first paragraph of Article “3. PRE-BID SITE INSPECTION” of the Information for Bidders, Bidders are required to attend a Mandatory Pre-Bid Site Inspection at **10:00 a.m. Tuesday, September 7, 2022** at a meeting at the **Yonkers Joint Water Resource Recovery Facility – Administration Building’s Lobby, 1 Fernbrook Street, Yonkers, NY 10705**, at which time they will examine the work site under escort by the County’s representative.

BIDS FROM CONTRACTORS NOT IN ATTENDANCE AT THIS MEETING, OR THOSE WHO FAIL TO SIGN THE ATTENDANCE SHEET-WILL BE REJECTED

- B. Bidders shall be required indicate their interest in the Mandatory Pre-Bid Site Inspection by contacting Christina Garabedian, Department of Public Works and Transportation, Division of Engineering at (914) 995-2563.
- C. All other portions of Article “3. PRE-BID SITE INSPECTION” of the Information for Bidders shall remain in full force and effect.



**Environmental
Facilities Corporation**

KATHY HOCHUL
Governor

MAUREEN A. COLEMAN
President & CEO

Mandatory State Revolving Fund Terms and Conditions

**for Contracts Funded with the NYS Clean Water State Revolving Fund
or Drinking Water State Revolving Fund**

Effective November 1, 2021

**New York State Environmental Facilities Corporation
625 Broadway, Albany, NY 12207-2997
P: (518) 402-6924 F: (518) 402-7456
www.efc.ny.gov**

REQUIRED CONTRACT LANGUAGE

Recipient to Identify Contract Type:

Construction

Treatment Works and Drinking Water Projects

Non-Treatment Works

Non-Construction

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COMMONLY USED TERMS

The following commonly used terms are defined herein as follows:

“Contract” means an agreement between a Recipient and a Contractor.

“Contractor” means all bidders, prime contractors, Service Providers, and consultants as hereinafter defined, unless specifically referred to otherwise.

“Service Provider” means any individual or business enterprise that provides one or more of the following: legal, engineering, financial advisory, technical, or other professional services, supplies, commodities, equipment, materials, or travel.

“Subcontract” means an agreement between a Contractor and a Subcontractor.

“Subcontractor” means any individual or business enterprise that has an agreement, purchase order, or any other contractual arrangement with a Contractor.

“Recipient” means the party, other than EFC, to a grant agreement or a project finance agreement with EFC through which funds for the payment of amounts due thereunder are being paid in whole or in part.

“State” means the State of New York.

“Treatment Works” is defined in Clean Water Act (CWA) Section 212.

“Nonpoint Source Projects” and **“Green Infrastructure Projects”** are defined in CWA Section 319.

“Estuary Management Program Project” is defined in CWA Section 320.

I. SECTION 1 REQUIREMENTS AND PROCEDURES FOR BUSINESS PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED MINORITY- AND WOMEN- OWNED BUSINESS ENTERPRISES AND EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND WOMEN

For purposes of this section:

“Non-Construction” shall mean Contracts for labor, services (including, but not limited to, legal, financial, and other professional services), supplies, equipment, materials, or any combination of the foregoing.

“Contracts Meeting Article 15-A Thresholds” shall mean Contracts or Subcontracts meeting the thresholds under New York State Executive Law Article 15-A as follows:

- (a) Non-Construction Contracts greater than \$25,000;
- (b) Non-Construction Contracts, that are initially under \$25,000 but subsequent change orders or contract amendments increase the Contract value to above \$25,000;
- (c) Construction Contracts greater than \$100,000; and,
- (d) Construction Contracts that are initially under \$100,000 but subsequent change orders or contract amendments increase the Contract value to above \$100,000.

The Equal Employment Opportunities requirements of this section apply to all Contracts and Subcontracts, with the exception of:

- (1) the requirements under Title VII of the Civil Rights Act of 1964 and 41 CFR Part 60-1 Subpart A which apply only to construction Contracts and Subcontracts;
- (2) the Federal Affirmative Action Regulations requirements which apply only to construction Contracts and Subcontracts greater than \$10,000.

The Minority- and Women- Owned Business Enterprises (“MWBE”) participation requirements of this section apply to the Contracts Meeting Article 15-A Thresholds.

Disregard this section if it does not apply to this Contract or Subcontract.

II. General Provisions

- A. Contractors and Subcontractors are required to comply with the following provisions:
1. New York State Executive Law Article 15-A and 5 NYCRR Parts 140-145 (“MWBE Regulations”) for all State Contracts as defined therein, with a value (1) in excess of \$25,000 for labor, services (including, but not limited to, legal, financial, and other professional services), supplies, equipment, materials, or any combination of the foregoing, or (2) in excess of \$100,000 for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon.
 2. Title VI of the Civil Rights Act of 1964 and 40 CFR Part 7 (“Title VI”) for any program or activity receiving federal financial assistance, as those terms are defined therein.
 3. Title VII of the Civil Rights Act of 1964 and 41 CFR Part 60-1 Subpart A (“Title VII”) for construction Contracts related to any government programs providing federal financial assistance, as those terms are defined therein.
 4. 41 CFR Part 60-4 (“Federal Affirmative Action Regulations”) for federal or federally assisted construction Contracts in excess of \$10,000, as those terms are defined therein.
 5. Section 504 of the Rehabilitation Act of 1973 (“Section 504”) for any program or activity receiving federal financial assistance, as those terms are defined therein.
 6. The Age Discrimination Act of 1975 (“Age Discrimination Act”) for any program or activity receiving federal financial assistance, as those terms are defined therein.
 7. Section 13 of the Federal Water Pollution Control Act (“Clean Water Act”) Amendments of 1972 (“Section 13”) for any program or activity receiving federal financial assistance under the Clean Water Act, as those terms are defined therein.
- B. Failure to comply with all of the requirements herein may result in a finding by the Recipient that the Contractor is non-responsive, non-responsible, and/or has breached the Contract, leading to the withholding of funds or such other actions, liquidated damages pursuant to subsection III(F) of this section, or enforcement proceedings as allowed by the Contract.
- C. If any terms or provisions herein conflict with Executive Law Article 15-A, the MWBE Regulations, Title VI, Title VII, or Federal Affirmative Action Regulations, such law and regulations shall supersede these requirements.
- D. Upon request from the Recipient’s Minority Business Officer (“MBO”) and/or EFC, Contractor will provide complete responses to inquiries and all MWBE and EEO records available within a reasonable time. For purposes of this section, MBO means the duly authorized representative of the SRF Recipient for MWBE and EEO purposes.

III. Equal Employment Opportunities (EEO)

Applicable to all Contracts and Subcontracts unless otherwise noted

- A. Each Contractor and Subcontractor performing work on the Contract shall undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, EEO shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation.
- B. The Contractor shall comply with the provisions of the Human Rights Law (Executive Law Article 15), Title VI, Title VII, the Federal Affirmative Action Regulations, Section 504, Age Discrimination Act, Section 13, and all other State and Federal statutory and constitutional non-discrimination provisions. The Contractor and Subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

- C. Contractors and Subcontractors shall have instituted grievance procedures to assure the prompt and fair resolution of complaints when a violation of Title VI of the Civil Rights Act of 1964 or Title 40 CFR Part 7 is alleged.
- D. Pursuant to 40 CFR § 7.95, the Contractor shall display a copy of the EEO notice at the project site in a visible location. The notice shall accommodate individuals with impaired vision or hearing and should be provided in languages other than English where appropriate. The notice must also identify the employee responsible for its EEO compliance. A copy of the EEO notice (“EEO Poster”) can be found at:
<https://www.dol.gov/ofccp/regs/compliance/posters/pdf/eeopost.pdf> .

The Contractor will include the provisions of Subdivisions II(A) and II(C) in every Subcontract in such a manner that the requirements of these subdivisions will be binding upon each Subcontractor as to work in connection with the Contract.

Applicable to all construction Contracts

- E. The Contractor and Subcontractor will comply with the requirements of 41 CFR § 60-1.4(b) and (c), and such provisions are hereby incorporated by reference. These provisions require, in part, that the Contractor and Subcontractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor and Subcontractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

Applicable to construction Contracts greater than \$10,000

- F. The Contractor and Subcontractor will comply with the Affirmative Action Regulations and such provisions are hereby incorporated by reference. These provisions require, in part, that the Contractor and Subcontractor place affirmative action goals on Contracts and Subcontracts, as established by the United States Department of Labor. Affirmative action goals for minorities and women by geographic region can be found here:
<https://www.dol.gov/sites/dolgov/files/ofccp/ParticipationGoals.pdf> .

G. Required EEO Forms

Pursuant to 41 CFR Section 60-1.7 for federally assisted construction Contracts, Contractor and Subcontractor will annually file an EEO-1 Report with the Joint Reporting Committee for the Office of Federal Contract Compliance Programs (OFCCP) and the Equal Employment Opportunity Commission (EEOC) according to the instructions provided at <https://www.eeoc.gov/employers/eeo-1-survey/eeo-1-instruction-booklet> , if Contractor or Subcontractor:

1. Is not exempt from compliance pursuant to 41 CFR § 60-1.5;
2. Has 50 or more employees;
3. Is a prime Contractor or first tier Subcontractor; or Subcontractor below the first tier which performs construction work at the site of construction; and
4. Has a Contract, Subcontract, or purchase order amounting to \$50,000 or more.

IV. Business Participation Opportunities for MWBEs

Applicable to Contracts Meeting Article 15-A Thresholds

A. Contract Goals

1. For purposes of this Contract, EFC establishes the following goals for New York State certified MWBE participation based on the current availability of qualified MBEs and WBEs.

| Program | MWBE Contract Goal* |
|---|---|
| CWSRF, DWSRF, & Green Innovation Grant Program | 20% |
| NYS Water Infrastructure Improvement Act Grants (also receiving EFC loan) | Clean Water project 20% Drinking Water project 20% |
| NYS Intermunicipal Grants (also receiving EFC loan) | Clean Water project 20% Drinking Water project 20% |

*May be any combination of MBE and/or WBE participation

2. For purposes of providing meaningful participation by MWBEs on the Contract and achieving the MWBE Contract Goals established in Section III-A hereof, the Contractor should reference the directory of New York State Certified MWBEs found at the following internet address: <https://ny.newnycontracts.com>.
3. The Contractor understands that only sums paid to MWBEs for the performance of a commercially useful function, as that term is defined in 5 NYCRR § 140.1, may be applied towards achievement of applicable MWBE participation goals.
 - a. For construction and construction-related services Contracts or Subcontracts, the portion of the Contract or Subcontract with an MWBE serving as a supplier, and so designated in ESD's Directory, that shall be deemed to represent the commercially useful function performed by the MWBE shall be 60% of the total value of the Contract or Subcontract. The portion of a Contract or Subcontract with an MWBE serving as a broker, as denoted by NAICS code 425120, that shall be deemed to represent the commercially useful function performed by the MWBE shall be the monetary value for fees, or the markup percentage, charged by the MWBE.
 - b. For non-construction Contracts or Subcontracts, the portion of a Contract or Subcontract with an MWBE serving as a broker that shall be deemed to represent the commercially useful function performed by the MWBE shall be 25% of the total value of the contract
4. Where MWBE Contract Goals have been established herein, pursuant to 5 NYCRR § 142.8, the Contractor must document "good faith efforts" to provide meaningful participation by MWBEs as Subcontractors or suppliers in the performance of the Contract.
5. In accordance with Section 316-a of Article 15-A and 5 NYCRR § 142.13, the Contractor acknowledges that if it is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in the Contract, such a finding constitutes a breach of Contract and the Contractor shall be liable to the Recipient for liquidated or other appropriate damages, as set forth herein.

B. MWBE Utilization Plan

1. The Contractor represents and warrants that Contractor has submitted an MWBE Utilization Plan to the Recipient prior to the execution of this Contract.
2. The Contractor agrees to use such MWBE Utilization Plan for the performance of MWBEs on the Contract pursuant to the prescribed MWBE goals set forth in Section III-A of this section.

3. The Contractor further agrees that a failure to submit and/or use such MWBE Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, the Recipient shall be entitled to any remedy provided herein, including but not limited to, a finding that the Contractor is not responsive.
4. Contractor must report any changes to the Utilization Plan after Contract award and during the term of the Contract to the Recipient's MBO. Contractor shall indicate the changes to the MBO in the next Monthly MWBE Contractor Compliance Report after the changes occurred. At EFC's discretion, an updated MWBE Utilization Plan form and good faith effort documentation may be required to be submitted. When a Utilization Plan is revised due to execution of a change order, the change order should be submitted to the MBO with the Monthly MWBE Contractor Compliance Report or revised Utilization Plan.
5. The Contractor shall submit copies of all fully executed Subcontracts, agreements, and purchase orders that are referred to in the MWBE Utilization Plan to the MBO within 30 days of their execution.

C. Requests for Waiver

1. If the Contractor, after making good faith efforts, is unable to comply with MWBE goals, the Contractor may submit a Request for Waiver to the Recipient documenting good faith efforts by the Contractor to meet such goals. If the documentation included with the waiver request is complete, the Recipient shall forward the request to EFC for evaluation, and EFC will issue a written notice of acceptance or denial within twenty (20) days of receipt.
2. If the Recipient, upon review of the MWBE Utilization Plan and updated Quarterly MWBE Contractor Compliance Reports determines that the Contractor is failing or refusing to comply with the MWBE Contract Goals and no waiver has been issued in regards to such non-compliance, the Recipient may issue a notice of deficiency to the Contractor. The Contractor must respond to the notice of deficiency within seven (7) business days of receipt. Such response may include a request for partial or total waiver of MWBE Contract Goals.

D. Monthly MWBE Contractor Compliance Report ("Monthly MWBE Report")

The Contractor agrees to submit a report to the Recipient by the third business day following the end of each month over the term of this Contract documenting the payments made and the progress towards achievement of the MWBE goals of the Contract. The Monthly MWBE Report must be supplemented with proof of payment by the Contractor to its Subcontractors (e.g., copies of both sides of a cancelled check) and proof that Subcontractors have been paid within 30 days of receipt of payment from the Recipient. The final Monthly MWBE Report must reflect all Utilization Plan revisions and change orders.

E. Liquidated Damages - MWBE Participation

In accordance with Section 316-a of Article 15-A and 5 NYCRR §142.13, if it has been determined by the Recipient or EFC that the Contractor has willfully and intentionally failed to comply with the MWBE participation goals, the Contractor shall be obligated to pay to Recipient liquidated damages or other appropriate damages, as specified herein and as determined by the Recipient or EFC.

Liquidated damages shall be calculated as an amount not to exceed the difference between:

1. All sums identified for payment to MWBEs had the Contractor achieved the approved MWBE participation goals; and,
2. All sums actually paid to MWBEs for work performed or materials supplied under this Contract.

The Recipient and EFC reserve the right to impose a lesser amount of liquidated damages than the amount calculated above based on the circumstances surrounding the Contractor's non-compliance.

In the event a determination has been made by the Recipient or EFC which requires the payment of damages identified herein and such identified sums have not been withheld, Contractor shall pay such damages to the Recipient within sixty (60) days after they are assessed unless prior to the expiration of such sixtieth day, the Contractor has filed a complaint with the Empire State Development Corporation – Division of Minority and Women’s Business Development (“ESD”) pursuant to Subdivision 8 of Section 313 of the Executive Law in which event the damages shall be payable if the Director of ESD renders a decision in favor of the Recipient.

V. SECTION 2 PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED SERVICE-DISABLED VETERAN-OWNED BUSINESSES

New York State Executive Law Article 17-B and 9 NYCRR Part 252 provide for more meaningful participation in public procurement by certified Service-Disabled Veteran-Owned Businesses (“SDVOBs”), thereby further integrating such businesses into New York State’s economy. EFC recognizes the need to promote the employment of service-disabled veterans and to ensure that certified service-disabled veteran-owned businesses have opportunities for maximum feasible participation in the performance of EFC Contracts.

In recognition of the service and sacrifices made by service-disabled veterans and in recognition of their economic activity in doing business in New York State, Contractors are strongly encouraged and expected to consider SDVOBs in the fulfillment of the requirements of the Contract. Such participation may be as Subcontractors or suppliers, as protégés, or in other partnering or supporting roles.

Contractor is encouraged to make good faith efforts to promote and assist in the participation of SDVOBs on the Contract for the provision of services and materials. The directory of New York State Certified SDVOBs can be viewed at: <http://ogs.ny.gov/Core/SDVOBA.asp> .

Contractor is encouraged to contact the Office of General Services’ Division of Service-Disabled Veteran’s Business Development at 518-474-2015 or VeteransDevelopment@ogs.ny.gov to discuss methods of maximizing participation by SDVOBs on the Contract.

VI. SECTION 3 AMERICAN IRON AND STEEL (AIS) REQUIREMENT

The requirements of this section apply to (1) all construction Contracts and Subcontracts for DWSRF projects and CWSRF treatment works projects and (2) all Contracts for the purchase of iron and steel products for a DWSRF project or CWSRF treatment works project. Disregard this section if it does not apply to this Contract or Subcontract.

The Contractor acknowledges to and for the benefit of the Recipient of the Clean Water State Revolving Fund (“CWSRF”) or the Drinking Water State Revolving Fund (“DWSRF”) financial assistance that the Contractor understands the goods and services under this Agreement are being funded with monies made available by the New York State Environmental Facilities Corporation (“EFC”) through the CWSRF or the DWSRF and that such funding is subject to certain statutory restrictions requiring that certain iron and steel products used in the project be produced in the United States (“American Iron and Steel Requirement”) including iron and steel products provided by the Contractor pursuant to this Agreement.

The Contractor hereby represents and warrants that:

- (a) the Contractor has reviewed and understands the American Iron and Steel Requirement,
- (b) all of the iron and steel products covered by the American Iron and Steel Requirement used in the project will be and/or have been produced in the United States in a manner that complies with the American Iron and Steel Requirement, unless a waiver of the requirement is approved, and
- (c) the Contractor will provide any further verified information, certification or assurance of compliance with this paragraph, or information necessary to support a waiver of the American Iron and Steel Requirement, as may be requested by the Recipient.

Notwithstanding any other provision of this Agreement, any failure to comply with this paragraph by the Contractor shall permit the Recipient to recover as damages against the Contractor any loss, expense, or cost (including without limitation attorney's fees) incurred by the Recipient resulting from any such failure (including without limitation any impairment or loss of funding, whether in whole or in part, from the EFC or any damages owed to the EFC by the Recipient). While the Contractor has no direct contractual privity with the EFC, as a lender to the Recipient for the funding of this project, the Recipient and the Contractor agree that the EFC is a third-party beneficiary and neither this paragraph, nor any other provision of this Agreement necessary to give this paragraph force or effect, shall be amended or waived without the prior written consent of the EFC.

VII. SECTION 4 DAVIS-BACON (DB) PREVAILING WAGE REQUIREMENTS

The requirements of this section apply to all construction Contracts and Subcontracts greater than \$2,000 for either DWSRF projects or CWSRF treatment works projects. Disregard this section if it does not apply to this Contract or Subcontract.

For Contracts in Excess of \$2,000:

1. Minimum Wages

(i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its Subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. The Davis-Bacon poster (WH-1321) can be found at <https://www.dol.gov/whd/regs/compliance/posters/davis.htm> . Wage determinations may be obtained from the US Department of Labor's website, <https://beta.sam.gov/> .

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the Contract shall be classified in conformance with the wage determination. The contracting officer shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

1. The work to be performed by the classification requested is not performed by a classification in the wage determination;
2. The classification is utilized in the area by the construction industry; and,
3. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (1) (ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this Contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program *provided* that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding. The Recipient shall upon its own action or upon written request of the EPA Award Official or an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this Contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any Subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the Contract, the Recipient may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records.

(i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis–Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR § 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis–Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The Contractor shall submit weekly for each week in which any Contract work is performed a copy of all payrolls to the Recipient. Such documentation shall be available on request of EFC or EPA. As to each payroll copy received, the Recipient shall provide written confirmation in a form satisfactory to EFC indicating whether or not the project is in compliance with the requirements of 29 CFR § 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR § 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/agencies/whd/government-contracts/construction/forms> or its successor site. The prime Contractor is responsible for the submission of copies of payrolls by all Subcontractors. Contractors and Subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the Recipient, for transmission to EFC, EPA if requested by EPA, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime Contractor to require a Subcontractor to provide addresses and social security numbers to the prime Contractor for its own records, without weekly submission to the Recipient (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a “Statement of Compliance,” signed by the Contractor or Subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under 29 CFR § 5.5(a)(3)(ii), the appropriate information is being maintained under 29 CFR § 5.5(a)(3)(i), and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or Subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The Contractor or Subcontractor shall make the records required under paragraph (3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Recipient, EFC, EPA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or Subcontractor fails to submit the required records or to make them available, the Recipient, EFC, or EPA may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR § 5.12.

4. Apprentices and trainees.

(i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or Subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees. Except as provided in 29 CFR § 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does

not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

5. Compliance with Copeland Act Requirements. The Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this Contract.

6. Subcontracts. The Contractor or Subcontractor shall insert in any Subcontracts the clauses contained in 29 CFR § 5.5(a)(1) through (10) and such other clauses as the Recipient may by appropriate instructions require, and also a clause requiring the Subcontractors to include these clauses in any lower tier Subcontracts. The prime Contractor shall be responsible for the compliance by any Subcontractor or lower tier subcontractor with all the Contract clauses in 29 CFR § 5.5.

7. Contract Termination: Debarment. A breach of the contract clauses in 29 CFR § 5.5 may be grounds for termination of the Contract, and for debarment as a Contractor and a Subcontractor as provided in 29 CFR § 5.12.

8. Compliance with Davis–Bacon and Related Act requirements. All rulings and interpretations of the Davis–Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this Contract.

9. Disputes Concerning Labor Standards. Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its Subcontractors) and the Recipient, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

(i) By entering into this Contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government Contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. § 1001.

For Contracts in Excess of \$100,000:

1. Overtime requirements. No Contractor or Subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section the Contractor and any Subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and Subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this section, in the sum of \$25 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this section.

3. Withholding for unpaid wages and liquidated damages. The Recipient shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the Contractor or Subcontractor under any such Contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or Subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this section.

4. Subcontracts. The Contractor or Subcontractor shall insert in any Subcontracts the clauses set forth in paragraphs (1) through (4) of this section and also a clause requiring the Subcontractors to include these clauses in any lower tier Subcontracts. The prime Contractor shall be responsible for compliance by any Subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1) through (4) of this section.

5. In any Contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR § 5.1, the Contractor or Subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the Contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the records to be maintained under this paragraph shall be made available by the Contractor or Subcontractor for inspection, copying, or transcription by authorized representatives of the Recipient and the Department of Labor, and the Contractor or Subcontractor will permit such representatives to interview employees during working hours on the job.

VIII. SECTION 5 REQUIREMENTS REGARDING SUSPENSION AND DEBARMENT

The requirements of this section apply to all Contracts and Subcontracts.

Contractor and any Subcontractors shall comply with, Subpart C of 2 CFR Part 180 as implemented and supplemented by 2 CFR Part 1532. The Contractor is not a debarred or suspended party under 2 CFR Part 180 or 2 CFR Part 1532, or 29 CFR § 5.12. Neither the Contractor nor any of its Subcontractors have contracted with, or will contract with, any debarred or suspended party under the foregoing regulations.

The Contractor and any Subcontractor have not been debarred from or deemed ineligible for Government Contracts or federally assisted construction Contracts pursuant to Executive Order 11246.

The Contractor and any Subcontractors have not been deemed ineligible to submit a bid on or be awarded a public contract or subcontract pursuant to Article 8 of the State Labor Law, specifically Labor Law § 220-b. In addition, neither the Contractor nor any Subcontractors have contracted with, or will contract with, any party that has been deemed ineligible to submit a bid on or be awarded a public contract or subcontract under Labor Law § 220-b.

In addition, the Contractor and any Subcontractors have not been deemed ineligible to submit a bid and have not contracted with and will not contract with any party that has been deemed ineligible to submit a bid under Executive Law § 316.

IX. SECTION 6 RESTRICTIONS ON LOBBYING

The requirements of this section apply to all Contracts and Subcontracts greater than \$100,000. Disregard this section if it does not apply to this Contract or Subcontract.

The Contractor and any Subcontractor executing a Contract or Subcontract in excess of \$100,000 agree to provide to the Recipient an executed Certification Regarding Lobbying pursuant to 40 CFR Part 34 ("Lobbying Certification") in the form attached hereto as Attachment 9, consistent with the prescribed form provided in Appendix A to 40 CFR Part 34.

SPECIAL NOTICE

County of Westchester
New York

SPECIAL NOTICE - ALTERNATES

The Contract consists of the Base Bid and Alternates 1 and 2.

It is the goal of the County to award the Base Bid and all Alternates if the low bid for all items are within the amount budgeted for this project. If the Base Bid and all Alternates exceed the amount budgeted for this project, the contract will be awarded to the bidder(s) as per Proposal Page 6.

ALTERNATE 1

For providing all labor, materials, and equipment necessary to complete the demolition, structural, mechanical and electrical work as shown on Contract Drawings S2.0 (as applicable), M3.0 (as applicable), M3.1 (as applicable), M3.2 (as applicable), M3.3 (as applicable), M3.5 (as applicable), M3.6, M3.7, E3.0 (as applicable), E3.4 (as applicable), and E3.5 (as applicable) and in accordance with the specifications for the High Pressure Washdown System and associated distribution piping.

ALTERNATE 2

For providing all labor, materials, and equipment necessary to complete the demolition, structural, mechanical and electrical work as shown on Contract Drawings S2.0 (as applicable), M3.0 (as applicable), M3.1 (as applicable), M3.2 (as applicable), M3.5 (as applicable), E3.0 (as applicable), E3.4 (as applicable), and E3.5 (as applicable) and in accordance with the specifications for the Compressed Air System.

SPECIAL NOTICE

County of Westchester
New York

MANDATORY OSHA CERTIFICATION

When a public works contract is in excess of \$250,000.00, all employees are required to have successfully completed the OSHA 10 hours training class. All contractors and subcontractors must attach copies of proof of completion of the OSHA 10 hour course by all employees to the first certified payroll submitted to the County and on each succeeding payroll where any new or additional employee is first listed. Employees may be requested by the County's representative to verify compliance with the OSHA 10 hour course by showing their OSHA card.

When a public works contract is in excess of \$1,000,000.00, all employees are required to have successfully completed the OSHA 30 hours training class. All contractors and subcontractors must attach copies of proof of completion of the OSHA 30 hour course by all employees to the first certified payroll submitted to the County and on each succeeding payroll where any new or additional employee is first listed. Employees may be requested by the County's representative to verify compliance with the OSHA 30 hour course by showing their OSHA card.

In addition, on any contract that includes excavation of underground facilities, the excavator is required to be certified and have completed the training and education program provided by the one-call notification system (Dig Safely New York, Inc. Certified Excavator Program in Safe Digging Best Practices) or any other provider authorized by the public service commission to administer such training and education program.

SPECIAL NOTICE

County of Westchester
New York

MINORITY PARTICIPATION POLICY

Contractors must comply with the County's Minority Participation Policy, including, but not limited to, the requirement that contractors make a demonstrated good faith effort to utilize Minority Owned Businesses ("MOB") and Women Owned Businesses ("WOB") (see IFB Article 36). To assist contractors in this effort the County has made available a list of MOB and WOB at <http://mwbe.westchestergov.com/> Contractors are also encouraged to utilize other sources to identify potential MOB and WOB as subcontractors and suppliers.

All bidders must submit as part of their bid package the Minority/Women Owned Business Enterprise Questionnaire located in the Proposal Page section of the bid documents.

SPECIAL NOTICE

County of Westchester
New York

CHANGES IN THE WICKS LAW

Effective July 1, 2008, construction contracts of one million five hundred thousand dollars or less will not require the preparation of separate contracts for plumbing and gas fitting; steam heating, hot water heating, ventilation and air conditioning apparatus; and electric wiring and standard illuminating fixtures and general construction.

Each bidder on a public work contract, where the preparation of separate contracts is not required shall, to the full extent applicable, 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 price to be paid to each for (a) plumbing and gas fitting, (b) steam heating, hot water heating, ventilating and air conditioning apparatus and (c) electric wiring and standard illuminating fixtures and (d) general construction. The submission (Proposal Page 6) that contains the agreed upon price shall be acknowledged by both Contractor and Subcontractor. For purposes of this paragraph, the acknowledgment from the Subcontractor may contain the facsimile signature of an officer of the Subcontractor.

After the low bid is announced, the sealed list of subcontractors submitted with the bid shall be opened and the names of such subcontractors shall be announced. Thereafter, any changes of subcontractors or agreed-upon amount to be paid to each shall require the approval of the County upon a showing of legitimate construction need for such change.

The Successful low bidder, before award of the contract, must procure and provide to the County, from each of the above denoted Subcontractors, a Contract Disclosure Statement and the Required Disclosure of Relationships to County forms.

The sealed lists of Subcontractors submitted by unsuccessful bidders shall be destroyed after the contract award.

THIS PROJECT IS NOT SUBJECT TO THE REQUIREMENTS OF THE “WICKS LAW”. ACCORDINGLY, EACH BIDDER IS REQUIRED TO SUBMIT SPECIFIC INFORMATION PERTAINING TO ITS PROPOSED SUBCONTRACTORS. PLEASE SEE THE “NOTICE TO CONTRACTORS” THAT FORMS A PART OF THESE BID DOCUMENTS.

SPECIAL NOTICE

SPECIAL NOTICE

County of Westchester
New York

COMPLETION OF GRANT FUNDING FORMS

The bidders are hereby notified that if this project, or any portion thereof, is funded by a grant then the contractor will be responsible to complete all appropriate forms as required by the grant agency in order to complete the application.

PROMPT EXECUTION AND RETURN OF CONTRACT

- A. The successful bidder is required to return the completed contract to the County within ten (10) days of receipt of the execution copy of the contract. The contract must be signed, notarized and returned to the County with all insurance certificates, bonds and supporting documentation, including all required Subcontractor information.
- B. The County reserves all of its rights, including, but not limited to, proceeding against the bid bond, if the successful bidder fails to submit the complete executed package within the above time frame.

SPECIAL NOTICE

County of Westchester
New York

GUIDANCE FOR NEW YORK STATE REVOLVING FUND (SRF)

This project is eligible to be funded in whole or in part through the State Revolving Fund (SRF). To maintain eligibility, the attached New York State Environmental Facilities Corporation – **Program Requirements and Bid Packet for Construction Contracts - Effective November 1, 2021** is incorporated into this contract.

Bidders should note that in accordance with this packet, the following MWBE & EEO forms are required to be completed and submitted **with the bid**:

1. EEO Policy Statement
2. Documented Proof that EPA Form 6100-2 “DBE Subcontractor Participation Form” was given to MWBE Subcontractors.
3. EPA Form 6100-3 “DBE Subcontractor Performance Form”
4. EPA Form 6100-4 “DBE Subcontractor Utilization Form”
5. Lobbying Certification
6. AIS Contractor’s Certification

It should also be noted that the winning bidder will be required to complete and submit the following documents in accordance with this packet prior to award and execution of the contract:

1. MWBE Utilization Plan and/or Waiver Request
2. EEO Workforce Utilization Report

NYSDOL PREVAILING WAGE RATES AND FEDERAL DAVIS-BACON WAGE RATES

The Contractor shall be aware that both the NYSDOL Prevailing Wage Rates and the Federal Davis-Bacon Wage Rates are included in this proposal. The higher of the two wage rates must be paid to the Contractor’s and the Subcontractor’s employees.

MINORITY PARTICIPATION POLICY

- A. Delete Article “Minority Participation Policy” of the Information for Bidders and substitute with the text in the paragraph under B.
- B. The Contractor agrees to comply with the requirements of NYS Executive Law Article 15-A, to seek 20% participation in the contracted work for a combination of Minority Business Enterprises (MBEs) and/or Woman Business Enterprises (WBEs) as certified by the Empire State Development Corporation. Failure to attain these objectives or demonstrate positive good faith efforts to do so may lead to appropriate actions such as seeking liquidated damages by the County (i.e. loan/grant recipient).
- C. All other portions of the Information for Bidders shall remain in full force and effect.

SPECIAL NOTICE

County of Westchester
New York

**PROOF OF PAYMENT BY CONTRACTOR TO SUBCONTRACTORS
AND MATERIALMEN.**

In addition to and without limiting any of the provisions set forth in Section 23 of the Information for Bidders, after the Contractor completes 50% of the work under the contract, the Contractor shall supplement each requisition submitted to the County with documentation that establishes that the Contractor has timely and properly paid its subcontractors and materialmen as required by Section 23 of the Information For Bidders. Such documentation shall include copies of both sides of cancelled check(s) paid to the order of the subcontractors and materialmen and such other documentation as may be reasonably requested by the Commissioner. If the Contractor fails to submit such documentation, the Commissioner may, in his sole discretion, withhold payment of the requisition until such time as the documentation is properly submitted. Nothing herein is intended or shall be construed to confer upon or give any subcontractor or materialman, or its successors and assigns, any third party beneficiary rights, remedies or basis for reliance upon, under or by reason of the contract or this Special Notice provision.

SPECIAL NOTICE

County of Westchester
New York

BUILDERS RISK INSURANCE

In addition to the insurance requirements listed in Section 2 of the Information for Bidders, the Contractor, at their own cost and expense, shall provide and maintain a **Builder's Risk Form, All Risk Insurance Contract**. The coverage shall be written for **100% of the completed value**, with the County of Westchester named as loss payee as its interest may appear. In formulating its proposal, the Contractor shall include the costs for this coverage. In the event that claims, for which the County may be liable, in excess of the insured amounts provided herein are filed by reason of Contractor's negligent acts or omissions under the Agreement or by virtue of the provisions of the labor law or other statute or any other reason, the amount of excess of such claims or any portion thereof, may be withheld from payment due or to become due the Contractor until such time as the Contractor shall furnish such additional security covering such claims in form satisfactory to the County of Westchester.

SPECIAL NOTICE

County of Westchester
New York

PREVAILING WAGE

All public works contracts are subject to the payment of the prevailing wage and supplements as set forth by the laws of the State of New York, including, but not limited to, Articles 8 and 9 of the New York Labor Law (the “Prevailing Wage Laws”). Westchester County has an active Prevailing Wage Enforcement Officer who enforces the Prevailing Wage Laws within the County for public works contracts, including reviewing certified payroll records, visiting job sites, interviewing the employer and employees (See IFB Article 12) and, if necessary, requesting copies of cancelled checks.

Any Contractor who fails to comply with the Prevailing Wage Laws, including, but not limited to, failing to pay the prevailing wage rates and supplements, failing to submit certified payroll records to the County or failing to post the prevailing wage rates and supplements at the work site, will be subject to enforcement as provided for in the Contract and laws of the State of New York through the Westchester County District Attorney’s office, the Commissioner of the New York State Department of Labor, the County and/or the employee who suffered the underpayment. This enforcement could include, but is not limited to, criminal penalties, civil penalties, debarment from future bid awards, the withholding of payment under the Contract to satisfy the unpaid wages and supplements, including interest and civil penalty. In addition, such a failure shall constitute grounds for cancellation of the Contract (IFB 8(C)). Moreover, a prime contractor is responsible for its subcontractor’s failure to comply with, or evasion of, the provisions of the Prevailing Wage Laws.

SPECIAL NOTICE

County of Westchester
New York

PROJECT LABOR AGREEMENT (PLA)

- A. The County of Westchester has determined that a Project Labor Agreement will be used on this Project. The successful bidder will be required as a condition of this Contract to execute the PLA with the Building and Construction Trades Council of Westchester and Putnam Counties, New York, AFL-CIO ("Council"). The PLA will be substantially in the same form as the PLA included in this contract specification book. Bidders are urged to familiarize themselves with the terms and conditions of the PLA.
- B. It should be noted that Schedule A of the PLA contains a list of the local unions affiliated with the Council. Copies of the applicable Collective Bargaining Agreements of the local unions can be obtained by writing to the Building and Construction Trades Council of Westchester and Putnam Counties, New York, AFL-CIO at 258 Saw Mill River Road, Elmsford, New York 10523, Attn.: Carol A. Boccardi.

CONTRACTOR SPECIAL NOTICE

Department of Environmental Facilities
Environmental Management System Requirements

General

The Contractor is responsible for complying and ensuring that all the Contractor's subcontractors comply with all federal, state, and local environmental and health and safety legal requirements.

The Contractor recognizes that the Department of Environmental Facilities (DEF) has an Environmental Management System (EnvMS) that includes DEF's Wastewater Treatment Plants (WWTPs), Solid Waste facilities, water treatment facilities, and related facilities and shall conform to and ensure the conformance of all of the Contractor's subcontractors (subcontractors) to the DEF Environmental Policy (Policy), all EnvMS associated procedures and protocols, and the requirements of this Special Notice. This includes the requirement to participate in the corrective action process, including attendance at meetings should activities in which the Contractor is involved result in a deviation from the Policy or the requirements of the EnvMS. Depending on the seriousness of the deviation, this may include participation in full root cause analysis.

Training

Prior to performing work the project superintendent, project manager and all responsible foremen for the Contractor and subcontractors shall attend a required 45-minute training session on EnvMS requirements provided by DEF Personnel. The Contractor shall ensure the attendance of these staff. The training may occur at the facility or at another location. The Contractor shall ensure that a minimum of one person who has participated in the EnvMS training is available on-site at all times that the Contractor's personnel or subcontractors are on-site.

The Contractor shall ensure that all employees and subcontractor employees working at any DEF facility are trained on the requirements of the EnvMS relevant to their work and shall keep records of training on site. The initial training for superintendents, project managers and foremen may be video taped by the Contractor for subsequent training of all Contractor's employees and subcontractor employees.

Records of training shall be kept by the contractor and made available to DEF, upon request.

Competency

The Contractor shall ensure employees and subcontractors are capable, based on training, education, licensing, and/or experience, to perform tasks that can impact the

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environment. The Contractor shall maintain records of competency and make these records available to DEF upon request.

Project Coordination

The Contractor shall designate a staff member who will be responsible for the oversight of EnvMS project requirements and to work as a liaison with the plant Superintendent or facility operator. This person, or their properly qualified designee, must be available anytime the Contractor's personnel or subcontractors are on-site performing work.

Working Environment

In addition to the hazards typically found on construction and industrial sites, the following specific hazards are present at the WWTPs and water treatment facilities.

| Hazards | Yonkers | Port Chester | Peekskill | Ossining | New Rochelle | Mamaroneck | Blind Brook | Shaft 22 | Kensico Dam | Gate of Heaven |
|--|---------|--------------|-----------|----------|--------------|------------|-------------|----------|-------------|----------------|
| Digester Gas (consists mostly of methane – the primary component of natural gas) | X | | X | | | | | | | |
| Natural Gas | X | X | | X | X | | | | | |
| Propane | | X | X | | X | | | | | |
| Oxygen | | | | | X | | | | | |
| Class 1, Division 1 Explosion Proof Areas | X | X | X | X | X | X | X | | | |
| Confined Spaces | X | X | X | X | X | X | X | | | |
| Chemical Storage/Hazardous Materials | X | X | X | X | X | X | X | X | X | X |
| Hydrogen Sulfide | X | X | X | X | X | X | X | | | |
| High Pressure Lines | X | X | X | X | X | X | X | | | |
| Open Tanks / Drowning Hazards | X | X | X | X | X | X | X | | | |
| Ladders, Platforms & Slippery Surfaces | X | X | X | X | X | X | X | X | X | X |
| High Voltage Electrical Systems | X | X | X | X | X | X | X | | | |
| Potential Exposure to Blood Borne Pathogens | X | X | X | X | X | X | X | | | |
| Automatic Equipment | X | X | X | X | X | X | X | | | |
| Chlorine Gas | | | | | | | | X | | |

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Other DEF facilities (transfer stations, pump stations) may have these same or similar hazards.

The Contractor and subcontractors shall plan work appropriately for this environment and the specific location(s) where work is anticipated and implement the necessary health and safety precautions including, but not limited to, the use of proper equipment, including non-sparking tools, proper personal protective equipment (PPE) and monitoring equipment, and compliance with contractor Confined Space Entry and Lock-out / Tag-out programs.

Health and Safety Plan

The contractor shall develop a health and safety plan (plan) specific to the facility and the work planned and shall ensure that all work is performed in conformance with the plan. The contractor shall ensure that the plan addresses all relevant hazards including, but not limited to, the aforementioned hazards. The plan must be kept on site at the facility when work is being performed and must be made available to DEF personnel upon request.

Health and Safety Compliance Monitoring

An expert provided by the Contractor will monitor the Contractor and subcontractor compliance with all applicable health and safety regulations and the health and safety plan on an ongoing basis while the Contractor and subcontractors are performing work at any DEF facility. Monitoring shall be performed in accordance with the health and safety requirements in the project specifications. The Contractor shall ensure that all employees and subcontractors cooperate with the expert. The expert will document results of the monitoring and provide the results to the Contractor on an ongoing basis. The Contractor shall correct all health and safety non-compliances identified by the independent expert in a timely fashion. The monitoring results and any corrective actions taken shall be provided to DEF's representative on site.

Plant Equipment and Control of Hazardous Energy

All DEF sites are working facilities that must function at all times so as to meet regulatory obligations. The Contractor shall receive prior authorization from the WWTP Superintendent, the Supervisor of Operations, Chief Operator (water districts) facility manager (solid waste) if any planned activities of the Contractor or Contractor's subcontractor could interfere with the operation of the DEF facility, involve the use of plant or facility equipment, or require taking plant or facility equipment on or off line. The contractor shall not proceed without expressed authorization by same. DEF reserves the right to rescind authorization for the Contractor to use, work on, or otherwise render inoperable, any piece of equipment if needed for the operation of the plant or facility.

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The Contractor shall be responsible for ensuring control of hazardous energy (lock-out/tag-out) for all contractor and subcontractor activities. Contractor shall coordinate taking plant equipment off line and putting it back on line with the Plant Superintendent or the Supervisor of Operations, Chief Operator (water districts) or facility manager (solid waste). Only authorized DEF personnel shall take plant equipment off line or place it back on line. Plant equipment includes, but is not limited to, all gates, valves, pumps, electrical panels, solid waste facilities, water and wastewater treatment, and associated equipment.

Odor Notification

The Contractor shall notify the WWTP Superintendent, Supervisor of Operations, Chief Operator (water districts) facility manager (solid waste) or ISO Coordinator 24 hrs prior to the initiation of activities that have the potential to cause odors in excess of those associated with normal operations.

Odor Control

The Contractor and subcontractors shall comply with all EnvMS odor control requirements. WWTP doors must be kept closed at all times except for entry or exit of personnel and equipment. Open periods shall be minimized to the greatest extent possible. Doors shall not be propped open or held open without the expressed approval of the WWTP Superintendent or the Supervisor of Operations.

For activities with the potential to cause odors in excess of those associated with normal operations, the contractor shall plan and implement appropriate odor abatement controls.

Demolition

Contractor shall implement a methodology to tag or mark all equipment and piping prior to demolition. All contractor and subcontractor employees responsible for demolition activities shall be trained on the methodology. Prior to demolition, marked or tagged equipment scheduled for demolition shall be reviewed with DEF's representative on site.

Stormwater Management, Soil Erosion and Sediment Control Activities

The Contractor shall comply strictly with all Soil Erosion and Sediment Control project specifications; stormwater permit requirements, if a permit is required; and regulatory requirements including the ***New York Standards and Specifications for Erosion and Sediment Control and the County of Westchester Best Management Practices for Reducing Nitrogen and Other Stormwater Pollutants.***

Soil Erosion and Sediment Controls shall include, but are not limited to, the following:

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- Proper installation and use of erosion and sediment capture devices, i.e. silt fences and hay bales
- Protection of storm drain inlets
- Proper and timely backfilling and stabilization of trench excavation
- Inspections of discharge points
- Proper maintenance of erosion and sediment capture devices
- Regular inspections of controls by qualified Contractor staff
- Use of phosphorus containing fertilizers only in conformance with County requirements.

The Contractor shall be subject to Erosion and Sediment Control Inspections by DEF personnel.

Spills Prevention, Control and Response Procedures

Contractor and subcontractors shall have written spill response procedures that conform to DEF requirements. The Contractor's and subcontractors' supervisory personnel will be trained in the facility's Spill Prevention, Control and Response Procedures Requirements during the 45-minute EnvMS training session. Contractors and subcontractors shall ensure that these requirements are complied with and that their on-site employees are properly trained in spill prevention, control and response, and conformance with their spill response procedures. Contractor and subcontractors shall have a copy of these procedures available on site. The Contractor shall have appropriate spill clean-up equipment on site at all times.

In the event of a spill, the Contractor and subcontractors shall immediately respond to the spill in conformance with their spill procedures and as soon as possible report the spill to the main office.

The Contractor is responsible for proper clean-up and disposal of waste materials generated by any spill resulting from their activities.

Vehicle and Equipment Control

The Contractor and subcontractors shall ensure all vehicles and equipment are properly maintained and free of leaks. Contractor and subcontractors shall not perform fueling or maintenance of vehicles and equipment onsite without the expressed approval of the WWTP Superintendent or Supervisor of Operations, Chief Operator (water districts), or facility manager (solid waste). Contractor and subcontractors shall ensure vehicles comply with Westchester County idling restrictions and do not idle unnecessarily. The Contractor and subcontractors shall ensure all fuel used is ultra low sulfur in content.

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Good Housekeeping/Chemicals, Petroleum and Hazardous Materials Management

The Contractor and subcontractors shall demonstrate good housekeeping practices and perform daily site clean-ups at the work site. The work site shall be subject to inspections by DEF Personnel.

The Contractor and subcontractors shall properly store and use all petroleum, chemicals and hazardous materials. This shall include but is not limited to use of proper secondary containment and protection from precipitation. Storage locations shall be pre-approved by the WWTP Superintendent, Supervisor of Operations, Chief Operator (water districts) or facility manager (solid waste) or ISO Coordinator.

The Contractor shall provide all Material Safety Data Sheets (MSDS) for all petroleum, chemicals and hazardous materials used at the work site to DEF prior to bringing same on site and shall maintain all MSDS on site. DEF reserves the right to forbid any material from being brought on site.

At the completion of work, the Contractor shall remove any staged materials, petroleum, chemicals, and hazardous materials remaining from the project, whether a result of contractor or subcontractor activities. Staged materials, petroleum, chemicals, and hazardous materials may remain with the expressed written approval of the WWTP Superintendent or Supervisor of Operations, Chief operator (water districts) facility manager (solid waste).

Waste Management and Minimization

The Contractor and subcontractors shall dispose of waste in a manner that meets all applicable laws and regulations including Westchester County Source Separation Law (Chapter 825). Contractors shall make every effort to minimize waste production during construction operations. Contractors and subcontractors shall not bring waste onsite and may not dispose of waste onsite or in DEF receptacles without the expressed approval of DEF

Mercury Containing Devices

The Contractor shall ensure no mercury containing devices are installed. Any mercury devices removed by the Contractor or subcontractors shall be disposed of legally by the Contractor and records of disposal shall be provided to the facility.

Energy Efficiency and Environmentally Preferable Products

With the exception of exterior lighting and historic lighting at the South Yonkers CSO and the Mamaroneck WWTP, the Contractor shall ensure incandescent bulbs are not installed or used.

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The contractor shall:

- select energy star equipment or equipment within the upper 25 percent of energy efficiency as designated by the United States Federal Energy Management Program
- select environmentally preferable products
- utilize environmentally preferable cleaning products

if the prices of the equipment and products are reasonably competitive and the quality is adequate for the purpose intended.

The contractor shall ensure Styrofoam products are not utilized and shall request non-Styrofoam packaging for equipment and products.

Landscaping

When selecting plantings, the Contractor shall ensure plantings native to Westchester County are utilized. If no native species are appropriate, the Contractor shall ensure the planting of noninvasive species.

Pesticide Ban

The Contractor shall ensure pesticides that are banned under Westchester County Law (Chapter 690) are not utilized at the work site.

Change to Environmental Project Design Specification

The Contractor shall receive approval from an authorized County representative prior to making any modifications that affect environmental project specifications due to field conditions.

Third Party Audit

The EnvMS is certified to ISO 14001. The certification requires that a yearly third party audit be performed. The Contractor shall ensure that all employees cooperate with the third party auditor, answer questions put to them by the auditor, and make records required as part of this special notice available to the auditor, as requested.

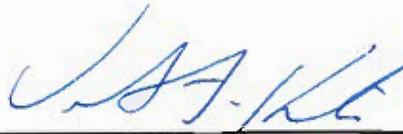
**WESTCHESTER COUNTY
DEPARTMENT OF ENVIRONMENTAL FACILITIES**

ENVIRONMENTAL POLICY

It is the mission of the Westchester County Department of Environmental Facilities to protect, preserve and conserve the water supply and quality of watercourses within or on the borders of Westchester County; to provide proper solid waste stream reduction and recycling; and to protect the health, safety and welfare of the public. The Department is responsible for planning, operating and maintaining: water resource recovery facilities, sanitary collection systems, drinking water treatment and distribution facilities, and solid waste facilities in compliance with local, state and federal laws.

To achieve this mission and thereby contribute to a more sustainable society, DEF is committed to:

- meet, and where practical, exceed its environmental legal and regulatory requirements, and other commitments;
- prevent pollution, protect the environment; and,
- continually improve.



Vincent F. Kopicki, P.E.
Commissioner, DEF

NOTICE TO CONTRACTORS

County of Westchester
New York

Sealed proposals for the following construction work:

CONTRACT NO: 16-512

ADVERTISING: August 26, 2022

MANDATORY PRE-BID INSPECTION: September 7, 2022

SECONDARY SYSTEM REHABILITATION YONKERS JOINT WASTEWATER TREATMENT PLANT YONKERS, NEW YORK

will be received by the Board of Acquisition and Contract in Room 528, Michaelian Office Building, 148 Martine Ave., White Plains, New York until 11:00 a.m., **Wednesday, October 5, 2022**, and immediately thereafter, the bids will be publicly opened and read aloud in Room 527 of the said building. The bid opening also will be made accessible to the public via the livestreaming service WebEx. The livestreaming of the bid opening via WebEx is in addition to and not in place of the publicly bid opening to be held in Room 527 of the Michaelian Office Building. For additional bidding information or questions call (914) 995-2274.

Instructions for livestreaming via WebEx. Attendees may join by computer browser at <https://westchestergov.webex.com/meet/bac-bidopening> or by phone 1-415-655-0001 US Toll or 1-844-621-3956 US Toll Free. The Access Code is 614 981 028.

The Bid Documents (General Requirements, Information for Bidders, Technical Specifications, etc. with Authorized Proposal Pages) **MUST BE OBTAINED from the Empire State Purchasing Group website at the following web address:**

<http://www.bidnetdirect.com/new-york>.

There is no cost to the bidder for this service. Bid documents will be available after 1:00 p.m. on the advertising date.

PLEASE TAKE NOTICE: IN ORDER TO SUBMIT A BID, BIDDERS MUST REGISTER AND DOWNLOAD THE BID DOCUMENTS FROM THE EMPIRE STATE PURCHASING GROUP WEBSITE AND MUST REGISTER USING THE NAME OF THE PERSON OR BUSINESS ENTITY THAT WILL BE SUBMITTING THE BID. IN ORDER TO ENSURE THAT COUNTY BID DOCUMENTS HAVE NOT BEEN ALTERED IN ANY WAY, THE COUNTY WILL NOT ACCEPT BIDS FROM PERSONS OR BUSINESS ENTITIES THAT HAVE NOT FOLLOWED THIS REQUIREMENT.

The Bid Documents include Contract Drawings which **MAY BE OBTAINED at no cost on the Empire State Purchasing Group website at the following web address:** <http://www.bidnetdirect.com/new-york>, after 1:00 p.m. on the advertising date.

If the bidder is unable to utilize the electronic version of the Contract Drawings that are available on the Empire State Purchasing Group Website, the bidder may purchase copies of the Contract Drawings. Contract Drawings may be obtained from the Office of the Board of Acquisition and Contract at the above address after 1:00 p.m. on the advertising date and between the hours of 9:00 a.m. to 4:00 p.m. Monday thru Friday. Copies of the Contract Drawings shall be made available upon payment of a personal check, company check or money order made payable to the County of Westchester, in the amount of **\$100.00** per set. For bidders, the deposit for each set of drawings will be refunded in full if returned in good condition within thirty days after award or rejection of bids. For non-bidders, only fifty percent of the deposit will be refunded. No refunds will be made to the successful bidder.

Each bidder is required to submit the full set of authorized Proposal Pages and all bids over **\$100,000.00** must also be accompanied by the "Bid Bond and Consent of Surety" (as set forth in the Proposal Pages) attached to the outside of the sealed bid. Failure to submit in this manner may cause the bid to be rejected. **The successful bidder, no matter the amount of its bid, will be required to furnish a Performance and Payment Bond with its signed contract.**

To the full extent applicable, 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 price to be paid to each for: (a) plumbing and gas fitting, (b) steam heating, hot water heating, ventilating and air conditioning apparatus and (c) electric wiring and standard illuminating fixtures and (d) general construction. The submission (Proposal Page 41) that contains the agreed upon price shall be acknowledged by both Contractor and Subcontractor. For purposes of this paragraph, the acknowledgment from the Subcontractor may contain the facsimile signature of an officer of the Subcontractor.

The Successful low bidder, before award of the contract, must obtain and provide to the County, from each of the above denoted Subcontractors, fully completed and signed Contract Disclosure Statement (Proposal Pages 24-32) and Required Disclosure of Relationships to County (Proposal Pages 33) forms.

The sealed lists of Subcontractors submitted by unsuccessful bidders shall be destroyed, unless you request that it be returned by checking the applicable box on Proposal Page 5.

The County of Westchester reserves the right to waive any informalities in the bids, or to reject any or all bids. No bidder may withdraw its bid within forty-five (45) days after the date of the bid opening.

Pursuant to Chapter 308 of the Laws of the County of Westchester, it is the goal of the County to use its best efforts to encourage, promote, and increase the participation of business enterprises owned and controlled by persons of color or women - Minority Business Enterprise (MBE) and Women Business Enterprise (WBE).

REMINDER: All required licenses should be submitted with the Bid.

COUNTY OF WESTCHESTER, NEW YORK
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION

BY: Hugh J. Greechan, Jr., P.E., Commissioner

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1. **GENERAL REQUIREMENTS AND PROPOSALS**

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION

Division of Engineering

GENERAL REQUIREMENTS

1. DESCRIPTION OF THE WORK

The work to be performed under this Contract and in accordance with the specifications consists of the furnishing of all equipment, superintendents, labor, skill, material and all other items necessary to perform the following; Aeration Header Coating (Base Bid): complete re-coating of the existing secondary aeration piping including the main header and individual drop legs and miscellaneous concrete support repairs and/or replacement and the replacement of one (1) coupling. Cooling Water Pumps, Strainers and Controls (Base Bid): replacement of five (5) existing cooling water supply pumps, associated automatic backwash strainers, replacement of electrical controls and replacement of existing isolation valves and backflow prevention check valves. Pressurized Plant Water System (Base Bid): replacement of the existing plant water supply system with a pre-engineered skid mounted system including new pumps, valves, flow meter, control panel and electrical supply. High Pressure Wash-down System (Alternate 1): replacement of the existing high pressure wash-down water supply system with a pre-engineered skid mounted system including new pumps, valves, flow meter, control panel and electrical supply. This item includes new distribution piping to the various existing wash-down locations within the secondary treatment areas. Compressed Air System (Alternate 2): replacement of the existing compressed air system including the compressors, driers, holding tanks, controls and local piping. It is not intended that this description of work mention each particular item required, but that it give information concerning the general scope and areas of work for the convenience of bidders. The Contract consists of the Base Bid and Alternates 1, and 2. It is the goal of the County to award the Base Bid and all Alternates if the low bid for all items are within the amount budgeted for this project. If the Base Bid and all Alternates exceed the amount budgeted for this project, the contract will be awarded to the bidder(s) as per Proposal Page 6.

ALTERNATE 1

For providing all labor, materials, and equipment necessary to complete the demolition, structural, mechanical and electrical work as shown on Contract Drawings S2.0 (as applicable), M3.0 (as applicable), M3.1 (as applicable), M3.2 (as applicable), M3.3 (as applicable), M3.5 (as applicable), M3.6, M3.7, E3.0 (as applicable), E3.4 (as applicable), and E3.5 (as applicable) and in accordance with the specifications for the High Pressure Wash-down System and associated distribution piping.

ALTERNATE 2

For providing all labor, materials, and equipment necessary to complete the demolition, structural, mechanical and electrical work as shown on Contract Drawings S2.0 (as applicable), M3.0 (as applicable), M3.1 (as applicable), M3.2 (as applicable), M3.5 (as applicable), E3.0 (as applicable), E3.4 (as applicable), and E3.5 (as applicable) and in accordance with the specifications for the Compressed Air System.

THIS PROJECT IS NOT SUBJECT TO THE REQUIREMENTS OF THE “WICKS LAW”. ACCORDINGLY, EACH BIDDER IS REQUIRED TO SUBMIT SPECIFIC INFORMATION PERTAINING TO ITS PROPOSED SUBCONTRACTORS. PLEASE SEE THE “NOTICE TO CONTRACTORS” THAT FORMS A PART OF THESE BID DOCUMENTS.

GENERAL REQUIREMENTS

2. SUBCONTRACTING & DIRECT EMPLOYMENT OF LABOR

The Contractor shall not subcontract more than ninety (90%) percent of its bid. The Contractor must directly employ at least ten (10%) percent of the personnel working on this contract as measured in man-days worked.

“Directly employ” shall be construed to include only workers employed and paid directly by the Contractor, usually for wages or salary.

The Contractor expressly acknowledges that any violation of this provision constitutes a default under this contract.

3. REQUIRED TIME FOR COMPLETION OF THE WORK

Notification to commence the work will require the mandatory submission of all the executed contracts and the Certificates of Insurance after receipt of authority to award.

The Contractor shall commence the work embraced in this contract within ten (10) days of the service of Notice by the County to do so and shall complete the said work within **455** consecutive calendar days computed from the date of such Notice to commence.

GENERAL REQUIREMENTS

4. SECURITY REGULATIONS

Security Regulations For all County Facilities except County Correctional Facilities:

- A. Contractor's attention is called to the fact that this work is to be performed on property which is the responsibility of the County; therefore, all personnel associated with this contract are subject to special conditions affecting security and control of the facilities operations. Every person required to enter the work site will be issued an ID card and be required to fill out appropriate applications. **There is a \$30.00 processing fee for each lost ID card**; remitted by check made payable to the County of Westchester. All ID processing will be scheduled by the Construction Administrator.
- B. The Contractor/Subcontractor shall issue a copy of the security regulations (Paragraph C) to all personnel engaged on this project.
- C. All Contractor/Subcontractor personnel shall be bound by the following security regulations for the duration of this contract.
 - 1) All personnel must conspicuously display the ID card and identify themselves upon request.
 - 2) If an ID card is misplaced or lost, report this immediately to the Inspector.
 - 3) All Contractor/Subcontractor personnel are responsible for all tools and equipment and you must report any loss immediately to the Construction Administrator.
 - 4) All personnel must observe all orders of the Owner.
 - 5) All personnel are to report any unusual incidents or problems to the Construction Administrator immediately.
 - 6) All personnel shall not possess or consume any alcoholic beverage or illegal drug or medication while on the property, or report to work under the influence of alcohol or drugs.
 - 7) Any vehicle left on the property must be locked and the ignition keys must be removed. Vehicles will not be left overnight without prior approval.
 - 8) All personnel shall not enter any other areas of the premises (except the areas agreed to) without prior approval of the Construction Administrator.

Security Regulations For County Correctional Facilities:

- A. Contractor's attention is called to the fact that this work is to be performed on property adjacent and/or within the County's Correctional Facilities; therefore, all personnel associated with this project are subject to special conditions affecting security and control of the Correctional Facility Operations. Every person required to enter the work site will be fingerprinted, processed for a photo ID card and be required to fill out appropriate applications. **There is a \$100.00 processing fee for each person**, checks made payable to the Commissioner of Finance. All ID processing will be scheduled by the Construction Administrator.

GENERAL REQUIREMENTS

- B. All Contractors and Subcontractors shall issue a copy of the security regulations (Paragraph C) to all personnel to be engaged on this project.
- C. All Contractor's and Subcontractor's personnel shall be bound by the following security regulations for the duration of this project.
 - 1) All personnel entering the Penitentiary, Jail or Women's Unit must stop and identify themselves to the Control or Desk Officer who will issue the appropriate pass after ascertaining that they have been cleared to enter the facility. Only workers with valid ID will be permitted entry. **NO HELPERS.**
 - 2) All personnel must sign in the Visitor's Book, to include the following information: **PERSON'S NAME, COMPANY NAME, REASON FOR ENTRY, WORK LOCATION IN BUILDING.**
 - 3) All personnel must conspicuously display the ID card and identify themselves upon request.
 - 4) If ID card is misplaced or lost, report this loss immediately to the Shift Captain or Associate Warden.
 - 5) All tradesmen will be required to perform a tool inventory inspection of all tools in their possession to demonstrate to the admitting Correction Officer that the typed inventory list matches the tools each time they enter and leave the building. The tradesmen are responsible for keeping all tools and equipment locked when not in immediate use and they must report any loss of tools or equipment immediately to the Shift Captain or Associate Warden.
 - 6) All tradesmen and helpers shall carry all tools in a locked and secured tool box or tool cart. A typed inventory sheet shall be carried with the tool box/cart listing all hand and power tools. A manufacturer's MSD Sheet shall be carried with the tool box/cart for any chemical compound that the tradesman has in his/her possession.
 - 7) All debris (i.e. packaging, demolition, etc) shall be removed from the worksite at the end of each workday.
 - 8) All personnel are subject to search at all times.
 - 9) All personnel must observe all orders of Correctional Staff.
 - 10) All personnel are to report any unusual incidents or problems to a Correction Officer, Shift Captain or the Associate Warden immediately.
 - 11) All personnel shall not possess or consume any alcoholic beverage or illegal drug or medication while on County property, or report to work under the influence of alcohol or drugs.
 - 12) Any vehicle left on County property must be locked and the ignition keys must be removed. Vehicles will not be left over-night on County property without prior approval.
 - 13) All personnel shall not enter any other areas of the prison (except the areas agreed to) without prior approval of the Shift Captain or the Associate Warden.

GENERAL REQUIREMENTS

- 14) All personnel shall not bring anything in for any inmate/detainee or staff member or take out anything for any inmate/detainee or staff member.
- 15) All personnel shall not engage in any unnecessary conversations with any inmate/detainee.
- 16) Weapons, i.e., guns, knives, blackjacks, to include any tool activated by gunpowder or other explosive charge is prohibited in the building (i.e., stud gun). Violators of this rule are subject to arrest.
- 17) All personnel must sign out when leaving and must return the ID card to the Control/Desk Officer before leaving.
- 18) Failure of the contractor to follow these procedures will result in the contractor being denied access to the facility.

5. PAYMENT FOR BONDS AND INSURANCE

The amount bid for contract bonds and insurance shall not exceed 3% of the total contract price excluding the bid price for Miscellaneous Additional Work (Item W800) and Field Testing Equipment (W851), where applicable. Should the bidder exceed the foregoing three percent (3%), the Department will make the necessary adjustment to determine the total amount bid based on the arithmetically correct proposal.

The amount bid shall be payable with the first contract payment.

GENERAL REQUIREMENTS

CONTRACT DRAWINGS:

CONTRACT NUMBER 16-512

The Design Drawings, as listed on the Contract Drawing Index, herewith made a part of these Specifications, shows in general and/or in detail the work to be done under this Contract and/or the various Contracts forming the entire work for the Project, as described herein.

After sending the executed contract to the County and prior to the first job meeting, the Contractor is responsible for obtaining from Public Works, Division of Engineering, Michaelian Office Building, White Plains, a maximum of five gratis copies of the Contract Drawings and Specifications; for the Contractor's permanent possession. Additional sets, requested by the Contractor, beyond the permitted number and time limit, will be furnished by Public Works; but at the Contractor's expense.

| <u>DRAWING NO.</u> | <u>TITLE</u> | <u>SHEET NO.</u> |
|--------------------|---|------------------|
| 200-00-T-1038-0 | Title Sheet | G0.0 |
| 200-00-G-1039-0 | Site Plan | C1.0 |
| 200-00-S-1040-0 | Aeration Header Partial Plan | S1.0 |
| 200-00-S-1041-0 | Aeration Header Repair Sections | S1.1 |
| 200-00-S-1042-0 | Structural Notes and Details | S1.2 |
| 200-00-S-1043-0 | Concrete Support Pad Plans and Details | S2.0 |
| 200-00-M-1044-0 | Mechanical Legend, Symbols, Etc. | M0.0 |
| 200-00-M-1045-0 | Aeration Header Coating Plan | M1.0 |
| 200-00-M-1046-0 | Aeration Header Partial Plans | M1.1 |
| 200-00-M-1047-0 | Aeration Header Coasting Sections | M1.2 |
| 200-00-M-1048-0 | Thickener Building Removals Plans and Sections | M2.0 |
| 200-00-M-1049-0 | Thickener Building New Construction Plan and Sections | M2.1 |
| 200-00-M-1050-0 | Plant Water System Mechanical Details and Sections | M2.2 |
| 200-00-M-1051-0 | Blower and Administration Building Removals Plan | M3.0 |
| 200-00-M-1052-0 | Blower and Administration Building Removals Sections | M3.1 |
| 200-00-M-1053-0 | Blower and Administration Building New Construction | M3.2 |
| 200-00-M-1054-0 | Blower and Administration Building New Construction Sections and Details | M3.3 |
| 200-00-M-1055-0 | Blower and Administration Building New Construction Partial Plans | M3.4 |

Contract Drawings 1

GENERAL REQUIREMENTS

| <u>DRAWING NO.</u> | <u>TITLE</u> | <u>SHEET NO.</u> |
|--------------------|---|------------------|
| 200-00-M-1056-0 | Plant Water System Mechanical Details and Sections | M3.5 |
| 200-00-M-1057-0 | Blower and Administration Building at Elevation -6.00/ and +6.50' | M3.6 |
| 200-00-M-1058-0 | Operating Gallery Sectional Plan at Elevation +5.00' | M3.7 |
| 200-00-E-1059-0 | Electrical, Legends, Symbols, Etc. | E0.0 |
| 200-00-E-1060-0 | Thickener Building Electrical Demolition Plan | E2.0 |
| 200-00-E-1061-0 | Thickener Building Electrical Power Plan | E2.1 |
| 200-00-E-1062-0 | Blower and Administration Building Electrical Demolition Plan | E3.0 |
| 200-00-E-1063-0 | Blower and Administration Building Electrical Power Plan | E3.4 |
| 200-00-E-1064-0 | Blower and Administration Building Power and Controls Diagram | E3.5 |
| 200-00-E-1065-0 | Blower and Administration Building Starter Diagrams and Details | E3.6 |

Submit all proposal pages in this section, including all executed and unexecuted pages and fasten with a clip at the upper left hand corner.



George Latimer, Westchester County Executive

PROPOSAL PAGES

**SECONDARY SYSTEM REHABILITATION
YONKERS JOINT WASTEWATER TREATMENT PLANT
YONKERS, NEW YORK**

**Contract No. 16-512
Bid Opening: October 5, 2022**

| By Bidder (Please Print) | For Official Use Only |
|---------------------------|-----------------------|
| Firm/Business Name: _____ | |
| Address: _____ | |
| _____ | |

**DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
Division of Engineering**

PROPOSAL REQUIREMENTS

BIDDER'S IDENTIFICATION

CONTRACT NO. _____

To the Commissioner of Public Works, Westchester County, New York, acting for the party of the first part.

Proposal made by _____
as party of the second part.

Whose business address is _____

Whose telephone number is _____

Whose E-mail address is _____

Whose Federal ID number is _____

Is bidder an individual,
a partnership or a corporation? _____

If a partnership or corporation,
give the names of all partners
or officers with their titles _____

If operating under a trade name or as partners, has the required Certificate been filed with a County Clerk in accordance with the General Business Law, Section 130?

Yes....[] No....[] N.A....[]

If the answer is NO, Certificate must be filed before the contract can be executed.

NOTE: the bid must be submitted using the Contractor's legal name, not just the "doing business as" (i.e. DBA) name.

COMPLETE THIS FORM USING BLACK INK ONLY

PROPOSAL REQUIREMENTS

1. The undersigned, the bidder, does hereby declare that it has carefully read the contract specifications and has carefully studied the relevant plans, profiles and other drawings (as defined in Article "Contract Drawings" of the General Requirements) relating to the contract work, and has inspected the site(s) of the work..
2. The undersigned does hereby declare that it is the only one interested in its indicated bid; that the bid is in all respects without fraud or reservations; and that no official of the County or of the participating municipalities (if any), or any person in the employ of the County of participating municipalities (if any) is directly interested in the contract bid or in the supplies, equipment or works to which it relates, or in any part of the profits resulting there-from.
3. The undersigned does hereby offer and agree to furnish all materials, to fully and faithfully construct, perform and execute all work under the contract in accordance with the plans, profiles, other drawings and specifications relating thereto, and to furnish all labor, tools, implements, machinery, forms, transportation and materials necessary and proper for said purpose at the following indicated lump sum price for the total work and/or the following indicated unit prices for the various items of the work.
4. The undersigned does hereby declare that the indicated price(s) cover all expenses of every kind incidental to the completion of the contract work, including all claims affecting the work, labor and materials, which may arise through any cause whatsoever, excepting as provided for in Article "Disputed Work-Notice Of Claims For Damages: of the General Clauses.
5. The undersigned hereby agrees that in the event that the quantities of contract work actually performed by the undersigned are less than the approximate quantities indicated in the specifications it will make no claim(s) for loss of anticipated profits.
6. The undersigned does hereby agree that it will execute a contract containing all the terms, conditions, provisions and covenants necessary to complete the work according to the appropriate plans and specifications, within ten working days after receipt by the undersigned of the contract from the County, and that if it fails to execute said contract within said period of time the County may rescind the contract award and may retain as liquidated damages and not as a penalty, any amounts submitted as the bid security accompanying the undersigned's proposal, and/or demand from the Bidder's Surety Company that executed the required Bid Bond and Consent of Surety to pay to the County the difference between the amount bid and the amount for which such contract is thereafter awarded, together with the cost to the County of reletting said contract up to the maximum aggregate amount of 25% of the amount bid.
7. The undersigned does hereby agree to commence the work encompassed under the contract within ten days after notification in writing from the Commissioner of Public Works or his authorized designee, unless a definite earlier or later start has been specified, and will complete the work fully and in every respect on or before the specified completion date; and further agrees that the County has the right to employ such combination of labor, equipment

PROPOSAL REQUIREMENTS

and materials as may be required for the proper completion of the contract work and to deduct all costs from such monies as may be due the undersigned, in the event the contract work is not completed by the specified completion date.

- 8. The undersigned does hereby agree to comply with all relevant provisions of the Labor Laws of the State of New York, and agrees to adhere to the provisions relating to the eight-hour day and five-day week, the payments of minimum rates for labor, and the latest laws relative to payments for wages for labor on public contracts.

- 9. The undersigned does hereby agree to insure all persons connected with the contract work against accident, at its own expense, as prescribed by the Workmen's Compensation Law of the State of New York; and that it will be responsible for payments by itself, its subcontractors and vendors of all taxes applicable to the work, and all other payments as may be required by various laws and rules and regulations of the Federal Government, the State of New York and its political subdivisions and agencies, such payments including but not limited to the following:
 - A. Federal Social Security Taxes on employees' wages.
 - B. Applicable Federal Excise Taxes.
 - C. New York State Unemployment Insurance and Disability Payments, based on employees' wages.

- 10. The undersigned does hereby agree to accept their indicated lump sum price for the total work and/or their indicated unit prices for the various items of the work as the sole basis in the determination of the value of addition to, or deletions from the specified scope of the contract work.

11. ADDENDUM RECEIPT - CONTRACT NO. _____

(The undersigned shall fill in contract number above, and the required information below.)

The undersigned does hereby acknowledge receipt of the below listed addenda to the contract specifications:

| | |
|--------------------|-------------|
| Addendum No. _____ | Dated _____ |

COMPLETE THIS FORM USING BLACK ONLY

PROPOSAL REQUIREMENTS

12. Bidders should not submit the entire Bid document with its bid submission. Instead, Bidders must submit ALL of the Proposal Pages. Proposal Pages are denoted by a border and are titled on the bottom as "Proposal Page ___".

Be sure that, where required, the forms have been completed and signed by a notary public.

Proposal Page 12 must be completed by a surety company and submitted with the bid if a Performance and Payment Bond is required in accordance with the "Notice to Contractors".

13. NON-COLLUSIVE BIDDING CERTIFICATION

Made pursuant to Section 103-d of the General Municipal Law of the State of New York as amended by the Laws of 1966.

- A. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief:
- 1) The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
 - 2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and
 - 3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.
- B. A bid shall not be considered for award nor shall any award be made where a. (1), (2) and (3), above, have not been complied with; provided however, that if any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where a. (1), (2) and (3), above, have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of the purchasing unit of the political subdivision, public department, agency or official thereof to which the bid is made, or his designee, determines that such disclosure was not added for the purpose of restricting competition."
14. The undersigned and each person signing in behalf of the undersigned hereby executes the foregoing Affirmative Action Questionnaire, Proposal, Addendum Receipt and Non-Collusive Bidding Certification.
15. The undersigned and each person signing on behalf of the undersigned hereby certifies that

PROPOSAL REQUIREMENTS

the person, firm or corporation submitting this proposal as the bidder has not been found guilty of a willful violation of the New York State Labor Law for failure to pay prevailing wages and supplements, as those terms are defined by the New York State Labor Law, within the twelve (12) months immediately preceding the submission of this bid.

16. The undersigned, by submitting the Proposal Pages, acknowledges that it has read the complete bid package including any and all addenda thereto and its bid includes all of the terms and conditions set forth in the bid documents, including, but not limited to, the Notice to Contractors, General Requirements and Proposals, Contract plans/drawings (if any), Proposal Forms, Information for Bidders, General Clauses, Sample Forms and Attachments, Sample Contract and Bond, Schedule of Hourly Rates and Supplements, Technical Specifications, any Special Notices and all applicable laws, rules and regulations. The undersigned further acknowledges that by submitting this bid the above denoted items are incorporated by reference and constitute an integral part of its bid.
17. The undersigned agrees that, if it is not the Successful bidder, the Sealed List of Subcontractors submitted with its bid can be destroyed by the County. **Please check the following box if you want the Sealed List of Subcontractors returned to you.**

Dated _____, 20__

Legal Name of Person, Firm or Corporation

(Seal of Corporation)

Business Address of Person, Firm or Corporation

By _____
Signature

Title

COMPLETE THIS FORM USING BLACK INK ONLY

LUMP SUM PROPOSAL

| ITEM NO. | APPROXIMATE QUANTITIES | ITEM DESCRIPTION | UNIT BID PRICE | | AMOUNT BID | |
|----------|-------------------------|--|--|-------|------------|-------|
| | | | DOLLARS | CENTS | DOLLARS | CENTS |
| A | Lump Sum | For providing all labor, material and equipment necessary to complete all work (excluding Bid Alternates 1 and 2) as shown on the contract drawings and in accordance with the specifications. | | | | |
| B | 144 | For providing all labor, material and equipment necessary to furnish new concrete supports on aeration branches. | | | | |
| | | | Subtotal of All Items Above: | | | |
| C | NEC | CONTRACT BONDS AND INSURANCE (Must not exceed 3.00% of Subtotal Shown Above) | | | | |
| W800 | As Directed by Engineer | Necessary for miscellaneous additional work per Article "Miscellaneous Additional Work (Item W-800)" of the Information for Bidders, as directed. | | | \$500,000 | .00 |
| | | | Gross Sum of Total Base Bid Written in Figures: | | | |

LUMP SUM PROPOSAL

| ITEM NO. | APPROXIMATE QUANTITIES | ITEM DESCRIPTION | AMOUNT BID | |
|-------------|------------------------|---|------------|-------|
| | | | DOLLARS | CENTS |
| Alternate 1 | Lump Sum | For providing all labor, materials, and equipment necessary to complete the demolition, structural, mechanical and electrical work as shown on Contract Drawings S2.0 (as applicable), M3.0 (as applicable), M3.1 (as applicable), M3.2 (as applicable), M3.3 (as applicable), M3.5 (as applicable), M3.6, M3.7, E3.0 (as applicable), E3.4 (as applicable), and E3.5 (as applicable) and in accordance with the specifications for the High Pressure Washdown System and associated distribution piping. | | |
| Alternate 2 | Lump Sum | For providing all labor, materials, and equipment necessary to complete the demolition, structural, mechanical and electrical work as shown on Contract Drawings S2.0 (as applicable), M3.0 (as applicable), M3.1 (as applicable), M3.2 (as applicable), M3.5 (as applicable), E3.0 (as applicable), E3.4 (as applicable), and E3.5 (as applicable) and in accordance with the specifications for the Compressed Air System. | | |

CONTRACT NO. 16-512

LUMP SUM PROPOSAL

| ITEM DESCRIPTION | AMOUNT BID | |
|--|------------|-------|
| | DOLLARS | CENTS |
| TOTAL BID FOR "BASE BID" + ALTERNATE 1 + ALTERNATE 2: | | |
| TOTAL BID FOR "BASE BID" + ALTERNATE 1: | | |
| TOTAL BID FOR "BASE BID": | | |

CONTRACTOR: _____

ADDRESS: _____

BY: _____

This Contract consists of the Base Bid and two (2) Add Alternates.

It is the goal of the county to award the Base Bid and Alternates 1 and 2 if the low bid for all items are within the amount budgeted for this project. If the Base Bid plus Alternates 1 and 2 exceeds the amount budgeted for this project, the contract will be awarded to the bidder submitting the lowest Base Bid plus additional Alternate Bid Items in the order they are listed, to include as many Alternate bid Items as possible, up to the amount that does not exceed the project budget. If the Base Bid and Alternate 1 exceed the amount budgeted for this project, the Contract will be awarded to the Bidder submitting the lowest Base Bid.

COMPLETE THIS FORM USING BLACK INK ONLY

CONTRACTOR'S ACKNOWLEDGMENT

(If Corporate)

STATE OF NEW YORK)
COUNTY OF WESTCHESTER) ss.:

On this _____ day of _____, 20____, before me personally came _____
_____ to me known and known to me to be the _____
_____ of _____ the corporation described in and which
executed the within instrument, who being by me duly sworn did depose and say that he the said_
_____ resides at _____
_____ and that he is _____ of said corporation and knows the corporate
seal of the said corporation; that the seal affixed to the within instrument is such corporate seal and
that it was so affixed by order of the Board of Directors of said corporation, and that he signed his
name thereto by like order.

Notary Public

CONTRACTOR'S ACKNOWLEDGMENT

(If Individual)

STATE OF NEW YORK)
COUNTY OF WESTCHESTER) ss.:

On this _____ day of _____, 20____, before me personally came _____
_____ to me known, and known to me to be the same person described in
and who executed the within instrument and he duly acknowledged to me that he executed the same
for the purpose herein mentioned and, if operating under the trade name, that the certificate required
by the New York State General Business Law Section 130 has been filed with the County Clerk of
Westchester County.

Notary Public

CONTRACTOR'S ACKNOWLEDGMENT

(If Co-Partnership)

STATE OF NEW YORK)
COUNTY OF WESTCHESTER) ss.:

On this _____ day of _____, 20____, before me personally came _____
_____ to me known, and known to me to be a member of the firm of
_____ and the person described in, and who executed the
within instrument in behalf of said firm, and he acknowledged to me that he executed the same in
behalf of, and as the act of said firm for the purposes herein mentioned and that the certificate
required by the New York State General Business Law Section 130 has been filed with the County
Clerk of Westchester County.

Notary Public

COMPLETE THIS FORM USING BLACK INK ONLY

CERTIFICATE OF AUTHORITY

I, _____
(Officer other than officer executing proposed documents)

certify that I am _____ of the
(Title)

(Name of Contractor)

(the "Contractor"), a corporation duly organized and in good standing under the

(Law under which organized, e.g., the New York Business Corporation Law)

named in the foregoing agreement; that _____
(Person executing proposal documents)

who signed said agreement on behalf of the Contractor was, at the time of execution the

_____ of the Contractor; that said agreement was
(Title of such person)

duly signed for and in behalf of said Contractor by authority of its Board of Directors, thereunto

duly organized, and that such authority is in full force and effect at the date hereof.

(Signature)

(SEAL)

STATE OF NEW YORK)
) ss.:
COUNTY OF)

On this _____ day of _____, 20____, before me personally came
_____ to me known, and known to me to be
the _____ of _____, the
Corporation described in and which executed the above certificate, who being by me duly sworn did
depose and say that he, the said _____ resides at
_____ and that he is _____
_____ of said Corporation and knows the Corporate Seal of the said
Corporation; that the seal affixed to the above certificate is such Corporate Seal and that it was so
affixed by order of the Board of Directors of said Corporation, and that he signed his name thereto
by like order.

Notary Public

COMPLETE THIS FORM IN BLACK INK ONLY

***Required for all Bids over \$100,000 where a Performance & Payment Bond
is Required in accordance with the "Notice to Contractors"***

CONTRACT NO. _____

BID BOND AND CONSENT OF SURETY

KNOW ALL PERSONS BY THESE PRESENTS, That _____
(Name of Contractor)

(Address)

(hereinafter called the "Principal") and the _____ a
corporation created and existing under the laws of the State of _____, having its principal office
at _____ (hereinafter called the "Surety"),

(PRINT FULL ADDRESS OF SURETY)

are held and firmly bound unto the County of Westchester (hereinafter called the "Obligee"), in the full just
sum of *Twenty-Five (25%) Percent of the Attached Bid*, good and lawful money of the United States of
America, for the payment of which said sum of money, well and truly to be made and done, the said
Principal binds themselves (himself/herself, itself), their (his/her, its) heirs, executors and administrators,
successors and assigns, and the said Surety binds itself, its successors and assigns jointly and severally,
firmly by these presents:

WHEREAS, the said Principal has submitted to the County of Westchester, New York, a
proposal/bid for Contract Number: _____
Project Title: _____ and

WHEREAS, under the terms of the Laws of the State of New York as above indicated, the said
Principal has filed or intends to file this bond to guarantee that the Principal will execute all required contract
documents, furnish all required insurance and furnish such Performance and Payment Bonds or other bonds
as may be required in accordance with the terms of the Principal's said proposal/bid.

NOW, THEREFORE, the Surety agrees:

(i) if the Contract for which the preceding estimate and proposal is made, is awarded to the Bidder by
the County, the Surety shall become bound as Surety and guarantor for the faithful performance of the
Contract and shall execute and deliver a Performance & Payment Bond, in a form acceptable to the County,
in the amount of 100% of the total Contract price, or such other amount as may be specified in the Bid
documents, and shall execute the Contract as party of the third part when required to do so by the Board of
Acquisition and Contract of the County; and

(ii) if the Bidder shall, upon award of the Contract to the Bidder, fail or refuse to execute the Contract
and furnish the necessary bonds and insurance certificates, the Surety shall, on demand by the County, pay to
the County the difference between the amount bid and the amount for which such contract is thereafter
awarded, together with the cost to the County of reletting said Contract, up to the maximum aggregate
amount of this bond.

(iii) the condition of the foregoing obligation is such, that if the said Principal shall promptly execute
and submit, and the County shall accept, all required contract documents including insurance and such
Performance and Payment Bond or other bonds, all as may be required in accordance with the terms of the
Principal's said bid/proposal, then this obligation shall be null and void, otherwise to remain in full force and
virtue.

The Surety, for value received, the receipt of which is hereby acknowledged by the Surety, hereby stipulates and agrees that the obligation of the Surety and of its bond shall remain absolute and shall be in no way impaired, affected or discharged by an extension of time, mutually agreed to by the County and the Bidder, within which the County may award said Contract, and the Surety hereby waives notice of any such extension.

IN TESTIMONY WHEREOF, the said Principal has hereunto set his/her (their, its) hand and the said Surety has caused this instrument to be signed by its duly authorized officer this _____ day of _____ 200__.

Signed and delivered this ____ day of _____ 20____ in the presence of:

(Print Name of Contractor)

_____ Principal
(Signature)

(Title of Authorized Officer)

(Print Name of Surety)

By _____ Surety
(Signature)

(Title of Authorized Officer)

(The Surety Company shall append a single copy of a statement of its financial condition, a copy of the resolution authorizing the execution of Bonds by officers of the Surety Company, Power of Attorney, Surety Acknowledgment.)

AFFIRMATIVE ACTION PROGRAM REQUIREMENT

Affirmative Action Program

An approved Affirmative Action Plan shall be required in all contracts for public work where the awarded contract amount exceeds \$50,000 or more than fourteen (14) persons are employed by the Contractor and/or his subcontractors.

Does the Contractor participate in an approved Affirmative Action Program? Yes [] No []

If Yes, give name of Program: _____

If No, how many employees (total) does the Contractor employ. Please also include in your count the number of employees the Contractor and its Subcontractors expect to use on this project: _____

An approved Affirmative Action Program shall mean a plan approved or adopted by Westchester County including but not limited to, the Home-Town Plan, the Recruitment Training Program or any other program approved or meeting the requirements of the State or Federal government.

The "Monthly Employment Utilization Report" of the Sample Forms, shall be filled out by the Contractor and/or Subcontractor(s) who are required to have an Affirmative Action Program, prior to the start of the work.

Before any subcontractor is approved for use on this contract it will have to complete and submit the "Affirmative Action Program Requirement- Subcontractors" form of the Sample Forms.

COMPLETE THIS FORM USING BLACK INK ONLY

APPRENTICESHIP TRAINING PROGRAM REQUIREMENT

Apprenticeship Training Program

An approved Apprenticeship Training Program shall be required in all contracts for public work where the awarded contract amount exceeds \$50,000. and more than fourteen (14) persons are employed by the Contractor or Subcontractor(s).

Will the Contractor utilize apprentices for this Contract? Yes [] No []

If Contractor Yes, do the apprentices participate in an approved Apprenticeship Training Program? Yes [] No []

If Contractor Yes, give the name of the Program: _____

Will the Subcontractor(s) utilize apprentices for this Contract? Yes [] No []

If Subcontractor(s) Yes, do the apprentices participate in an approved Apprenticeship Training Program? Yes [] No []

If Subcontractor(s) Yes, give the name of the Program: _____

AN APPROVED APPRENTICESHIP TRAINING PROGRAM SHALL MEAN A NEW YORK STATE REGISTERED APPRENTICESHIP TRAINING PROGRAM AS DEFINED UNDER THE NEW YORK STATE LABOR LAW.

COMPLETE THIS FORM USING BLACK INK ONLY

CERTIFICATE OF LICENSE

(TO BE COMPLETED BY AN ELECTRICAL BIDDER ONLY)

_____, being duly sworn
(Name)

deposes and says that the following statements are true:

(1) I am the _____ of the
(Title)

_____, the bidder named on the
(Name of Contractor)

bid proposal, and I have read and am familiar with: a) the electrical license requirements contained in the Information for Bidders of the bid, b) Chapter 277 Article XVII of the Laws of Westchester County entitled Electrical Licensing Board and the Licensing of Master Electricians, and c) the Westchester County Electrical Licensing Board Rules and Regulations.

(2) I am familiar with, and this bid is being submitted in compliance with, the Westchester County Electrical Licensing Board Rules and Regulations, in particular No. 11, which states as follows:

No individual holding a Master Electrician’s License shall lend such License to any person or allow any other person to carry on, engage in, or labor at the business as defined herein of installing, removing, altering, testing, replacing, or repairing electrical systems. A violation of this section by any person holding a License shall be sufficient cause for revocation of such License.

However, nothing herein shall be construed to prohibit the use of a License by the holder thereof for or on behalf of a partnership, corporation or other business association, provided that fifty-one (51) percent or more of the control of the voting capital stock of such partnership, corporation, or other business association is owned by one (1) or more holders of a Westchester County Master Electrical License and that all work performed by such partnership, corporation or other business association is performed by or under the direct supervision of such License holder or holders.

(3) That, as of this date, the bidder submitting the bid possesses the applicable valid Master/”Special” Electrician’s license issued by the Westchester County Electrical Licensing Board; that this License is being used in compliance with the Laws of Westchester County and Westchester County Electrical Licensing Board Rules and Regulations; and **I have provided a copy of such license with the sealed bid proposal.**

COMPLETE THIS FORM USING BLACK INK ONLY

CERTIFICATE OF LICENSE (Continued)

(TO BE COMPLETED BY AN ELECTRICAL BIDDER ONLY)

(4) That all electrical work shall be performed in accordance with the requirements of Chapter 277 Article XVII of the Laws of Westchester County entitled Electrical Licensing Board and the Licensing of Master Electricians and the Westchester County Electrical Licensing Board Rules and Regulations.

(5) That I make this statement in connection with the submission of the bid as proof of the required electrical license, knowing that this statement will be relied upon by the County in the evaluation of that bid.

Signature

Sworn to before me
this _____ day of _____

License No.

Notary Public - State of New York

COMPLETE THIS FORM USING BLACK INK ONLY

CERTIFICATE OF LICENSE

(TO BE COMPLETED BY A PLUMBING BIDDER ONLY)

_____, being duly sworn
(Name)

deposes and says that the following statements are true:

(1) I am the _____ of the
(Title)

_____, the bidder named on the
(Name of Contractor)

bid proposal, and I have read and am familiar with: a) the plumbing license requirements contained in the Information for Bidders of the bid, b) Chapter 277 Article XV of the Laws of Westchester County entitled Westchester County Board of Plumbing Examiners and County-wide Plumbing License, and c) the Westchester County Board of Plumbing Examiners Rules and Regulations.

(2) I am familiar with, and this bid is being submitted in compliance with, Section 277.509A of Article XV of Chapter 277 of the Laws of Westchester County, which states as follows:

A. No holder of a license or certification issued under this article shall authorize, consent to or permit the use of his or her license or certification by or on behalf of any other person. No person who has not qualified or obtained a license or certification under this article shall represent himself or herself to the public as holder of a license or certification issued under this article, either directly, by means of signs, sign cards metal plates or stationery, or indirectly in any other manner whatsoever. However, nothing herein shall be construed to prohibit the use of a license by the holder thereof for or on behalf of a partnership, corporation or other business association, provided that 51 percent or more of the control of the voting capital stock of such partnership, corporation or other business association is owned by one or more holders of a Westchester County master plumbing license and that all work performed by such partnership, corporation or other business association is performed by or under the direct supervision of such license holder or holders.

(3) That, as of this date, the bidder submitting the bid possesses a valid Master Plumber's license issued by the Westchester County Board of Plumbing Examiners; that this License is being used in compliance with the Laws of Westchester County and the Westchester County Board of Plumbing Examiners Rules and Regulations; and **I have provided a copy of such license with the sealed bid proposal.**

COMPLETE THIS FORM USING BLACK INK ONLY

CERTIFICATE OF LICENSE (Continued)

(TO BE COMPLETED BY A PLUMBING BIDDER ONLY)

(4) That all plumbing work shall be performed in accordance with the requirements of Chapter 277, Article XV of the Laws of Westchester County entitled Westchester County Board of Plumbing Examiners and County-wide Plumbing License, and the Westchester County Board of Plumbing Examiners Rules and Regulations.

(5) That I make this statement in connection with the submission of the bid as proof of the required plumbing license, knowing that this statement will be relied upon by the County in the evaluation of that bid.

Signature

Sworn to before me
this _____ day of _____

License No.

Notary Public - State of New York

COMPLETE THIS FORM USING BLACK INK ONLY

CERTIFICATE OF LICENSE

(TO BE COMPLETED BY A HAULING BIDDER OR SUBCONTRACTOR ONLY)

_____, being duly sworn
(Name)

deposes and says that the following statements are true:

(1) I am the _____ of the
(Title)

_____, the bidder/subcontractor (circle one)
(Name of Contractor)

named on the foregoing bid proposal, and I have read and am familiar with the hauling license requirements contained in the Information for Bidders of the foregoing bid.

(2) That, as of this date, the bidder submitting the foregoing bid/subcontractor of the bidder submitting the foregoing bid (circle one) possesses a valid _____ license
(License type, i.e. Class "A")
issued by the Westchester County Solid Waste Commission.

(3) That all hauling work shall be performed in accordance with the requirements of Chapter 826-a of the Laws of Westchester County.

(4) That I make this statement in connection with the submission of the foregoing bid as proof of the required hauling license, knowing that this statement will be relied upon by the County in the evaluation of that bid.

Signature

Sworn to before me
this _____ day of _____

License No.

Notary Public - State of New York

COMPLETE THIS FORM USING BLACK INK ONLY

STORMWATER POLLUTION PREVENTION CERTIFICATION

I certify under penalty of law that I understand and agree to comply with the terms and conditions of the Stormwater Pollution Prevention Plan (“SPPP”) for the construction site identified in such SPPP as a condition of authorization to discharge stormwater. I also understand the operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (“SPDES”) general permit for stormwater discharges from construction activities and it is unlawful for any person to contribute to a violation of water quality standards.

Signature

Sworn to before me

This _____ day of _____, 200_.

Notary Public – State of New York, County of _____

My Commission Expires on _____.

This Certification will also have to be signed by your subcontractors. Additional copies of this form can be acquired from the Department of Public Works.

COMPLETE THIS FORM USING BLACK INK ONLY

PREVAILING WAGE RATES AND SUPPLEMENTS

Compliance with the New York State Construction (Article 1, Section 17) and the New York State Labor Law (Section 220)

Is your firm in full compliance with the New York State Labor Law?
(Please check one)

Yes _____ No _____

Are the wage supplements paid into a Federally approved program?
(Please check one)

Yes _____ No _____

If Yes, please indicate which program:

If No, please indicate how the supplements are being paid:

Yes, I have read and understand the terms of this Contract and the laws of this Agreement:

Signature

Date: _____

Notary Public

Date: _____

COMPLETE THIS FORM USING BLACK INK ONLY

MINORITY/WOMEN BUSINESS ENTERPRISE PROGRAM QUESTIONNAIRE
QUESTIONNAIRE REGARDING BUSINESS ENTERPRISES
OWNED AND CONTROLLED BY WOMEN OR PERSONS OF COLOR

As part of the County's program to encourage the meaningful and significant participation of business enterprises owned and controlled by persons of color or women in County contracts, and in furtherance of Section 308.01 of the Laws of Westchester County, completion of this form is required.

A "business enterprise owned and controlled by women or persons of color" means a business enterprise, including a sole proprietorship, limited liability partnership, partnership, limited liability corporation, or corporation, that either:

- 1.) meets the following requirements:
 - a. is at least 51% owned by one or more persons of color or women;
 - b. is an enterprise in which such ownership by persons of color or women is real, substantial and continuing;
 - c. is an enterprise in which such ownership interest by persons of color or women has and exercises the authority to control and operate, independently, the day-to-day business decisions of the enterprise; and
 - d. is an enterprise authorized to do business in this state which is independently owned and operated.

- 2.) is a business enterprise certified as a minority business enterprise ("MBE") or women business enterprise ("WBE") pursuant to Article 15-a of the New York State Executive Law and the implementing regulations, 9 New York Code of Rules and Regulations subtitle N Part 540 et seq., **OR**

- 3.) is a business enterprise certified as a small disadvantaged business concern pursuant to the Small Business Act, 15 U.S.C. 631 et seq., and the relevant provisions of the Code of Federal Regulations as amended.

Please note that the term "persons of color," as used in this form, means a United States citizen or permanent resident alien who is and can demonstrate membership of one of the following groups:

- (a) Black persons having origins in any of the Black African racial groups;
- (b) Hispanic persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American descent of either Indian or Hispanic origin regardless of race;
- (c) Native American or Alaskan native persons having origins in any of the original peoples of North America; or
- (d) Asian or Pacific Islander persons having origins in any of the Far East countries, South East Asia, the Indian subcontinent or the Pacific Islands.

1. Are you a business enterprise owned and controlled by women or persons of color in accordance with the standards listed above?

_____ No

_____ Yes

Please note: If you answered “yes” based upon certification by New York State and/or the Federal government, official documentation of the certification must be attached.

2. If you answered “Yes” above, please check off below whether your business enterprise is owned and controlled by women, persons of color, or both.

_____ Women

_____ Persons of Color (*please check off below all that apply*)

_____ Black persons having origins in any of the Black African racial groups

_____ Hispanic persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American descent of either Indian or Hispanic origin regardless of race

_____ Native American or Alaskan native persons having origins in any of the original peoples of North America

_____ Asian or Pacific Islander persons having origins in any of the Far East countries, South East Asia, the Indian sub-continent or the Pacific Islands

Name of Business Enterprise: _____

Address: _____

Name and Title of person completing questionnaire: _____

Signature: _____

Notary Public

Date

CONTRACTOR'S DISCLOSURE STATEMENT

Instructions:

The County of Westchester, in order to insure that it employs responsible contractors for its major construction projects, requires all bidders for construction contracts (which includes reconstruction and repair) with an estimated value of One Hundred Thousand (\$100,000.00) or more Dollars to answer completely and swear to the questions below. If a Contractor Disclosure Statement has been included with this bid specification, then the County has determined that it is applicable to this bid. All subcontractors whose contract has a value of One Hundred Thousand (\$100,000.00) or more Dollars must also submit a Contractor Disclosure Statement.

Please read the questions carefully and answer them completely. Before you answer these questions, please read the definitions of terms used in these questions. While you may contact the Department of Public Works if you have questions about this form, the County cannot provide you with any legal advice for which you must contact your own lawyer. **FAILURE TO COMPLETE THIS CONTRACTOR DISCLOSURE STATEMENT IN GOOD FAITH MAY RESULT IN THE REJECTION OF YOUR BID.**

If you have previously filled out a Contractor Disclosure Statement for another County bid and only some but not all of your responses have changed, attach a copy of the prior Contractor Disclosure Statement and check #2 below indicating changes only and only answer those questions which have changed since you last filled out the Contractor Disclosure Statement.

If you have previously completed a Contractor Disclosure Statement for another County bid and nothing has changed in your responses to the questions, then check #3 and fill out the attached No Change Affidavit. Attach a copy of the prior Contractor Disclosure Statement to the No Change Affidavit.

NOTE IF THE SPACES PROVIDED FOR ANSWERS ARE NOT SUFFICIENT FOR YOU TO COMPLETE YOUR ANSWER TO A PARTICULAR QUESTION, THEN ATTACH ADDITIONAL PAGES TO THIS CONTRACTOR DISCLOSURE STATEMENT WHICH INDICATE THE NUMBER OF THE QUESTION THAT YOU ARE COMPLETING THE ANSWER FOR.

ALSO DO NOT LEAVE ANY ANSWERS BLANK. IF A QUESTION IS NOT APPLICABLE, ANSWER - N/A – AND OFFER A BRIEF EXPLANATION AS TO WHY THE QUESTION DOES NOT APPLY.

Definitions:

Affiliate – is another Business Entity in which the Contractor or one or more of the Principals of the Contractor has an ownership interest of more than fifty (50%) percent. An Affiliate is also another Business Entity in which the Parent of the Contractor owns more than fifty (50%) percent of that other Business Entity.

Agency or Government Agency – is any Federal, State, City or other local agency including, but not limited to, departments, offices, quasi-public agencies, public authorities and

CONTRACTOR'S DISCLOSURE STATEMENT

corporations, boards of education and higher education, public development corporations and local development corporations.

Assignee – is a person or Business Entity to whom an assignment (e.g., a transfer to another of any property, real or personal, including a transfer of any rights in such property) is made.

Business Address – is the location of principal executive offices and is also the primary place of business in Westchester County, if different.

Business Entity – is any profit-seeking business including, but not limited to, corporations, limited and general partnerships, joint ventures and individual (sole) proprietorships.

Contract – is any binding agreement with any Government Agency or other Business Entity for the provision of goods, or services including, but not limited to, construction.

Contractor – is the Business Entity submitting this Contractor Disclosure Statement.

Contractor Disclosure Statement – is this document.

Control – A Business Entity controls another Business Entity when:

- The controlling Business Entity owns more than fifty (50%) percent of the controlled Business Entity, or
- The controlling Business Entity directs or has the right to direct daily operations of the controlled Business Entity, or
- The same person is a Principal in both businesses and directs the daily operations of the controlled Business Entity.

Investigations – is any official inquiry by any Government Agency, with the exception of background investigations for employment.

Officer – is any individual who serves in the function of chief executive officer, chief financial officer or chief operating officer of the Business Entity by whatever titles known.

Parent – is a Business Entity which owns more than fifty (50%) percent of another Business Entity.

Principal – is an individual, partnership, joint venture or corporation which holds ten (10%) percent or more ownership interest in the Business Entity.

Partner – shall mean a person or Business Entity that has a joint ownership in a particular business, but the ownership interest is not as a shareholder of a corporation.

Successor – is a person or Business Entity that takes the place that another has left. With reference to a corporation, a successor shall mean another corporation which, through amalgamation, consolidation, or other legal succession, becomes invested with the rights and assumes the burdens of the first corporation.

CONTRACTOR'S DISCLOSURE STATEMENT

CONTRACT NO.: _____

Check if Subcontractor

Type Of Submission

(Put a X or √ next to the applicable type of submission)

1. **Fully Completed Contractor Disclosure Statement** _____
(Sign Oath on last page of Disclosure Statement)

2. **Changes Only Contractor Disclosure Statement** _____
(Attach copy of previously filed Contractor Disclosure Statement that you are amending. Denote any changes on the following Contractor Disclosure Statement. Sign Oath on last page of this Disclosure Statement)

3. **No Change** _____
(Fill out "No Change Affidavit" [below] and attach copy of previously filed Contractor Disclosure Statement)

NO CHANGE AFFIDAVIT

I swear that the attached Contractor Disclosure Statement was submitted to the County of Westchester on _____ and was true as signed, and that
(Date)
since the above date nothing has occurred which changes in any way the responses made to the questions contained in the attached Contractor Disclosure Statement.

Submitted by: _____
(Signature)

Name (Print): _____

Title (Print): _____

Sworn to before me this ____ day of _____, 200_

NOTARY PUBLIC

COMPLETE THIS FORM USING BLACK INK ONLY

CONTRACTOR'S DISCLOSURE STATEMENT

Questions:

1. The Business Address and taxpayer identification number of Contractor and primary telephone number for such location.

2. List the Business Addresses and primary telephone numbers for such locations, if different from answer to #1 above, where Contractor has been located over the last five (5) years.

3. List all other names and taxpayer identification numbers under which the Contractor, or the Principals and Officers of Contractor, have conducted business within the prior five (5) years.

4. For any response to #3 above, list any and all Westchester County contracts that were awarded to such "other name" Business Entity.

5. List the type of Business Entity that the Contractor is presently organized as (for example - sole proprietorship, partnership, joint venture or corporation).

COMPLETE THIS FORM USING BLACK INK ONLY

CONTRACTOR'S DISCLOSURE STATEMENT

6. If Contractor is a corporation, list the date that the Contractor was incorporated. Also list the name of the Government Agency and location of said Agency in which a certificate of incorporation, certificate of doing business or equivalent, has been filed and the date of any amendments thereto. If, however, the Contractor is a partnership, list the date that the partnership was formed and the name of the Government Agency and location of said Agency in which a business certificate for partnership or equivalent has been filed.

7. List all the names, current Business Addresses and business telephone numbers of the Principals and Officers of the Contractor. If the Contractor is a partnership, list all partners and their business telephone numbers.

8. List the names, current Business Addresses, telephone numbers and taxpayer identification numbers of all Affiliates of the Contractor.

9. List all the names, Business Addresses and telephone numbers of the Principals and Officers of the Affiliates listed in response to #7 above. If the Affiliate is a partnership, list the Business Addresses and business telephone numbers of all partners.

COMPLETE THIS FORM USING BLACK INK ONLY

CONTRACTOR'S DISCLOSURE STATEMENT

10. Is the Contractor Controlled by another Business Entity? ____ Yes ____ No. If you answered yes, please identify the name, Business Address and telephone number of that Controlling Business Entity and list any contracts that the Controlling Business Entity has had with Westchester County in the past five (5) years?

11. If the Contractor has Control of any other Business Entity that has had a Contract with the County of Westchester in the past five (5) years, please identify the name, Business Address and telephone number of that Controlled Business Entity.

12. List any and all contract sanctions imposed on the Contractor or on a Business Entity listed in response to #3 above that was imposed by a Government Agency during the prior five (5) years, including, but not limited to, all cautions, suspensions, debarments, cancellations of a contract based on business conduct, declarations of default, determinations of ineligibility to bid or whether any proceedings to determine eligibility to bid are pending.

13. List the contract sanction history for the past five (5) years, as defined in #12 above, for any Affiliate of the Contractor.

COMPLETE THIS FORM USING BLACK INK ONLY

CONTRACTOR'S DISCLOSURE STATEMENT

14. If you answered yes to #10 above, list the contract sanction history as defined in #12 above for the Controlling Business Entity during the past five (5) years.

15. List any and all prevailing wage or supplement payment violations; state labor law violations deemed willful and any other federal or state citations, notices, violation orders, pending administrative hearings or proceedings or determinations of a violation of any labor law or regulation regarding the Contractor.

16. List all Investigations of the Contractor, its Principals and Officers or, if a partnership, of the Contractor's Partners. Also list all investigations of Affiliates, their Principals and Officers or, if a partnership, of their Partners.

COMPLETE THIS FORM USING BLACK INK ONLY

CONTRACTOR'S DISCLOSURE STATEMENT

17. Have all Federal and State income tax returns, if required, been filed by Contractor during the last five (5) years? ___Yes ___No If you answered no, please explain why such returns were not filed.

18. Are there any criminal proceedings pending against the Contractor or any Principal or Officer of the Contractor or partner, if Contractor is a partnership? ___Yes ___No If you answered yes, please provide details of the pending criminal proceedings.

19. List the record of all criminal convictions of the Contractor, any Principal or Officer or partner, if Contractor is a partnership, and of any former Principal or Officer, of the Contractor or former partner, if Contractor is a partnership, for any crime related to truthfulness or business conduct and for any felony committed within the prior ten (10) years.

20. List all bankruptcy proceedings that the Contractor or its Affiliates have been the subject of within the past seven (7) years, whether pending or completed.

COMPLETE THIS FORM USING BLACK INK ONLY

CONTRACTOR'S DISCLOSURE STATEMENT

21. Is the Contractor a successor, assignee or Affiliate of a Business Entity that has ever been denied a Contract or deemed ineligible to bid on a Government Agency contract?

___ Yes No ___ If you answered yes, explain below.

OATH

I swear that all of the above answers are true based on my knowledge of the facts, or are believed by me to be true, based upon a review of records containing the facts or based upon information I obtained from someone who has knowledge of the facts; and that I have authority to sign this document; and that the answers given above have not been made in a manner intended to deceive or to defeat the purpose of the Contractor Disclosure Statement, which is to assist the County of Westchester in determining if the Contractor is a responsible bidder.

Submitted by: _____
(Signature)

Name (Print): _____

Title (Print): _____

Sworn to before me this ___ day of _____, 20__

NOTARY PUBLIC

COMPLETE THIS FORM USING BLACK INK ONLY

REQUIRED DISCLOSURE OF RELATIONSHIPS TO COUNTY

(Prior to execution of a contract by the County, a potential County contractor must complete, sign and return this form to the County)

Contract Name and/or ID No.:

(To be filled in by County)

Name of Contractor:

(To be filled in by Contractor)

A potential County contractor must complete this form as part of the proposed County contract.

- 1.) Are any of the employees that the Contractor will use to carry out this contract also a County officer or employee, or the spouse, child, or dependent of a County officer or employee?

Yes _____ No _____

If yes, please provide details (attach extra pages, if necessary): _____

- 2.) Are any of the owners of the Contractor or their spouses a County officer or employee?

Yes _____ No _____

If yes, please provide details (attach extra pages, if necessary): _____

- 3.) Do any County officers or employees have an **interest**¹ in the Contractor or in any approved subcontractor that will be used for this contract?

Yes _____ No _____

If yes, please provide details (attach extra pages, if necessary): _____

By signing below, I hereby certify that I am authorized to complete this form for the Contractor.

Name: _____

Title: _____

Date: _____

¹ "Interest" means a direct or indirect pecuniary or material benefit accruing to a County officer or employee, his/her spouse, child or dependent, whether as the result of a contract with the County or otherwise. For the purpose of this form, a County officer or employee shall be deemed to have an "interest" in the contract of:

- 1.) His/her spouse, children and dependents, except a contract of employment with the County;
- 2.) A firm, partnership or association of which such officer or employee is a member or employee;
- 3.) A corporation of which such officer or employee is an officer, director or employee; and
- 4.) A corporation of which more than five (5) percent of the outstanding capital stock is owned by any of the aforesaid parties.

QUESTIONNAIRE REGARDING BUSINESS ENTERPRISES
OWNED AND CONTROLLED BY
SERVICE-DISABLED VETERANS

The County believes it is a laudable goal to provide business opportunities to veterans who were disabled while serving our country, and wants to encourage the participation in County contracts of certified business enterprises owned and controlled by service-disabled veterans. As part of the County's program to encourage the participation of such business enterprises in County contracts, and in furtherance of Article 17-B of the New York State Executive Law, we request that you answer the questions listed below.

The term "Certified Service-Disabled Veteran-Owned Business" shall mean a business that is a certified service-disabled veteran-owned business enterprise under the New York State Service-Disabled Veteran-Owned Business Act (Article 17-B of the Executive Law).

1. Are you a business enterprise that is owned and controlled by a service-disabled veteran in accordance with the standards listed above?

_____ No
_____ Yes

2. Are you certified with the State of New York as a Certified Service-Disabled Veteran-Owned Business?

_____ No
_____ Yes

3. If you are certified with the State of New York as a Certified Service-Disabled Veteran-Owned Business, please attach a copy of the certification.

Name of Firm/Business Enterprise: _____
Address: _____
Name/Title of Person completing Questionnaire: _____
Signature: _____

STATE OF NEW YORK)
) ss.:
COUNTY OF)

Notary Public

Date:

SCHEDULE "F"
CRIMINAL BACKGROUND DISCLOSURE
INSTRUCTIONS

Pursuant to Executive Order 1-2008, the County is required to maintain a record of criminal background disclosure from all persons providing work or services in connection with any County contract, including leases of County-owned real property and licenses:

- a.) If any of the persons providing work or services to the County in relation to a County contract are not subject to constant monitoring by County staff while performing tasks and/or while such persons are present on County property pursuant to the County contract; and
- b.) If any of the persons providing work or services to the County in relation to a County contract may, in the course of providing those services, have access to sensitive data (for example SSNs and other personal/secure data); facilities (secure facilities and/or communication equipment); and/or vulnerable populations (for example, children, seniors, and the infirm).

In those situations, the persons who must provide a criminal background disclosure ("Persons Subject to Disclosure") include the following:

- a.) Consultants, Contractors, Licensees, Lessees of County-owned real property, their principals, agents, employees, volunteers or any other person acting on behalf of said Contractor, Consultant, Licensee, or Lessee who is at least sixteen (16) years old, including but not limited to Subconsultants, subcontractors, Sublessess, or Sublicensees who are providing services to the County, and
- b.) Any family member or other person, who is at least sixteen (16) years old, residing in the household of a County employee who lives in housing provided by the County located on County property.

Under Executive Order 1-2008, it is the duty of every County Consultant, Contractor, Licensee, or Lessee to inquire of each and every Person Subject to Disclosure and disclose whether they have been convicted of a crime or whether they are subject to pending criminal charges, and to submit this form with that information.¹ Accordingly, you are required to complete the attached Criminal Background Disclosure Form and Certification.

Please note that under no circumstances shall the existence of a language barrier serve as a basis for the waiver of or an exception from the disclosure requirements of Executive Order 1-2008. If translation services are required by the Consultant, Contractor, Licensee, or Lessee to fulfill this obligation, it shall be at the sole cost and expense of the Consultant, Contractor, Licensee, or Lessee.

Please also note that the conviction of a crime(s) and/or being subject to a pending criminal charge(s) will not automatically result in a denial of a person's right to work on a County contract, right to be on County property, or license, but may, if the County determines that the prior conviction(s) or pending criminal charge(s) create an unacceptable risk. However, if a person fails to list or falsifies any part of his/her conviction history or any pending criminal charge(s) for any reason, he/she may be prohibited from working or being on County property without any risk assessment. If it is later determined that a Person Subject to Disclosure failed to disclose a criminal conviction or pending criminal charge for any reason, his/her right to work on a County contract, be on County property, or license may be terminated at any time.

Please further note that, pursuant to Executive Order 1-2008, and subject to the applicable provisions of New York Correction Law §§ 752 and 753, the County has the right to bar a Person Subject to Disclosure from providing work or services to the County or from being on County property if any such person has:

- a.) A conviction of a crime(s);
- b.) A pending criminal proceeding for a crime(s); or
- c.) Refused to answer questions concerning his/her criminal background

¹ For these disclosures, a "crime" or "pending criminal charge" includes all felonies and misdemeanors as defined under the New York State Penal Law or the equivalent under Federal law or the laws of any other State.

Please finally note that any failure by a County Consultant, Contractor, Licensee, or Lessee to comply with the disclosure requirements of Executive Order 1-2008 may be considered by the County to be a material breach and shall be grounds for immediate termination by the County of the related County contract.

Exemptions

Executive Order 1-2008 exempts from the aforementioned disclosure requirements Persons Subject to Disclosure:

- a.) for whom the County has already conducted a background check and issued a security clearance that is in full force and effect; and
- b.) for whom another state or federal agency having appropriate jurisdiction has conducted a security and/or background clearance or has implemented other protocols or criteria for this purpose that apply to the subject matter of a County contract that is in full force and effect.

If you are claiming an exemption for one or more Persons Subject to Disclosure, you must notify the Procuring Officer². The Procuring Officer will then determine whether the Person(s) Subject to Disclosure are actually exempt, and provide written notification of his/her determination. If the Procuring Officer determines that a Person Subject to Disclosure is not exempt, the Procuring Officer will notify you of that determination, and you will have to include disclosures for that person on your Criminal Background Disclosure Form and Certification.

² Procuring Officer” shall mean the head of the department or the individual or individuals authorized by the head(s) of the department(s) undertaking the procurement and with respect to those matters delegated to the Bureau of Purchase and Supply pursuant to Section 161.11(a) of the Laws of Westchester County, the Purchasing Agent.

Subconsultants, Subcontractors, Sublessees, or Sublicensees

Under Executive Order 1-2008, it is your duty to ensure that any and all approved subconsultants, subcontractors, sublessees, or sublicensees complete and submit the attached Criminal Background Disclosure Form and Certification for all of their respective Persons Subject to Disclosure. This must be done before such a subconsultant, subcontractor, sublessees, or sublicensees can be approved to perform work on a contract.

New Persons Subject to Disclosure

Under Executive Order 1-2008, you have a **CONTINUING OBLIGATION** to maintain the accuracy of the Criminal Background Disclosure Form and Certification (and any accompanying documentation) for the duration of this contract, including any amendments or extensions thereto. Accordingly, it is your duty to complete and submit an updated Criminal Background Disclosure Form and Certification whenever there is a new Person Subject to Disclosure for this contract. **NO NEW PERSON SUBJECT TO DISCLOSURE SHALL PERFORM WORK OR SERVICES OR ENTER ONTO COUNTY PREMISES UNTIL THE UPDATED CRIMINAL BACKGROUND DISCLOSURE FORM AND CERTIFICATION IS FILED WITH THE PROCURING OFFICER.** You shall also provide the County with any other updates that may be necessary to comply with the disclosures required by Executive Order 1-2008.

*PLEASE CONTINUE TO THE
Criminal Background Disclosure Form and Certification
BEGINNING ON THE NEXT PAGE*

CONTRACT #:

Name of Consultant, Contractor, Lessee, or Licensee: _____

**CRIMINAL BACKGROUND DISCLOSURE
FORM AND CERTIFICATION**

If this form is being completed by a subconsultant, subcontractor, sublessee, or sublicensee, please consider all references in this form to “consultant, contractor, lessee, or licensee” to mean “subconsultant, subcontractor, sublessee, or sublicensee” and check here: _____

I, _____, certify that I am a principal or a
(Name of Person Signing Below)

representative of the Consultant, Contractor, Lessee, or Licensee and I am authorized to complete and execute this Criminal Background Disclosure Form and Certification. I certify that I have asked each Person Subject to Disclosure the following questions:

- **Have you or your company ever been convicted of a crime (all felonies and misdemeanors as defined under the New York State Penal Law or the equivalent under Federal law or the laws of any other State) including, but not limited to, conviction for commission of fraud, embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements or receiving stolen property?**
- **Are you or your company subject to any pending criminal charges (all felonies and misdemeanors as defined under the New York State Penal Law or the equivalent under Federal law or the laws of any other State)?**

I certify that the names and titles of Persons Subject to Disclosure who refused to answer **either** of the questions above are:

1. _____
2. _____
3. _____
4. _____
5. _____

(If more space is needed, please attach separate pages labeled “REFUSED to Answer - Continued.”)

I certify that the names and titles of Persons Subject to Disclosure who answered “Yes” to **either of the** questions above are:

1. _____
2. _____
3. _____
4. _____
5. _____

(If more space is needed, please attach separate pages labeled “YES Answers - Continued.”)

Each Person Subject to Disclosure listed above who has either **been convicted of a crime(s)** and/or **is subject to a pending criminal charge(s)** must answer additional questions. Those questions are below.

A Person Subject to Disclosure who has **been convicted of a crime(s)** must respond to the following (please attach separate pages with responses for each person, with their name and title):

- 1.) Describe the reason for being on County property if applicable, identify the specific duties and responsibilities on this project which you intend to perform for the County, including but not limited to, access to sensitive data and facilities and access to vulnerable populations.
- 2.) Please list all criminal convictions along with a brief description of the crime(s) (including all felonies and misdemeanors as defined under the New York State Penal Law or the equivalent under Federal law or the laws of any other State).
- 3.) Please provide the date and place of each conviction.
- 4.) Please provide your age at the time of each crime for which you were convicted.
- 5.) Please provide the legal disposition of each case.
- 6.) Please provide any information either produced by yourself or someone on your behalf in regards to your rehabilitation and good conduct.

A Person Subject to Disclosure who **is subject to a pending criminal charge(s)** must respond to the following (please attach separate pages with responses for each person, with their name and title):

- 1.) Describe the reason for being on County property and if applicable, identify the specific duties and responsibilities on this project which you intend to perform for the County, including but not limited to, access to sensitive data and facilities and access to vulnerable populations.
- 2.) Please identify all pending criminal charges (all felonies and misdemeanors as defined under the New York State Penal Law or the equivalent under Federal law or the laws of any other State).
- 3.) Please briefly describe the nature of the pending charges and the date upon which it is alleged that a crime was committed.

I hereby certify that all of the information provided herein (and in any and all attachments) is true and accurate and that all disclosures required by Executive Order 1-2008 and this Criminal Background Disclosure Form and Certification have been completed. By my signature below, I hereby affirm that all of the facts, statements and answers contained herein (and in any and all attachments) are true and correct. I understand that providing false or incomplete information or withholding by omission or intention pertinent information will be cause for refusing further consideration of my being utilized under this contract.

It is understood and agreed that no Person Subject to Disclosure shall perform work or services or enter onto County property until this required Criminal Background Disclosure Form and Certification is filed with the Procuring Officer.

It is understood and agreed that to the extent that new Persons Subject to Disclosure are proposed to perform work or provide services under this contract after filing of this Criminal Background Disclosure Form and Certification with the Procuring Officer, such new Persons Subject to Disclosure shall not perform work or provide services or enter into County property until an updated Criminal Background Disclosure Form and Certification has been filed with the Procuring Officer.

It is further understood and agreed that the consultant, contractor, lessee, or licensee has a continuing obligation to maintain the accuracy of the Criminal Background Disclosure Form and Certification for the duration of this contract, including any amendments or extensions thereto, and shall provide any updates to the information to the County as necessary to comply with the requirements of Executive Order 1-2008.

Name: _____

Title: _____

Date: _____

Notary Public

Date

SUBCONTRACTOR'S SEALED BID SUBMISSION

Westchester County Contract No.: _____

Name of Subcontractor: _____

Address: _____

Phone #: _____ Fax #: _____

E-mail address: _____

Name of Contractor to whom
this bid is submitted: _____

Scope of Work to be performed by Subcontractor (e.g., electrical, plumbing, HVAC):

The price agreed upon by and between Contractor and Subcontractor for the full
performance of the Subcontractor's work:

\$: _____

In words (e.g, one hundred thousand dollars and xx/100):

Subcontractor

Contractor

Signature

Signature

By _____
(print name & title)

By _____
(print name & title)

**THE SUCCESSFUL LOW BIDDER, BEFORE AWARD OF THE CONTRACT, MUST
PROCURE AND PROVIDE TO THE COUNTY, FROM EACH OF THE ABOVE
DENOTED SUBCONTRACTORS, A CONTRACT DISCLOSURE STATEMENT
(PROPOSAL PAGES 24-32) AND THE REQUIRED DISCLOSURE OF
RELATIONSHIPS TO COUNTY (PROPOSAL PAGES 33-34)**

COMPLETE THIS FORM USING BLACK INK ONLY

INFORMATION FOR BIDDERS



2. INFORMATION FOR BIDDERS

DEPARTMENT OF PUBLIC WORKS

Division of Engineering

INFORMATION FOR BIDDERS

1. ADDENDA AND INTERPRETATION

No interpretation of the meaning of the plans, specifications or other contract documents will be made to any bidder orally. Every request for such interpretation should be in writing addressed to the Westchester County Department of Public Works, Division of Engineering, Room 512, Michaelian Office Building, White Plains, New York, and to be given consideration must be received at least five (5) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be posted on the internet not later than three (3) days prior to the date fixed for the opening of bids. Revisions to plans or drawings requiring the issuance of additional or revised drawings will be noted on the internet with instructions how to acquire copies of such revised plans or drawings. Failure of any bidder to receive any such addendum or interpretation or any other form, instrument or document shall not relieve any bidder from any obligation under its bid as submitted. All addenda so issued shall become part of the contract documents.

A bidder's failure to request a clarification, interpretation, etc. of any portion of the plans, specifications, or contract or to point out any inconsistency therein will preclude such bidder from thereafter claiming any ambiguity, inconsistency, or error which should have been discovered by a reasonably prudent bidder and from asserting any claim for damages arising directly or indirectly therefrom.

2. VOIDED CLAUSES

Wherever in this booklet any page is stamped "VOID", only the section(s) or paragraph(s) so stamped are void. All other sections(s) and paragraph(s) remain in full force and effect.

3. PRE-BID SITE INSPECTION

Unless otherwise stated, on building construction work, bidders are free and encouraged to examine the work site during normal work hours preceding the date on which bids are to be opened. For those bidders requesting further clarification of the conditions, an appointment with the County's representative, on the eighth day (Tuesday) prior to the bid opening date, can be requested, by contacting the, Department of Public Works, Division of Engineering at (914) 995-2553.

Each bidder must inform itself fully of the conditions relating to the work to be performed. Failure to do so will not relieve a successful bidder of the obligation to furnish all material and labor necessary to carry out the provisions of the contract documents and to complete the contemplated work for the consideration set forth in its Bid.

At the time of the opening of bids each bidder will be presumed to have inspected the sites and to have read and to be thoroughly familiar with the Plans and Contract Documents (including all addenda).

4. BID SECURITY

Bid Security shall be provided in accordance with the "Notice to Contractors." Where

INFORMATION FOR BIDDERS

a Performance and Payment bond is required in the Notice to Contractors, the executed “Bid Bond and Consent of Surety” of the Proposal Pages must be submitted with the Bid when the bid is more than \$100,000. The successful bidder, no matter the size of its bid, will be required to furnish a Performance and Payment Bond.

Where a Performance and Payment Bond is not specified in the Notice to Contractors, then the required Security may be furnished in the form of a Certified Check; drawn to the order of “County of Westchester, clipped to the top of the front cover and submitted with the Bid.

Certified checks submitted will be returned to all bidders submitting certified checks within three (3) days after the opening of bids unless the bidder or bidders submitting certified checks are among the two lowest bidders. At any time after the opening of bids, the second lowest bidder, if the second lowest bidder has submitted a certified check, may substitute a bid bond for the certified check by presenting the bond to the Secretary of the Board of Acquisition and Contract. This bond shall be in the form and coverage required by the County and shall be in an amount not less than the amount of the bidder's certified check. After receipt, approval and acceptance of the bond by the County, the County will forward to the bidder a County check in an amount equal to the bidder's certified check.

All certified checks submitted will be returned to the two lowest bidders within 48 hours after the successful bidder executes the required contract and furnishes the County with all necessary bonds and insurance certificates.

In the event that the successful bidder has not executed the required contract and furnished the required bonds and insurance certificates within forty-five (45) days after the opening of bids, the County, upon demand from a bidder (except for the successful bidder), will send a County check to the bidder in the amount of the bidder's certified check.

Failure of the successful bidder to execute the contract and furnish the necessary bonds and insurance certificates shall result in forfeiture of the bid security, such sum to be retained by the County as liquidated damages.

5. PERFORMANCE AND PAYMENT BOND

If required pursuant to "Notice to Contractors."

If a Performance and Payment bond is required in accordance with the “Notice to Contractors”, the “Bid Bond and Consent of Surety” of the Proposal Pages must be executed by the Contractor’s Surety Company and submitted with the Bid for all bids over \$100,000.

Simultaneously with its delivery of the executed contract, the successful bidder shall deliver to the County an executed bond in the amount of one hundred percent of the accepted bid as security for the faithful performance of its contract and in the amount of one hundred percent for the payment of all persons performing labor or furnishing materials in connection therewith, prepared in satisfactory form and having as surety thereon such bond underwriter or surety that appears on the U.S. Treasury’s listing of approved sureties (Department Circular 570), and is licensed to transact business in New York State. In the event such Surety ceases to appear on the U.S. Treasury’s listing of approved sureties (Department Circular 570) or ceases to be licensed to transact business in New York State or becomes insolvent or enters liquidation proceedings, the Contractor, at its sole cost, shall furnish a replacement bond from a surety satisfactory to the County.

INFORMATION FOR BIDDERS

The form of contract and Performance and Payment Bond to be used in connection with this Contract and to become a part of the contract documents is attached in the section entitled "Sample Contract and Bond for Construction".

6. INDEMNIFICATION AGREEMENT

The Contractor agrees:

- A. that except for the amount, if any, of damage contributed to, caused by or resulting from the negligence of the County, the Contractor agrees to indemnify and hold harmless the County of Westchester, its officers, employees, elected officials, and agents from and against any and all liability, damage, claims, demands, costs, judgments, fees, attorneys' fees or loss arising directly or indirectly out of the performance or failure to perform hereunder by the Contractor or third parties under the direction or control of the Contractor; and
- B. to provide defense for and defend, at its sole expense, any and all claims, demands or causes of action directly or indirectly arising out of the Agreement and to bear all other costs and expenses related thereto.

7. INSURANCE REQUIREMENTS

The Contractor, upon award of the contract and throughout the term of the Agreement, shall obtain at its own cost and expense the required insurance as delineated below from insurance companies licensed in the State of New York, carrying a Best's financial rating of A or better. Contractor shall provide evidence of such insurance to the County of Westchester ("County"), either by providing a copy of policies and/or certificates as may be required and approved by the Director of Risk Management of the County ("Director"). The policies or certificates thereof shall provide that ten (10) days prior to cancellation or material change in the policy, notices of same shall be given to the Board of Acquisition and Contract of the County of Westchester by registered mail, return receipt requested, for all of the following stated insurance policies, with a copy also sent to the Director of Risk Management of the County. All notices shall name the Contractor and identify the Contract Number.

If at any time any of the policies required herein shall be or become unsatisfactory to the Director, as to form or substance, or if a company issuing any such policy shall be or become unsatisfactory to the Director, the Contractor shall upon notice to that effect from the County, promptly obtain a new policy, and submit the policy or the certificate as requested by the Director to the Office of Risk Management of the County for approval by the Director. Upon failure of the Contractor to furnish, deliver and maintain such insurance, the Agreement, at the election of the County, may be declared suspended, discontinued or terminated.

Failure of the Contractor to take out, maintain, or the taking out or maintenance of any required insurance, shall not relieve the Contractor from any liability under the Agreement, nor shall the insurance requirements be construed to conflict with or otherwise limit the contractual obligations of the Contractor concerning indemnification.

All property losses shall be made payable to the "County of Westchester" and adjusted with the appropriate County personnel.

In the event that claims, for which the County may be liable, in excess of the insured amounts provided herein are filed by reason of Contractor's negligent acts or omissions under the

INFORMATION FOR BIDDERS

agreement or by virtue of the provisions of the labor law or other statute or any other reason, the amount of excess of such claims or any portion thereof, may be withheld from payment due or to become due the Contractor until such time as the Contractor shall furnish such additional security covering such claims in form satisfactory to the Director.

In the event of any loss, if the Contractor maintains broader coverage and/or higher limits than the minimums identified herein, the County shall be entitled to the broader coverage and/or higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the County.

The Contractor shall provide proof of the following coverage. (Other coverage may be required by the County of Westchester based on specific needs. If such other coverages are required for a specific contract, those coverages will be described in the "Special Clauses" of the contract specifications):

- a) Workers' Compensation and Employer's Liability. Certificate form C-105.2 or State Fund Insurance Company form U-26.3 is required for proof of compliance with the New York State Workers' Compensation Law. State Workers' Compensation Board form DB-120.1 is required for proof of compliance with the New York State Disability Benefits Law. Location of operation shall be "All locations in Westchester County, New York."

Where an applicant claims to not be required to carry either a Workers' Compensation Policy or Disability Benefits Policy, or both, the employer must complete NYS form CE-200, available to download at: <http://www.wcb.ny.gov>.

If the employer is self-insured for Workers' Compensation, he/she should present a certificate from the New York State Worker's Compensation Board evidencing that fact (Either SI-12, Certificate of Workers' Compensation Self-Insurance, or GSI-105.2, Certificate of Participation in Workers' Compensation Group Self-Insurance).

- b) Commercial General Liability Insurance with a combined single limit of \$1,000,000 (c.s.1) per occurrence and a \$2,000,000 aggregate limit naming the "County of Westchester" as an additional insured on a primary and non-contributory basis. This insurance shall include the following coverages:
 - i. Premises - Operations.
 - ii. Broad Form Contractual.
 - iii. Independent Contractor and Sub-Contractor.
 - iv. Products and Completed Operations.

NOTE: Additional insured status shall be provided by standard or other endorsement that extends coverage to the County of Westchester for both on-going and completed operations.

All Contracts involving the use of explosives, demolition and/or underground work shall provide proof that XCU is covered.

- c) Commercial Umbrella/Excess Insurance: \$2,000,000 each Occurrence and Aggregate naming the "County of Westchester" as additional insured, written on a "follow the form" basis.
- d) Owners Protective Liability Policy naming the County as insured, with a minimum limit of liability per occurrence of \$3,000,000 (where applicable, or as determined by the Director, Risk Management)
- e) Automobile Liability Insurance with a minimum limit of liability per occurrence of \$1,000,000 for bodily injury and a minimum limit of \$100,000 per occurrence for property damage or a

INFORMATION FOR BIDDERS

combined single limit of \$1,000,000 unless otherwise indicated in the contract specifications. This insurance shall include for bodily injury and property damage the following coverages and name the "County of Westchester" as additional insured:

- i. Owned automobiles.
 - ii. Hired automobiles.
 - iii. Non-owned automobiles.
- f) Construction Insurance: For the construction, renovation or repair of bridges, viaducts or similar structures, the Contractor at its own cost and expense shall provide and maintain a "Bridge Builder's Risk Form, All Risk Insurance Contract," with flat premium endorsement, until the construction contract is accepted by the Board of Acquisition and Contract of the County of Westchester. The coverage shall be written for 100% of the completed value, covering the Contractor and County of Westchester as the insureds. The Contractor shall provide the original and duplicate policy to the County (unless the County shall accept, in lieu thereof, all contained endorsements including all applicable provisions and coverages).

For the construction of (a) new buildings and (b) for additions or repairs of existing buildings or structures, the Contractor at its own cost and expense shall provide and maintain a "Builder's Risk Form, All Risk Insurance Contract," with flat premium endorsement, until the construction contract is accepted by the Board of Acquisition and Contract of the County of Westchester. The coverage shall be written for 100% of the completed value, covering the Contractor and County of Westchester as the insureds. The Contractor shall provide the original and duplicate policy to the County (unless the County shall accept, in lieu thereof, all contained endorsements including all applicable provisions and coverages).

- g) With regard to the insurance coverage provided for in Section 7, subsections b), c) and e) above, in addition to naming the "County of Westchester" as an additional insured, the Contractor shall also name "Standard Amusements LLC" as an additional insured with regard to any contract, work or project to be performed at Playland Park in Rye, New York, on the same terms and conditions as provided for the benefit of the County of Westchester.

All policies of the Contractor shall be endorsed to contain the following clauses:

(a) Insurers shall have no right to recovery or subrogation against the County (including its employees and other agents and agencies), it being the intention of the parties that the insurance policies so effected shall protect both parties and be primary coverage for any and all losses covered by the above-described insurance.

(b) The clause "other insurance provisions" in a policy in which the County is named as an insured, shall not apply to the County.

(c) The insurance companies issuing the policy or policies shall have no recourse against the County (including its agents and agencies as aforesaid) for payment of any premiums or for assessments under any form of policy.

(d) Any and all deductibles in the above described insurance policies shall be assumed by and be for the account of, and at the sole risk of, the Contractor.

INFORMATION FOR BIDDERS

THIS SECTION INTENTIONALLY LEFT BLANK

8. PREVAILING WAGE RATES AND SUPPLEMENTS

A. Wages to be Paid and Supplements to be Provided

Each laborer, workman or mechanic employed by the Contractor(s), Sub-contractor(s) or other person(s) doing or contracting to do the whole or part of the work contemplated by this Contract, shall be paid the prevailing wages and provide the supplements (including but not limited to health, welfare and pension benefits) as required by Article 8 (Section 220-223) and Article 9 (230-239) of the New York State Labor Law.

INFORMATION FOR BIDDERS

B. Schedule of Hourly Rates/Supplements

The "Schedule of Hourly Rates and Supplements" shows the prevailing hourly rates of wages to be paid and supplements to be provided. It is the County's preference that such supplements shall be paid to a Federally qualified Pension, Health and Welfare program and New York State Registered Apprentice Training Program.

Classifications not appearing on the rate sheet can be used only with the consent of the Commissioner of Public Works and then the rate to be paid will be given by the Commissioner of Public Works after advising with the State Department of Labor.

C. Grounds for Cancellation of Contract

In the event of a failure, to pay the prevailing wages and provide the supplements in accordance with the New York State Labor Law, and as described in this Contract, it shall be considered a material breach. For the breach or violation of this provision, without limiting any other rights or remedies to which the County or any individual may be entitled or any civil or criminal penalty for which any violator may be liable, the County shall have the right, in its discretion, to terminate this agreement immediately upon notice. In such event, the Contractor(s), Sub-Contractor(s), et al shall be liable to the County for any additional costs incurred by the County in the completion of the project.

In addition to any other remedies available to the County and irrespective of any applicable penalties pursuant to law, the County may deduct from the amount payable to the Contractor under this contract five hundred (\$500.00) dollars as reimbursement for the costs it incurs in investigating any violation of Section 220 of the Labor Law.

D. Records to be kept on Site

The Contractor(s), Sub-contractor(s), et al. shall certify their payrolls and keep them on site and available, in addition to the following informative records:

- 1) Record of hours worked by each workman, laborer and mechanic on each day;
- 2) Record of days worked each week by each workman, laborer and mechanic;
- 3) Schedule of occupation or occupations at which each workman, laborer and mechanic on the project is employed during each work day and week;
- 4) Schedule of hourly wage rates paid to each workman, laborer and mechanic for each occupation.
- 5) A statement or declaration signed by each workman, laborer and mechanic attesting that they have been provided with a written notice, informing them of the prevailing wage rates and supplements requirement for this contract.

E. Responsibility of the Contractor, Sub-Contractor, et al.

The Contractor(s), Sub-Contractor(s), et al. will display the posters in a conspicuous location at the site and distribute the wallet cards to the employees. These posters and wallet cards will inform the employees that they are entitled to receive the prevailing wages and supplements as determined by the Department of Labor and will list the

INFORMATION FOR BIDDERS

Department of Labor's Public Work field offices, with phone numbers for individuals to call if they believe their rights are being violated.

F. Pay for a Legal Day's Work & Use of Apprentices

The wages to be paid for a legal day's work, as hereinbefore defined, to laborers, workmen or mechanics upon such public works, shall be not less than the prevailing rate of wages as hereinafter defined. Serving laborers, helpers, assistants and apprentices shall not be classified as common labor and shall be paid not less than the prevailing rate of wages as hereinafter defined. No employee shall be deemed to be an apprentice unless he is individually registered in an apprenticeship program which is duly registered with the Industrial Commissioner in conformity with the provision of Article 23 of the Labor Law. The wages to be paid for a legal day's work, as hereinbefore defined, to laborers, workmen or mechanics upon any material to be used upon or in connection therewith shall be not less than the prevailing rate for a day's work in the same trade or occupation in the locality within the state where such public work on, about or in connection with which such labor is performed in its final or completed form is to be situated, erected or used and shall be paid in cash; provided, however, that an employer may pay his employees by check upon a Certificate of the Industrial Commissioner to be issued only after a hearing upon the application to pay by check, which hearing shall be with notice of at least five days to be served personally or by mail on all interested persons, or if not served as aforesaid, then to be published in a manner directed by the Industrial Commissioner, which shall afford interested persons the opportunity to appear and to be heard at such hearing, and after proof has been furnished satisfactorily to the Industrial Commissioner of the employer's financial responsibility and the employer gives assurance that such checks may be cashed by employees without difficulty and for the full amount for which they are drawn. Such Contracts shall contain a provision that each laborer, workman or mechanic, employed by such Contractor, Subcontractor or other person about or upon such public works, shall be paid the wages herein provided.

G. Fiscal Officer's Duty to Determine Schedule of Wages

It shall be the duty of the fiscal officer (the "New York State Commissioner of Labor"), to ascertain and determine the schedule of wages to be paid workmen, laborers and mechanics on each such public work, prior to the time of the advertisement for bids, and such schedule of wages shall be annexed to and form a part of the specifications for the work. Such fiscal officer shall file with the department having jurisdiction such schedule of wages to the time of the commencement of the advertisement for bids on all public works proposed to be constructed. The term "Contract" as used in this subdivision also shall include reconstruction and repair of any such public work.

Where Contracts are not awarded within ninety days of the date of the establishment of the prevailing rate of wages by the fiscal officer, the department of jurisdiction shall request of the fiscal officer a redetermination of a schedule of wages.

H. Penalty for Payment of Less than Prevailing Wages

Any person or corporation that willfully pays after entering into such Contract, less than such stipulated wage scale as established by the fiscal officer shall be guilty of a

INFORMATION FOR BIDDERS

misdemeanor and upon conviction shall be punished for such first offense by a fine of five hundred dollars or by imprisonment for not more than thirty days, or both fine and imprisonment; for a second offense by a fine of one thousand dollars, 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 nor shall any officer, agent, or employee of the state, municipal corporation or commission or board appointed pursuant to law 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 for a second offense in violation of the provisions of this section.

9. LABOR AND COMPLIANCE WITH LABOR LAW

A. Preference for Westchester Residents

The Contractor agrees that in the performance of the work under this Contract he will give preference, and so far as legally possible, to employ citizens and residents of Westchester County.

B. Certifications To Be Filed

It is agreed that, in accordance with Section 220-d of the Labor Law as amended before final payment by or on behalf of the County for any sum due on account of a Contract for a public improvement, the Contractor and each and every Subcontractor of the Contractor or a Subcontractor is required to file a statement in writing in form satisfactory to the Commissioner of Finance certifying to the amounts then due and owing from such Contractor or Subcontractor filing such statement to or on behalf of any and all laborers for daily or weekly wages or supplements on account of labor performed upon the work under the Contract, setting forth therein the names of the persons whose wages or supplements are unpaid and the amount due to each or on behalf of each respectively, which statement so to be filed shall be verified by the oath of the Contractor or Subcontractor as the case may be that he has read such statement subscribed by him and knows the contents thereof, and that the same is true to his own knowledge.

C. Retention of Funds

It is further agreed that in accordance with Section 220b of the Labor Law, as amended:

- 1) In case any interested person 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 become due to him/her for daily or weekly wages or supplements for labor performed on the public improvement for which such Contract was entered into, or if for any other reason it may be deemed advisable, the Commissioner of Finance 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 on such public improvement before making payment of the amount certified for payment in any estimate or voucher, and may withhold the amount so deducted for the benefit of the laborers, workmen or mechanics whose

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wages or supplements are unpaid or not provided, as the case may be, as shown by the verified statements filed by any Contractor or Subcontractor, and may pay directly to any person the amount or amounts shown to be due to him or his duly authorized collective bargaining labor organization, as the case may be, for such wages or supplements by the statements filed as hereinbefore required, thereby discharging the obligation of the Contractor or Subcontractor to the person or his duly authorized collective bargaining labor organization receiving such payment to the extent of the amount thereof, or

- 2) When any interested person shall file a written complaint with the fiscal officer as defined in section 220-b of the Labor Law, alleging unpaid wages or supplements due for labor performed on a public improvement for which a Contract has been entered into, and said labor is alleged to have been performed within the two year period immediately preceding the date of the filing of said complaint, or if, on the fiscal officer's own initiative, unpaid wages or supplements appear to be due, the fiscal officer shall immediately so notify the financial officer of the civil division interested, or, if there are insufficient moneys still due to the Contractor or Subcontractor to satisfy said wages and supplements, including interest and penalty, the financial officer of another civil division which has entered or subsequently enters into a public improvement contract with the Contractor or Subcontractor, who shall withhold from any payment due or earned by the Contractor or Subcontractor executing said public improvement, sufficient moneys to satisfy said wages and supplements, including interest at the rate provided herein, and any civil penalty that may be assessed as provided herein, pending a final determination. The Commissioner of Finance shall immediately confirm in writing to the fiscal officer the amount of money withheld.
- 3) Moneys withheld pursuant to this section shall be held by the Commissioner of Finance for the sole and exclusive benefit of the workers employed on said public improvement and for payment of any civil penalty that may be assessed as provided herein and shall not be used for any other purpose except upon court order. Any person, partnership, association, corporation or governmental body who files a lien or commences a judicial proceeding with respect to any moneys withheld pursuant to this section shall notify the fiscal officer in writing of the lien or claim on or before the date of filing of the lien or commencement of the judicial proceeding. In any proceeding to obtain moneys withheld pursuant to this section by any person, partnership, association, corporation or governmental body, the Commissioner of Labor shall have the right to appear and be heard.
- 4) The fiscal officer shall then cause an investigation to be made to determine whether any amounts are due to the laborers, workmen or mechanics, or on their respective behalves, on such public improvement, for labor performed after the commencement of the three-year period immediately preceding the filing of the complaint or the commencement of the investigation on his own initiative, as the case may be, and shall order a hearing therein at a time and place to be specified and shall give notice thereof, together with a copy of such complaint, or a statement of the facts disclosed upon such investigation, which notice shall be served personally or by mail on all interested persons, including the person complained

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against and upon the financial officer of the civil division; such person complained against shall have an opportunity to be heard in respect to the matters complained of, at the time and place specified in such notice, which time shall be not less than five days from the service of said notice. The fiscal officer in such an investigation shall be deemed to be acting in a judicial capacity and shall have the rights to issue subpoenas, administer oaths and examine witnesses. The enforcement of a subpoena issued under this section shall be regulated by the Civil Practice Law and Rules. Such investigation and hearing shall be expeditiously conducted, and upon such hearing and investigation, the fiscal officer shall determine the issues raised thereon and shall make and file an order in his office stating such determination and forthwith serve a copy of such order, either personally or by mail, together with notice of filing, upon the parties to such proceedings, and if the fiscal officer be the Comptroller, upon the Commissioner of the Department of Labor. Such order shall direct payment of wages or supplements found to be due, including interest at the rate of interest then in effect as prescribed by the Superintendent of Banks pursuant to Section fourteen (a) of the Banking law per annum from the date of the underpayment to the date of payment.

- 5) In addition to directing payment of wages or supplements, including interest found to be due, the order of the fiscal officer may direct payment of a further sum as a civil penalty in an amount not exceeding twenty-five percent of the total amount found to be due. In assessing the amount of the penalty, due consideration shall be given to the size of the employer's business, the good faith of the employer, the gravity of the violation, the history of previous violations of the employer or any successor or substantially-owned affiliated entity or any of the partners if the Contractor or Subcontractor is a partnership or any of the five largest shareholders of the Contractor or Subcontractor, as determined by the fiscal officer, and any officer of the Contractor or Subcontractor who knowingly participated in the violation of this article, and the failure to comply with record keeping or other non-wage requirements. Upon the fiscal officer's determination of the penalty, where the fiscal officer is the Commissioner of the Department of Labor, the penalty shall be paid to said Commissioner for deposit in the State Treasury.
- 6) Upon the entry and service of such order, the Commissioner of Finance shall pay to the claimant, from the moneys due to the Contractor or Subcontractor, the amount of the claim as determined by the fiscal officer and the amount of the civil penalty, if any, shall be paid as provided herein, provided that no proceeding pursuant to Article Seventy-Eight of the Civil Practice Law and Rules for review of said order is commenced by any party aggrieved thereby within thirty days from the date of said order was filed in the office of the fiscal officer. Said proceeding shall be directly in the appellate division of the Supreme Court. Where the fiscal officer is the Commissioner of the Department of Labor, the civil penalty shall be paid to said Commissioner for deposit in the State Treasury. In the event that such a proceeding for review is instituted, moneys sufficient to satisfy the claim and civil penalty shall be set aside by the Commissioner of Finance, subject to the order of the Court.

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- 7) When final determination has been made and such determination is in favor of the complainant, said complainant may in addition to any other remedy provided by this article, institute an action in any Court of appropriate jurisdiction against the person or corporation found violating this article, any substantially-owned affiliated entity or any successor of the Contractor or Subcontractor, any officer of the Contractor or Subcontractor who knowingly participated in the violation of this article, and any of the partners if the Contractor or Subcontractor is a partnership or any of the five largest shareholders of the Contractor or Subcontractor, as determined by the fiscal officer, for the recovery of the difference between the sum, if any, actually paid to him by the Commissioner of Finance pursuant to said order and the amount found to be due him as determined by said order. Such action must be commenced, within three years from the date of the filing of said order, or if the said order is reviewed in a proceeding pursuant to Article Seventy-eight of the Civil Practice Law and Rules, within three years after the termination of such review proceeding.

- 8) When two final determinations have been rendered against a Contractor, Subcontractor, successor, or any substantially owned affiliated entity of the Contractor or Subcontractor, any of the partners if the Contractor or Subcontractor is a partnership, any officer of the Contractor or Subcontractor who knowingly participated in the violation of this article, any of the five largest shareholders of the Contractor or Subcontractor or any successor within any consecutive six-year period determining that such Contractor, Subcontractor, successor, or any substantially-owned affiliated entity of the Contractor or Subcontractor, any of the partners or any of the five largest shareholders of the Contractor or Subcontractor, any officer of the Contractor or Subcontractor who knowingly participated in the violation of this article has willfully failed to pay the prevailing rate of wages or to provide supplements in accordance with this article, whether such failures were concurrent or consecutive and whether or not such final determinations concerning separate public work projects are rendered simultaneously, such Contractor, Subcontractor, successor, or any substantially-owned affiliated entity of the Contractor or Subcontractor, any of the partners if the Contractor or Subcontractor is a partnership or any of the five largest shareholders of the Contractor or Subcontractor, any officer of the Contractor or Subcontractor who knowingly participated in the violation of this article shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with the State, any municipal corporation or public body for a period of five years from the second final determination, provided, however, that where any such final determination involves the falsification of payroll records or the kickback of wages or supplements, the Contractor, Subcontractor, successor, or any substantially-owned affiliated entity of the Contractor or Subcontractor, any partner if the Contractor or Subcontractor is a partnership or any of the five largest shareholders of the Contractor or Subcontractor, any officer of the Contractor or Subcontractor who knowingly participated in the violation of this article shall be ineligible to submit a bid on or be awarded any public work contract with the State, any municipal corporation or public body for a period of five years from the first final determination.

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- 9) Nothing in this subdivision shall be construed as affecting any provision of any other law or regulation relating to the awarding of public contracts.

Pursuant to Section 220-C of the Labor law, any Contractor or Subcontractor who shall upon his oath verify any statement required to be filed herein, which is known by him to be false, shall be guilty of perjury and punishable as provided by the Penal Law.

10. CONTRACTOR'S REPORT OF EMPLOYMENT AND WEEKLY AFFIDAVIT

Each week the Contractor shall furnish to the Commissioner of Public Works the "Contractor's Report Of Employment And Weekly Affidavit" of the Sample Forms.

11. LAWS/REGULATIONS AND APPROPRIATIONS

- A. The Contractor shall, at its own cost and expense, comply with all provisions of the Labor Law (i.e. prevailing rate of wages and supplements), Lien Law, Workmen's Compensation Law and all other laws and ordinances affecting this contract or order, either Federal, State or local.
- B. It is recognized and understood by the Parties that when this Agreement is subject to future appropriation by the Westchester County Board of Legislators for funds not presently appropriated to pay for this Agreement; the County shall have no liability under this agreement beyond the funds, if any, that are appropriated and available for payment of the amounts due under this Agreement. The Parties understand and intend that the obligation of the County to pay the amounts due hereunder shall constitute a current expense of the County and shall not in any way be construed to be a debt of the County in contravention of any applicable constitutional or statutory limitations or requirements concerning the creation of indebtedness by the County, nor shall anything contained in this Agreement constitute a pledge of the general tax revenues, funds or monies of the County. The County shall pay amounts due under this Agreement exclusively from legally available funds appropriated for this purpose. Notwithstanding the foregoing, the County will do all things lawfully within its power to obtain, maintain, and properly request and pursue funds from which payments under this Agreement may be made, including: (i) the County Executive making provisions for such payments to the extent necessary in the annual budget submitted to the Board of Legislators for the purpose of obtaining funding; and (ii) using its reasonable efforts to have such portion of the budget approved.

12. REFUSAL TO ANSWER QUESTIONS

It is understood and agreed by the Contractor that he/she bears an affirmative obligation to answer questions specifically or directly relating to this agreement before any official, board or agency authorized or empowered to inquire into such matters. This section shall not be construed as barring the Contractor, its directors, officers or employees from exercising their constitutional privilege against self-incrimination.

The foregoing, however, shall not be construed as limiting the rights and remedies of the County in the event of such refusal, and when such body or agency is wholly civil in nature,

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failure or refusal to fully cooperate with and diligently answer the inquiries of such official, board or agency may constitute grounds for the termination of this agreement and/or the exercise of any and all other rights or remedies which the County may have by reason of such failure or refusal.

Any and all contracts made with the State, the County of Westchester, or any public department, agency or official thereof, since July 1, 1959 by such person and by any firm, partnership or corporation of which he is a member, partner, director or officer, may be canceled or terminated by the County of Westchester, without incurring any penalty or damages on account of such cancellation or termination, but any monies owing pursuant to said transaction or contract prior to the cancellation and termination, shall be paid.

The successful bidder will be required to make all books and records concerning this contract available during business hours, upon reasonable notice, to duly authorized County personnel for the purpose of ascertaining compliance and/or performance of all provisions of this contract. This provision shall survive the termination of this agreement and for a period of six (6) years thereafter.

13. BID REQUIREMENTS

The Bid must be made on the "Proposal Pages" included in this specification or as provided with an addendum. All blank spaces on said Proposal Pages must be filled in and no change shall be made in the phraseology or in the items as contained therein.

Any bid which fails to name a price per unit of measurement for each of the items for which quantities are given, may be held to be informal and rejected. Bids submitted on Proposal Pages that contain any omissions, alterations, additions or items not called for in the bid documents, or that are illegible, unbalanced, conditional, incomplete or contain irregularities of any kind, may be rejected as informal. If the various parts of the work have been divided into classes and/or items to enable the bidder to bid for different portions of the work in accordance with its estimate of their costs, in the event of any increase or decrease in the quantity will be paid for at the price bid for that particular item. The sum of the amounts for each class or item, obtained by multiplying the approximate quantity by the unit price, shall constitute the total sum bid.

In the event of a discrepancy between the written bid amount and the numerical bid amount, the written amount will take precedence and be controlling as to the amount of the Bid. Any such discrepancy shall be corrected as set forth in Article "Correction Of Errors" of the Information for Bidders.

14. MISCELLANEOUS ADDITIONAL WORK (ITEM W-800)

A. Description - Under this item each Contractor shall furnish all labor, material and equipment required to accomplish miscellaneous additional work:

- 1) Necessitated by encountering during the course of the work field conditions of a nature not determinable during design; or
- 2) For which no unit prices are applicable.

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- B. Method of Measurement - Only that miscellaneous additional work shall be performed by the Contractor and will be paid for by the County, which has been authorized by the Commissioner or the Construction Administrator in writing, prior to its commencement.
- C. Article “Increase or Decrease of Quantities: Elimination of Items” of the Information for Bidders, will still apply relative to the percentage of the total awarded contract price that the work under the contract may be increased or decreased.
- D. Payment - The total amount paid to the Contractor will be determined in strict accordance with the provisions of Article “Extra Work: Increased Compensation/ Decreased Work: Credit to the Owner” of the General Clauses, and such payment will include only that overhead and profit that is applicable to the work performed under this item.
- E. Each Contractor shall include in its total bid the lump sum printed in the Proposal and any bid other than the specified amount will be considered informal.

15. CORRECTION OF ERRORS

Relative to dollar bid items and the required computations as submitted and performed by bidders on the proposal sheets, if there are any inconsistencies derived in multiplying unit bid prices by the stated quantities, the Commissioner reserves the right to reconcile the unit bid prices or the products of the unit bid prices and the stated quantities, when in the Commissioner's professional opinion such reconciliation(s) would concur with the apparent intent of a bidder and the Commissioner's estimated values of the respective bid items of the proposed contract work. In addition to the foregoing, the Commissioner reserves the right to correct all mathematical errors in additions or subtractions.

16. SHOWN QUANTITIES

All bids shall be submitted upon the following express conditions, which shall apply to and become a part of every bid received. The Bidders accept the quantities shown on the Proposal Pages opposite items of the work for which unit prices are to be bid as being approximate estimated quantities. Bidders shall satisfy themselves by personal examination of the location of the proposed work and surroundings thereof, and by such other means as they may prefer, as to the scope of the work and the accuracy of the approximate estimated quantities; and shall not at any time after submission of their bids dispute such approximate estimated quantities nor assert that there was any misrepresentation by the County or any misunderstanding by the Contractor in regard to the quantity or kind of materials to be furnished, or work to be done.

17. QUALIFICATION OF BIDDERS

The County may make such investigation as it deems necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish all information and data for this purpose as may be requested. The County reserves the right to reject any bid if the evidence submitted by, or the investigation of such bidder fails to satisfy the County, in the County's sole discretion, that it is properly qualified to carry out the obligations of the contract and to complete the contemplated work.

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18. REQUIRED EXPERIENCE

The County requires that each contractor possess not less than five (5) year's experience in performing work substantially similar in scope and size to the work for which it is bidding. The contractor agrees that upon request of the County the contractor will furnish a detailed statement of each project that it has performed during the most recent five (5) years (including but not limited to the name and address of the project, the name of the awarding entity/owner, the name of the awarding entity's/owner's representative, a current telephone number where that representative can be reached, the description of the project, general scope of the contractor's work, contract price, dates of performance, whether the contract was terminated for cause or convenience, whether the contract was completed and whether liquidated damages were assessed against the contractor [and if so, provide a written explanation]). The County reserves the right to require additional information as it deems appropriate concerning the history of the contractor's performance of each such contract. The final determination of whether the contractor possesses the requisite experience rests in the sole discretion of the County.

19. INCREASE OR DECREASE OF QUANTITIES: ELIMINATION OF ITEMS

In entering into this contract, the Contractor agrees that quantities shown on the Proposal Pages opposite items of the work for which unit prices have been requested are approximate estimated quantities, and that during the progress of the work the County may find it advisable and shall have the right to omit portions of the work, and to increase or decrease the shown approximate estimated quantities, or the scope of the whole work; and that the County reserves the right to add to or take from the total amount of the work up to a limit of thirty percent of the total amount of the contract based upon the executed contract price for all the specified work.

The Contractor shall make no claim for anticipated profits or loss of profits, because of any difference between the quantities of the various classes of work actually done, or of the materials actually furnished, and the original specified scope of work and the shown approximate estimated quantities.

The aforesaid thirty- percent pertains to the total amount of the contract and not to any individual item. Individual items may be increased or decreased any amount or may be eliminated entirely if so ordered by the Commissioner, excepting that the total amount of the contract as adjusted shall not result in a net increase or decrease of more than thirty percent except by mutual agreement between both parties thereto.

The Contractor waives all claims of any nature due to a misunderstanding of the location, character, or other conditions surrounding the work or of the shown approximate estimated quantities of items of the work.

20. BREAKDOWN COST OF LUMP SUM ITEMS AND CONTRACTS

After award of the contract and prior to actual start of the work, the successful bidder shall submit an itemized schedule of its estimated costs of lump sum items and or lump sum total contract work, for approval by the County. The schedule shall be submitted as an outline series with minor subdivisions, in accordance with the directives of the County. As part of

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this Schedule, the Contractor will be required to include a sum sufficient, as determined in the County's sole discretion, for the preparation and submission of approved final "As-builts", record drawings, guarantees, warranties, and operations and maintenance manuals.

21. ENGINEERING CHARGES

In addition to any and all other remedies available to the County when the work embraced in the contract is not completed on or before the date specified herein, engineering and inspection expenses incurred by the County of Westchester upon the work from the completion date originally fixed in the contract to the final date of completion of the work may be charged to the Contractor and be deducted from monies due the Contractor. Consideration of any extra work or supplemental contract work added to the original contract, as well as extenuating circumstances beyond the control of the Contractor, will be given due consideration by the County before assessing engineering and inspection charges against the Contractor. Such charges will be assessed, however, in cases where in the opinion of the Commissioner, the Contractor has delayed the work.

22. ESTIMATES AND PAYMENTS

As the work progresses but not more often than once a month and then on such days as the Construction Administrator may fix, the Contractor will submit a requisition in writing of the amount and value of the work performed and the materials and equipment provided to the date of the requisition, less any amount previously paid to the Contractor. The Contractor must complete at least ten (10%) percent of the work before submitting any claims for mobilization. From each requisition, the County will retain five percent (5%) plus one hundred fifty percent (150%) of the amount necessary to satisfy any claims, liens or judgments against the Contractor that have not been suitably discharged. The Commissioner will thereupon cause the balance of the requisition therein to be paid to the Contractor. In lieu of all or part of the cash retainage the County shall only accept bonds or notes of United States of America, New York State or political subdivisions thereof. As a condition to the making of any progress payment as set forth in this paragraph, the County, in its sole discretion may require the Contractor to submit such document as may be reasonably required to establish that the Contractor (and its subcontractor(s)) have timely and properly paid their respective subcontractor(s) and materialmen of whatever tier.

VENDOR DIRECT PAYMENT: All payments made by the County to the Contractor will be made by electronic funds transfer ("EFT") pursuant to the County's Vendor Direct program. The Contractor is required to complete the Vendor Direct Payment Authorization Form, which is located in the Forms Section on page 11 and 12. Payments will be automatically credited to the Contractor's designated bank account at the Contractor's financial institution. Payments are anticipated to be deposited two business days after the voucher/invoice is processed for payment. Saturdays, Sundays, and legal holidays are not considered business days. Under the Vendor Direct program you will receive an e-mail notification two days prior to the day the payment will be credited to your designated account. The e-mail notification will come in the form of a remittance advice with the same information that currently appears on County check stubs and will contain the date that the funds will be credited to your account. If there is a discrepancy in the amount received please contact

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your Westchester County representative as you would have in the past if there were a discrepancy in a check.

In the unlikely event that you do not receive the money in your designated bank account on the date indicated in the e-mail, please contact the Westchester County Accounts Payable Department at 914-995-3748. Whenever you change your bank or change or close your account a new Vendor Direct Payment Authorization Form must be submitted. Please contact the Westchester County Accounts Payable Department at 914-995-3748 and a new form will be e-mailed to you. When completing the payment authorization form you must either supply a voided check or have it signed by a bank official to ensure the authenticity of the account being set up to receive your payments. Failure to return the completed authorization form prior to award of the contract may result in the bid being considered non-responsive and the bid may be rejected.

When the work or major portion thereof, as contemplated by the terms of the contract (see Substantial Completion Payment and Final Payment later in this article), are substantially completed in the judgment of the Commissioner, the Contractor shall submit a requisition for the remainder of the contract balance. An amount equal to two (2) times the value of the remaining items to be completed plus one hundred fifty percent (150%) of the amount that the Commissioner deems necessary to satisfy to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged shall be deducted from the requisition. As the remaining items of work are satisfactorily completed or corrected, the County will, upon receipt of a requisition, pay for these items less one hundred fifty percent (150%) of the amount necessary to satisfy any claims, liens or judgments.

Contractor agrees, in the event of any withdrawal by the contractor of amounts retained from payments to the contractor pursuant to the terms hereof, that notwithstanding any contrary interpretation of Section 106 of the New York General Municipal Law, the contractor will be obliged to maintain the market value of securities deposited in an amount equal to the amount withdrawn pursuant to said Section 106. The Contractor will, within five (5) days of demand therefore by the fiscal officer of the County, deposit with such fiscal officer cash, or securities of the kind provided in Section 106, of a market value sufficient to maintain the market value of all securities on deposit at a level equal (as of the date such notice of the fiscal officer is given to the contractor) to the amount which the County shall be entitled to retain from payments to the contractor pursuant to the terms of the contract.

All estimates will be made for actual quantities for work performed and materials and equipment incorporated in the work as determined by the measurements of the Engineer, and this determination shall be accepted as final, conclusive and binding upon the Contractor. All estimates will be subject to correction in any succeeding estimate.

Payment will be made for materials pertinent to the project which have been delivered to the site or off-site by the Contractor and/or Subcontractor and suitably stored and secured in first-class condition as required by the Construction Administrator. Payment may be limited to materials in short and/or critical supply and materials specially fabricated for the project, as defined by the contract. Payment will be made only upon the written request of the contractor. The Contractor must submit certified copies of the manufacturer's or vendor's invoices or statements establishing the true purchase value of the material or equipment; freight bills, release of liens and certificate of insurance covering all equipment and materials. Then the County will include in the following monthly payment an amount not to

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exceed the lesser of the bid breakdown or the total purchase price of the stored equipment and materials less retainage provided that such equipment and materials are suitable for their intended use.

The Contractor shall be responsible for safeguarding stored equipment and materials against loss or damage of any nature whatsoever, shall retain title until incorporated into the work and acceptance by the County and in case of loss or damage, the Contractor shall replace such lost or damaged equipment and materials at no cost to the County.

After receipt of payment, the Contractor shall not remove from the site equipment and materials for which such payment was made without written authorization from the Commissioner.

No major equipment item shall be brought to the site until the following conditions are met:

- 1) The County must have received the manufacture's recommendations for on-site storage in writing.
- 2) The structure in which the equipment is to be installed is roofed (roofing must be watertight) and has such protection of doorways, windows, and other openings that will provide reasonable protection from the weather.
- 3) Prior to the County making a Partial Payment on a major equipment item the following conditions must be met:
 - a. The Contractor must certify to the County, in writing, that the equipment has been properly stored.
 - b. The Shop Drawings must be approved and the draft Operation and Maintenance Manuals must have been submitted.

The Contractor shall furnish to the Construction Administrator, prior to the making up of any Partial or Final Estimate, a copy of its and its Subcontractors' weekly payrolls for each and every preceding payroll period. The payroll submitted shall be a certified true copy and shall contain full information including but not limited to the number of hours worked, rate, classification and total sum paid each employee charged to or working on the job. With all except the first estimate, the Contractor shall furnish to the Construction Administrator a sworn statement listing all unpaid bills and liabilities incurred under the Contract.

A. Substantial Completion Payment

- 1) Within thirty (30) days after receiving written notice from the Contractor of substantial completion of the work under this Agreement, the Commissioner will cause an inspection to be made of the work done under this contract. If, upon such inspection, the Engineer determines that the work is substantially complete, a Substantial Completion Payment to the Contractor for the work done under this Contract, less any and all deductions authorized to be made by the Commissioner under this contract or by law, will be issued.
- 2) Such a Payment shall be considered a Partial and not a Final Payment.
- 3) As a condition precedent to receiving payment therefore, the Contractor must have received County approval of all Shop Drawing submittals, the Operation and Maintenance Manuals, and As-Built Drawing(s). Together with its application for substantial completion payment the Contractor shall also deliver to the

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Construction Administrator a verified statement certifying that all claims or liabilities arising from the completed work, including all charges for Extra Work, Change Orders, additional time, damages or credits (collectively referred to as “claims”) have been presented to the County. All such claims shall be described in sufficient detail so as to be easily identified. The Contractor’s failure to submit the verified statement shall constitute a full and final waiver of all claims against the County from the beginning of the project through the date of substantial completion as established by the County. The presentation of the verified statement to the County shall not constitute an acknowledgement by the County that any such claim is valid. The County expressly reserves its right to assert that any such claim(s) is waived or precluded by reason of other provisions of the contract documents. Only claims particularly identified on the Contractor’s verified statement shall be preserved; all other claims whatever nature shall be deemed waived and released. It shall also submit proof of title of the materials and equipment covered by the contract. The Contractor shall also, prior to the issuance of said Substantial Completion Payment, supply to the County affidavits and certificates for labor, material and equipment (where applicable).

B. Final Payment

- 1) Within ten (10) days after receiving written notice from the Contractor of completion of all the work, the Engineer will make a final inspection. If upon inspection the Engineer determines that no further work is needed, the Commissioner will request that the Board of Acquisition and Contract approve the completion of the project and authorize payment of the Final Estimate. Also required prior to the Board of Acquisition and Contract approval is a Condition Report by the Contractor that any damage of public or privately owned properties resulting from the Contractor’s work has been satisfactorily repaired.
- 2) As a condition precedent to receiving Final Payment therefore the Contractor shall submit a supplementary verified statement similar to that required under, “A. Substantial Completion Payment”, hereof. This verified statement must include only those charges for Extra Work, Change Orders, additional time, damages or credits (collectively referred to as “claims”) that accrued between substantial completion and final completion. The Contractor’s failure to submit the verified statement shall constitute a full and final waiver of all claims against the County from the beginning of the project through the date of substantial completion as established by the County. The presentation of the verified statement to the County shall not constitute an acknowledgement by the County that any such claim is valid. The County expressly reserves its right to assert that any such claim is waived or precluded by reason of other provisions of the contract documents. Only claims particularly identified on the Contractor’s supplementary verified statement shall be preserved; all other claims of whatever nature shall be deemed waived and released.
- 3) The Contractor shall also, prior to the issuance of Final Payment, supply to the County affidavits and certificates for labor, material and equipment (where applicable).

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- 4) The County will, not less than thirty (30) days after the Final Acceptance of the work under this contract, by the Board of Acquisition and Contract, pay the Contractor upon the receipt of all required documentation the balance of funds due thereunder after deduction of all previous payments, liens and all percentages and amounts to be kept and retained under provision of this contract.

All prior Partial Payments, being merely estimates made to enable the Contractor to prosecute the work more advantageously, shall be subject to correction in the Final Estimate and Payment

- 5) The acceptance by the Contractor or by anyone claiming by or through him of the Final Payment shall operate as and shall be a release to the County and every officer and agent thereof, from any and all claims of the Contractor for anything done or furnished in connection with this work or project and for any act or omission of the County or of any others relating to or affecting the work. No payment, however, final or otherwise, shall operate to release the Contractor or its Sureties from any obligation under this contract or the Performance and Payment Bond. Should the Contractor refuse to accept the final payment as tendered by the County, it shall constitute a waiver of any rights to interest thereon. Nor shall refusal to accept final payment extend any applicable statute of limitation.

23. PAYMENTS TO SUBCONTRACTORS AND MATERIALMEN BY CONTRACTOR

Within fifteen calendar days of the receipt of any payment from the County, the contractor shall pay each of its sub-contractors and materialmen the proceeds from the payment representing the value of the work performed and/or materials furnished by the subcontractor and/or materialmen as reflected in the payment from the owner less an amount necessary to satisfy any claims, liens or judgment against the subcontractor or materialman which have not been suitably discharged and less any retained amount as hereafter described. The contractor shall retain not more than five per centum of each payment to the subcontractor and/or materialman except that the contractor may retain in excess of five per centum but not more than ten per centum of each payment to the subcontractor provided that prior to entering into a subcontract with the contractor, the sub-contractor is unable or unwilling to provide a performance bond and a labor and material bond both in the full amount of the sub-contract at the request of the contractor. However, the contractor shall retain nothing from those payments representing proceeds owed the subcontractor and/or materialman from the County's payments to the contractor for the remaining amounts of the contract balance as provided in Article "Estimates and Payments" of the Information For Bidders. Within fifteen calendar days of the receipts of payment from the contractor, the subcontractor and/or materialman shall pay each of its subcontractors and materialmen in the same manner as the contractor has paid the subcontractor.

Nothing provided herein shall create any obligation on the part of the County to pay or to see the payment of any moneys to any subcontractor or materialman from any contractor nor shall anything provided herein serve to create any relationship in contract or otherwise, implied or expressed between the subcontractor or materialman and the County. Notwithstanding anything to the foregoing, the County may tender payments to the Contractor in the form of joint or dual payee checks.

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NOTICE: No direct payment will be made for work done or materials furnished under the General Clauses, Information for Bidders, General Clauses and Special Clauses, except where expressly stated elsewhere, but compensation shall be deemed to be included in the contract lump sum price for the total work and/or the contract unit prices for the various items of the work.

24. TIME OF STARTING

Time being of the essence, all bidders shall take notice that the timely completion of the work called for under this contract is of the greatest importance. The contractor shall commence its work within ten (10) days after "notice to proceed" has been given it by the Commissioner (unless a definite starting date is stated). Prior to commencing its work, the Contractor shall notify the Director of Project Management, Division of Engineering and Department of Public Works, at least forty-eight (48) hours prior to the planned date of its "start", so that a Construction Administrator can be assigned to the work.

25. SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION AND DEMOLITION WORK

At all times the Contractor shall use all required and necessary precautions for the safety and protection of the public, County personnel, construction employees, and private and public property on or adjacent to the work.

The Contractor shall comply fully with all the applicable provisions of the following listed governmental regulations and standards, noting that in case of conflict, the Contractor shall comply with the most stringent rule or regulation:

- 1) State of New York, Department of Labor, Bureau of Standards and Appeals, Industrial Code Rule 23 "Protection of Persons Employed in Construction and Demolition Work."
- 2) United States Department of Labor, Bureau of Labor Standards, "Safety and Health Regulations for Construction," as promulgated in accordance with the Occupational Safety and Health Act of 1970, Public Law 91-596; 84 Stat. 1590, Laws of 91st Congress - 2nd Session.

It shall be the sole responsibility of the Contractor to ascertain which of the regulations and standards contained in the foregoing listed publications effect its construction activities, and it shall be solely responsible for the penalties resulting from its failure to comply with such applicable rules and regulations. Copies of the listed publications are available for reference purposes only, in the Westchester County Department of Public Works, Division of Engineering, Design Section, Room 500, Michaelian Office Building, White Plains, New York.

The West Nile Mosquito control program:

- 1) Routinely, the work site should be inspected for potential habitats (i.e. stagnant/standing water) for mosquitoes.
- 2) Conditions that would require remediation include: improper site grading, ruts/other depressions, water in debris (i.e. containers, tires, etc.), stored or

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discarded materials, and excavations, and those cited by the Construction Administrator.

- 3) Under the direction of the Construction Administrator, the Contractor shall take all necessary preventive and/or corrective action to eliminate the potential breeding grounds.

26. ACCIDENT PREVENTION AND FIRST AID FACILITIES

In addition to conforming to the applicable governmental regulations and standards referred to in Article "Fire Prevention And Control" of the Information For Bidders, the Contractor shall conduct its work in accordance with the recommendations contained in the latest edition of the "Manual of Accident Prevention in Construction," as published by the Associated General Contractors of America, Inc. and the most recent safety codes approved by the American Standards Association. In case of the conflict with the referenced governmental regulations and standards, the most stringent regulation, standard or recommendation shall govern.

Further, and without in any way limiting the Contractor's obligations hereunder, and in accordance with the instructions of the Construction Administrator, the Contractor shall provide barricades, warning lights, danger and caution signs and other safeguards at all places where the work in any way is a hazard to the public.

The Contractor shall also provide and maintain upon the site at each location where major work is in progress, a completely equipped first aid kit that shall be readily accessible when construction activities are in progress. Posted on each first aid kit shall be the name, location and telephone number of the nearest hospital or doctor with whom the Contractor has previously made arrangements for emergency treatment in case of accident.

27. FIRE PREVENTION AND CONTROL

The Contractor shall abide by such rules and instructions as to fire prevention and control as the municipality having jurisdiction may prescribe. It shall take all necessary steps to prevent its employees from setting fires not required in the construction of the facility and shall be responsible for preventing the escape of fires set in connection with the construction.

It shall at all times provide the proper housekeeping to minimize potential fire hazards, and shall provide approved spark arresters on all steam engines, internal combustion engines and fuels.

Free access to fire hydrants and standpipe connections shall be maintained at all times during construction operations, and portable fire extinguishers shall be provided by the Contractor and made conveniently available throughout the construction site. The Contractor shall also notify its employees of the location of the nearest fire alarm box at all locations where work is in progress.

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28. STATE AND LOCAL SALES TAX EXEMPTION

The Contractor's attention is directed to Section 1115 of the Tax Law of New York State, Chapters 513 and 514 of the Laws of 1974. In connection with capital improvement contracts entered into on or after September 1, 1974, all tangible personal property which will become an integral component of a structure, building or real property of New York State, or any of its political sub-divisions, including the County of Westchester, is exempt from State and local retail sales tax and compensating use tax.

Bidders' proposals shall exclude dollar amounts for the payment of State and Local retail sales tax and compensating use tax, for tangible personal property defined above.

The successful bidder shall be obliged to file the required Contractor Exempt Purchase Certificates, which may be obtained from the New York State Department of Taxation and Finance (1-800-462-8100), in order to utilize such exemption.

29. APPRENTICES

The attention of all bidders is directed to Section 220(3-e) of the New York State Labor Law, which is hereby incorporated herein by reference, which requires, among other things, that "Apprentices who are registered under a Bona Fide New York State Registered Apprentice Training Program shall be permitted to work."

30. AFFIRMATIVE ACTION PROVISION

During the performance of this Contract, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age or handicap. Contractor shall take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex, national origin, age or handicap. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoffs or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to include, or require the inclusion of the above provision in any subcontract made pursuant to its contract with the County.

31. AFFIRMATIVE ACTION PROGRAM REQUIREMENT

Relative to the award of this Contract, it is required that all bidders completely answer all questions contained in the questionnaire entitled "Affirmative Action Program Requirement" of the Proposal Pages, and properly attest to same.

It is also required that all subcontractors completely answer all questions contained in the questionnaire entitled "Affirmative Action Program Requirement-Subcontractors" of the Sample Forms, and properly attest to same. This form is to be submitted with the request to utilize subcontractor(s).

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32. AUTHORITY TO DO BUSINESS IN NEW YORK

Any corporation not incorporated under the Laws of New York State, must furnish a copy of its certificate of authority, from the New York State Secretary of State, to do business in the State of New York, in accordance with Article 13 of the New York State Business Corporation Law.

33. LICENSE REQUIREMENTS (ELECTRICAL)

- A. In accordance with the requirements of Local Law No. 20-1997 of Westchester County, no person shall perform work under any contract with the County of Westchester except (i) a licensed Master Electrician; (ii) a licensed "Special Electrician"; or (iii) a Journeyman Electrician working under the direct supervision and control of a Master Electrician.

In no event shall the County incur any liability to pay for any electrical work performed in violation of the licensing requirements of Local Law No. 20-1997 of Westchester County.

- B. Contract with separate bids:

If the project is one where separate bid specifications are required pursuant to the provisions of the New York General Municipal Law, then any person, partnership, corporation, business organization or other business entity submitting a bid for the electrical portion of the project must possess, at the time of submission of the Bid, a valid Master/"Special" Electrician's license issued by the Westchester County Electrical Licensing Board in accordance with Chapter 277 Article XVII of the Laws of Westchester County and the Westchester County Electrical Licensing Board Rules & Regulations, in particular No. 11, which states as follows:

No individual holding a Master Electrician's License shall lend such License to any person or allow any other person to carry on, engage in, or labor at the business as defined herein of installing, removing, altering, testing, replacing, or repairing electrical systems. A violation of this section by any person holding a License shall be sufficient cause for revocation of such License.

However, nothing herein shall be construed to prohibit the use of a License by the holder thereof for or on behalf of a partnership, corporation or other business association, provided that fifty-one (51) percent or more of the control of the voting capital stock of such partnership, corporation, or other business association is owned by one (1) or more holders of a Westchester County Master Electrical License and that all work performed by such partnership, corporation or other business association is performed by or under the direct supervision of such License holder or holders.

- C. Contract with single bid:

Where the project does not involve separate bids pursuant to the New York General Municipal Law but where some electrical work is contemplated along with other work, the person, firm, partnership or corporation engaged to perform said electrical work

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must possess a valid Master/"Special" Electrician's license issued by the Westchester County Electrical Licensing Board.

- D. An electrical bidder must complete the "Certificate of License (Electrical)" of the Proposal Pages and will be required to furnish a copy of such license with the sealed Bid. Other bidders will be required to furnish a copy of such license for the applicable person engaged to perform the electrical work when request by the County, prior to awarding the contract.
- E. The license must be maintained at all times during the performance of the work contemplated under the contract. The suspension, revocation or the failure to maintain or renew such license shall, in addition to any other right or remedy available to the County, be grounds for immediate termination of the contract, effective immediately upon notice from the Commissioner.

34. LICENSE REQUIREMENTS (PLUMBING)

- A. In accordance with the requirements of Chapter 277, Article XV of the Laws of Westchester County, no person shall perform plumbing work under any contract with the County of Westchester except (i) a licensed Master Plumber; (ii) a certified Journey Level Plumber employed by and under the direction of a licensed Master Plumber; or (iii) an Apprentice Plumber working under the direct supervision and control of a Master Plumber or under the direct supervision and control of a certified Journey Level Plumber in the employ of a licensed Master Plumber.

In no event shall the County incur any liability to pay for any plumbing work performed in violation of the licensing requirements of Chapter 277, Article XV of the Laws of Westchester County.

- B. Contract with separate bids:

If the project is one where separate bid specifications are required pursuant to the provisions of the New York General Municipal Law, then any person, partnership, corporation, business organization or other business entity submitting a bid for the plumbing portion of the project must possess, at the time of submission of the Bid, a valid Master Plumber's license issued by the Westchester County Board of Plumbing Examiners in accordance with the Westchester County Board of Plumbing Examiners Rules and Regulations and Chapter 277 Article XV of the Laws of Westchester County, in particular Section 277.509A, which states as follows:

- A. No holder of a license or certification issued under this article shall authorize, consent to or permit the use of his or her license or certification by or on behalf of any other person. No person who has not qualified or obtained a license or certification under this article shall represent himself or herself to the public as holder of a license or certification issued under this article, either directly, by means of signs, sign cards metal plates or stationery, or indirectly in any other manner whatsoever. However, nothing herein shall be construed to prohibit the use of a license by the holder thereof for or on behalf of a partnership, corporation or other business association, provided that 51 percent or more of the control of the voting capital stock of such partnership, corporation or other business

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association is owned by one or more holders of a Westchester County master plumbing license and that all work performed by such partnership, corporation or other business association is performed by or under the direct supervision of such license holder or holders.

C. Contract with single bid:

Where the project does not involve separate bids pursuant to the New York General Municipal Law but where some plumbing work is contemplated along with other work, the person, firm, partnership or corporation engaged to perform said plumbing work must possess a valid Master Plumber's license issued by the Westchester County Board of Plumbing Examiners.

D. A plumbing bidder must complete the "Certificate of License (Plumbing)" of the Proposal Pages and will be required to furnish a copy of such license and the County issued identity badge with the sealed Bid. Other bidders will be required to furnish a copy of such license and the County issued identity badge for the applicable person engaged to perform the plumbing work when request by the County, prior to awarding the contract.

E. A restricted Master Plumber's license issued by the Westchester County Board of Plumbing Examiners shall satisfy the requirements of this section provided such restricted license authorizes the Master Plumber to engage in the business of plumbing within the local municipality in which the work under the contract is to be performed.

F. The license must be maintained at all times during the performance of the work contemplated under the contract. The suspension, revocation or the failure to maintain or renew such license shall, in addition to any other right or remedy available to the County, be grounds for immediate termination of the contract, effective immediately upon notice from the Commissioner.

35. LICENSE REQUIREMENTS (HAULERS)

(Haulers Of Solid Waste; Recyclables; Construction And Demolition Debris; Garden And Yard Waste And/Or Scrap Metal)

A. DEFINITIONS:

- 1) "Class A" refers to all haulers except those whose hauling business is limited solely to Class C, Class D or Class E activities or whose recycling business is limited to Class B activities. Class A Licensees may also conduct Class B, Class C, Class D and Class E activities.
- 2) "Class B" refers to Recyclable brokers. Class B Licensees may also conduct Class C, Class D and Class E activities.
- 3) "Class C" refers to haulers who exclusively handle construction and demolition debris. Class C Licensees may also conduct Class D and Class E activities. With respect to Class C haulers, the following shall apply: a. Class "C-1" shall refer to a business or subsidiary which generates construction and demolition debris, as defined herein, and which, incidental to such business, transports, stores, processes, transfers or disposes of the construction and demolition debris generated by the

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operations of such business or subsidiary. Class "C-1" Licensees may also conduct Class E activities; b. Class "C-2" shall refer to all other businesses which otherwise transport, collect, store, transfer, process, or dispose of construction and demolition debris. Class "C-2" haulers may also conduct Class "C-1", Class D and Class E activities.

- 4) "Class D" refers to (i) haulers who collect, store, transport, transfer, process or dispose of garden and yard waste generated, originated or brought within the County where such garden and yard waste was previously generated by a person or entity other than the Licensees and/or (ii) haulers who collect, store, transport, transfer, process or dispose of garden and yard waste and which own, lease, or control one or more vehicles having three (3) or more axles which vehicles will be used in the collection, storage, transfer, transportation, processing or disposal of garden and yard waste generated, originated or brought within the County.
- 5) "Class E" refers to haulers who exclusively conduct a scrap peddler business.
- 6) "Construction and Demolition Debris" means uncontaminated Solid Waste resulting from the construction, remodeling, repair and demolition of structures and roads, and uncontaminated Solid Waste consisting of vegetation resulting from land clearing and grubbing, utility line maintenance and seasonal and storm-related cleanup. Such waste includes, but is not limited to, bricks, concrete and other masonry materials, soil, rock, wood, wall coverings, plaster, drywall, plumbing fixtures, non-asbestos insulation, roofing shingles, asphaltic pavement, glass, plastics that are not sealed in a manner that conceals other waste, electrical wiring and components containing no hazardous liquids, metals, and trees or tree limbs that are incidental to any of the above.
- 7) "Hauler" means any person excluding municipalities, the County and any County district including, but not limited to, Refuse Disposal District No. 1 and all County sewer and water districts, who, for a fee or other consideration, collects, stores, processes, transfers, transports or disposes of Solid Waste, Recyclables or construction and demolition debris that is generated or originated within the County or brought within the boundaries of the County for disposal, storage, transfer or processing.
- 8) "Recyclables" means those materials defined as "Recyclables" under Section 825.30 (8) of the Westchester County Source Separation Law.
- 9) "Scrap Peddler" shall mean any person who collects scrap materials for sale to a Recyclable broker using no more than one vehicle for collection and transportation of such materials.
- 10) "Solid Waste" means all putrescible and non-putrescible materials or substances, except as described in Paragraph 4 of 6 NYCRR Part 360-1.2(a), and/or regulated under 6 NYCRR Part 364, that are discarded or rejected as being spent, useless, worthless or in excess to the owners at the time of such discard or rejection including, but not limited to, garbage, refuse, commercial waste, rubbish, ashes, incinerator residue and construction and demolition debris. "Solid Waste" shall not be understood to include Recyclables as defined above.

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- B. **PLEASE TAKE NOTICE** - In accordance with the requirements of Chapter 826-a, Article III of the Laws of Westchester County, it is unlawful for any person to collect, store, transfer, transport or dispose of solid waste; recyclables; construction and demolition debris; garden and yard waste and/or scrap metal, as defined herein, that is generated or originated within the County or brought within the boundaries of the County for disposal, storage, transfer or processing, or to conduct any activities defined as Class A, Class B, Class C, Class D or Class E activities under Chapter 826-a of the Laws of Westchester County, in Westchester County (hereinafter collectively referred to as "hauling") without having first obtained a license therefore from the Westchester County Solid Waste Commission.

In no event shall the County incur any liability with respect to any hauling activities conducted by the bidder or any subcontractor of the bidder in violation of Chapter 826-a of the Laws of Westchester County.

- C. Where the project necessitates that hauling be performed, either the bidder or the person, partnership, corporation, business organization or other business entity engaged to perform such hauling work on behalf of the bidder (hereinafter the "subcontractor") must possess a valid license issued by the Westchester County Solid Waste Commission at the time of submission of the bid and throughout the duration of any contract issued pursuant thereto.
- D. A hauler bidder must complete the "Certificate of License (Hauler)" of the Proposal Pages and will be required to furnish a copy of such license with the sealed bid. Other bidders will be required to furnish a copy of such license for the applicable person engaged to perform the hauling work when requested by the County, prior to awarding the contract.
- E. The suspension, revocation, or the failure to maintain or renew such license may, in addition to any other right or remedy available to the County, be grounds for termination of the contract, effective immediately upon notice from the Commissioner. The bidder which is awarded the contract hereunder shall have a continuing obligation to notify the Commissioner, within (2) business days, of any suspension, revocation or other action taken with respect to any license issued by the Westchester County Solid Waste Commission which may limit or impair the bidder's ability, or the ability of any authorized subcontractor, to perform such hauling work in the County of Westchester.

It shall be the bidder's responsibility to ensure that any subcontractor who will perform the hauling services required under any contract issued pursuant to this bid specification has a valid license for the duration of the term of any contract awarded hereunder.

- F. In the event that a license held by the bidder or its subcontractor is revoked, suspended or otherwise discontinued by the Westchester County Solid Waste Commission, or in the event that the bidder is otherwise required to obtain the services of a new or alternate subcontractor for the hauling work, the bidder shall immediately notify the Commissioner and seek the Commissioner's approval for the use of such subcontractor to provide the hauling services which are required under the contract, and shall provide the Commissioner with a copy of the license issued by the Westchester County Solid Waste Commission to such subcontractor. No bidder or subcontractor shall provide

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hauling services under the contract until a copy of its license has been provided to the Commissioner and the Commissioner has approved of such bidder or subcontractor.

36. MINORITY PARTICIPATION POLICY

- A. Pursuant to Chapter 308 of the Laws of the County of Westchester, the County encourages the meaningful and significant participation of business enterprises owned by persons of color and women - Minority Business Enterprise (MBE) and Women Business Enterprise(WBE); on County of Westchester contracts.
- B. It is the goal of the County of Westchester to use its best efforts to encourage, promote and increase participation of business enterprises owned and controlled by persons of color or women (MBE/WBE) in contracts and projects funded by all departments of the County and to develop a policy to efficiently and effectively monitor such participation.
- C. In recognition of the need to promote the development of business enterprises owned and controlled by persons of color and women to achieve a goal of equal opportunity, and overcome the existing under representation of these groups in the business community, the County of Westchester acting through its Office of Economic Development shall as a lawful public and County purpose provide technical and informational assistance to such business enterprises with a particular emphasis on education programs to encourage participation in the contract procurement process.
- D. For the purposes of this Local Law, a business enterprise owned and controlled by women or persons of color shall be construed to mean a business enterprise including a sole proprietorship, partnership or corporation that is: (a) at least 51% owned by one or more persons of color or women; (b) an enterprise in which such ownership by persons of color or women is real, substantial and continuing; (c) an enterprise in which such ownership interest by persons of color or women has and exercises the authority to control and operate, independently, the day-to-day business decisions of the enterprise; and (d) an enterprise authorized to do business in this state which is independently owned and operated. In addition, a business enterprise owned and controlled by persons of color or women shall be deemed to include any business enterprise certified as an MBE or WBE pursuant to Article 15-a of the New York State Executive Law and implementing regulations, 9 NYCRR Subtitle N Part 540 et seq., or as a small disadvantaged business concern pursuant to the Small Business Act, 15 U.S.C. 631 et seq., and the relevant provisions of the Code of Federal Regulations as amended.
- E. The Contractor hereby acknowledges and agrees:
 - 1) That in the hiring of employees for the performance of work under this contract or any subcontract hereunder, no contractor, subcontractor, nor any person acting on behalf of such contractor or subcontractor, shall be reason of race, creed, color, religion, gender, age, ethnicity, disability, sex, alienage or citizenship status, national origin, marital status, sexual orientation, familial status, genetic predisposition or carrier status discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates;

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- 2) That no contractor, subcontractor, nor any person on its behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of work under this contract on account of race, creed, color, religion, gender, age, ethnicity, disability, sex, alienage or citizenship status, national origin, marital status, sexual orientation, familial status, genetic predisposition or carrier status;
 - 3) That there may be deducted from the amount payable to the contractor by the County under this contract a penalty of fifty (50) dollars for each person for each calendar day during which such person was discriminated against or intimidated in violation of the provisions of the contract;
 - 4) That this contract may be canceled or terminated by the County, and all moneys due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this section of the contract; and
 - 5) The aforesaid provisions of this section covering every contract for or on behalf of the County for the manufacture, sale or distribution of materials, equipment or supplies shall be limited to operations performed within the territorial limits of the State of New York.
 - 6) Contractor agrees to include, or require the inclusion of the above provision in any subcontract made pursuant to its contract with the County.
- F. In furtherance of the Contractor's obligation to make documented good faith efforts to utilize Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE) for the Work required by this Contract, the Contractor shall provide the Minority/Women Business Enterprise Questionnaire signed by an officer of the Contractor, and any additional information requested by the County, including but not limited to the following, which shall be delivered to the Construction Administrator and _____, Program Manager of Minority- and Women-Owned Business Program, County of Westchester, Room 911, 148 Martine Avenue, White Plains, New York 10601 coincident with the Contractor's delivery to the County of its bid and shall be provided by the Contractor with any request for approval of subcontractors:
- 1 (a) The name, address, telephone number and contact person of each MBE and WBE solicited verbally by Contractor during the applicable period for the performance of any portion of the Contractor's Work and the date(s) that each such solicitation was made;
 - 1 (b) A description of the portion of the Contractor's Work for which each such solicitation is made.
 - 1 (c) A listing of the project documents, if any, furnished to each such MBE and WBE.
 2. A copy of each written solicitation sent by the Contractor to each MBE and WBE and the name and address of each MBE and WBE to whom the solicitation was made.
 - 3) The name and address of each MBE and WBE that performs any portion of the Contractor's Work, a description of such portion of the Work and the dollar

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amount therefore.

- 4) A statement that the Contractor reviewed a list of MBE and WBE contractors in their outreach efforts. A list can be found at www.westchestergov.com/mwob.
- 5) Indicate those MBE and WBE contractors found on the list that provided the type of subcontractor services required for this project. If none were found, please indicate.
- 6) Describe other outreach efforts, including other MBE and/or WBE lists, organizations or individuals that were contacted.

The failure of the low bidder to comply with the provisions of this subparagraph F may result in the County NOT awarding this contract to your firm. Failure of the Contractor to comply with the provisions of this subparagraph F may constitute a material breach of this Contract. Failure to comply with the Minority Participation Policy may be considered by the County when awarding contracts.

37. SEXUAL HARASSMENT POLICY

- A. As with discrimination involving race, color, religion, age, sexual orientation, disability, and national origin, Westchester County also prohibits sex discrimination, including sexual harassment of its employees in any form. The County will take all steps necessary to prevent and stop the occurrence of sexual harassment in the workplace.
 - 1) **This policy applies to all County employees and all personnel in a contractual relationship with the County.** Depending on the extent of the County's exercise of control, this policy may be applied to the conduct of non-County employees with respect to sexual harassment of County employees in the workplace.
 - 2) This sexual harassment policy includes, but is not limited to, inappropriate forms of behavior described by the Equal Employment Opportunity Commission.
- B. Sexual advances that are not welcome, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitutes sexual harassment when:
 - 1) Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment; -OR-
 - 2) Submission to or rejection of such conduct by an individual is used as the basis for employment decisions, such as promotion, transfer, or termination, affecting such individuals; -OR-
 - 3) Such conduct has the purpose or effect of unreasonably interfering with an individual's work performance or creating an intimidating, hostile or offensive working environment.
- C. Sexual harassment refers to behavior that is not welcome, that is personally offensive, that fails to respect the rights of others, that lowers morale and that, therefore, interferes

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with an employee's work performance and effectiveness or creates an intimidating, hostile or offensive working environment.

38. SMOKE-FREE WORKPLACE POLICY

- A. By way of Executive Order No. 5 of 1998 and Local Law 3 of 2003, it is now the policy of the County of Westchester to institute a smoke-free “workplace”.
- B. Every indoor County “workplace”, shall become a smoke-free area. The smoking or carrying of lighted cigarettes, cigars, pipes, or any other tobacco-based products, or products that result in smoke, is hereby banned.
- C. Every indoor County “workplace” shall be covered under this Executive Order, including the County Jail in Valhalla and the Westchester County Center in White Plains. This Executive Order shall not, however, apply to County-owned facilities that are not County “workplaces”, such as employees housing or privately run restaurants on County property (e.g. at the County golf courses).
- D. The Richard J. Daronco County Courthouse shall not, for purposes of this Executive Order, be considered a County “workplace”, and therefore shall not be required to be smoke-free.
- E. This Executive Order is intended to be consistent with, and not modify, any provisions of the New York State Public Health Law.
- F. This Executive Order shall take effect immediately and remain in full force and effect until otherwise superseded or revoked.

39. COUNTY ENERGY EFFICIENT PURCHASING POLICY

- A. By way of Executive Order No. 9 of 2002, it is now the policy of the County of Westchester to institute an Energy Efficient Purchasing Policy.
- B. This policy shall apply to all purchases made by and for the County in accordance with applicable laws, rules and regulations.
- C. Wherever the price is reasonably competitive and the quality adequate for the purpose intended, purchase and utilization of products that meet Energy Star requirements for energy efficiency as determined by the United States Environmental Protection Agency and the United States Department of Energy is hereby recommended.
- D. If the Energy Star label is not available with respect to a particular product, than it is recommended that products in the upper twenty-five percent of energy efficiency as designated by the United States Federal Energy Management Program shall be purchased and utilized if the prices of those products are reasonably competitive and the quality adequate for the purpose intended.

40. RESTRICTION ON USE OF TROPICAL HARDWOODS

- A. The bidder/proposer shall not use or propose to use any tropical hardwoods or tropical hardwood products in any form, except in accordance with State Finance Law § 165 (Use of Tropical Hardwoods), as may be amended from time to time. Pursuant to the

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State Finance Law § 165, any bid/proposal which proposes or calls for the use of any tropical hardwood or wood product in the performance of the contract shall be deemed non-responsive.

41. DISCLOSURE OF RELATIONSHIPS TO COUNTY

- A. The successful bidder is required to complete the form entitled “Required Disclosure of Relationships to County” on Proposal Pages 32-33 before award of the contract.
- B. In the event that any information provided on the completed Proposal Pages entitled “Required Disclosure of Relationships to County” changes during the term of this agreement, the Contractor shall notify the Commissioner in writing within ten (10) days of such event by submitting a revised “Required Disclosure of Relationships to County” form.

42. CONTRACTOR DISCLOSURE STATEMENT

The Contractor and each Major Subcontractor represents that all information provided by the Contractor and Major Subcontractor in the form entitled “Contractor Disclosure Statement” on Proposal Pages 23-31 is in all respects true and correct. In the event the information provided on that document changes during the term of this agreement or for a period of three (3) years after the date that the Contractor and/or the Major Subcontractor receives final payment under this agreement, the Contractor and/or Major Subcontractor shall notify the Commissioner in writing within ten (10) days of such event by submitting a revised “Contractor/Major Subcontractor Disclosure Statement”. Bidders must complete the Required Disclosure of Relationships to County form. The Required Disclosure of Relationships to County form is located on Proposal Pages 32-33.

43. CRIMINAL BACKGROUND INFORMATION

Pursuant to Executive Order 1-2008 and subject to the applicable provisions of New York Correction Law §§ 752 and 753, the County shall have the right to bar the following “Persons Subject to Disclosure” (Persons shall mean individuals or legal entities) from providing work or services to the County or from being on County property:

(a) Consultants, Contractors, Licensees, Lessees of County owned real property, their principals, agents, employees, volunteers or any other person acting on behalf of said Contractor, Consultant, Licensee, or Lessee who is at least sixteen (16) years old, including but not limited to Subconsultants, Subcontractors, Sublessees or Sublicensees who are providing services to the County; and

(b) Any family member or other person, who is at least sixteen (16) years old, residing in the household of a County employee who lives in housing provided by the County located on County property.

If any of the above mentioned Persons Subject to Disclosure has either one of the following:

(a) A conviction of a crime (all felonies and misdemeanors as defined under the New York State Penal Law or the equivalent under Federal law or the laws of any other State);

(b) A pending criminal proceeding for a crime(s) as defined above; or

INFORMATION FOR BIDDERS

(c) A refusal to answer such questions.

Where the following criteria apply:

(a) If any of the Persons Subject to Disclosure providing work or services to the County in relation to a County Contract are not subject to constant monitoring by County staff while performing tasks and/or while such persons are present on County property pursuant to the County Contract; and

(b) If any of the Persons Subject to Disclosure providing work or services to the County, in relation to a County Contract may, in the course of providing those services, have access to sensitive data (for example, Social Security Numbers and other personal/secure data); facilities (secure facilities and/or communication equipment); and/or vulnerable populations (for example, children, seniors and the infirm).

Accordingly, the Contractor is required to review the Instructions found in the instructions and complete “Contractor and all persons subject to Disclosure Certification Forms” located at Forms Pages 11-13 as well as any other applicable criminal disclosure forms (i.e., Forms Pages 14 through 19,” together with Forms Pages 11-13 collectively referred to as “Disclosure Forms”).

However, the following Persons Subject to Disclosure are **exempt** from Executive Order 1-2008: (i) those persons for whom the County has already conducted a background check and issued a security clearance that is in full force and effect; or (ii) those persons for whom another state or federal agency having appropriate jurisdiction has conducted a security and/or background clearance or has implemented other protocols or criteria for this purpose that apply to the subject matter of this Contract that is in full force and effect.

If a Person Subject to Disclosure is exempt from the disclosure described in Executive Order 1-2008 because of either “i” or “ii” above, then the Contractor shall notify the Procuring Officer¹ in the respective Department of its claim of exemption and it shall be the responsibility of the Procuring Officer to verify each exemption. If the Procuring Officer determines that the Contractor is exempt under sections “i” or “ii” above, the Procuring Officer shall confirm same with the Contractor and maintain a written record including all supporting details of the verification of and acknowledgement of said exemption.

If the Procuring Officer determines that the Contractor is not exempt under sections “i” or “ii” above, the Procuring Officer shall notify the Contractor in writing, and the appropriate Disclosure Forms shall be required.

It shall be the Contractor’s duty to disclose and to inquire of each and every Person Subject to Disclosure, whether they have been convicted of a crime or whether they are currently subject to pending criminal charges. It shall be the duty of the Contractor to submit a completed Certification Form “Forms Pages 11-13”annexed hereto as ,” which certifies that the Contractor and every Person Subject to Disclosure has been asked whether they have been convicted of a crime or are currently subject to pending criminal charges.

Should the Contractor or any Person Subject to Disclosure (also referred to as “Person”)

¹ “Procuring Officer” shall mean the head of the department or the individual(s) authorized by the head(s) of the department(s) undertaking the procurement and with respect to those matters delegated to the Bureau of Purchase and Supply pursuant to Section 161.11(a) of the Laws of Westchester County, the Purchasing Agent.

INFORMATION FOR BIDDERS

affirmatively advise that they have been convicted of a crime said Person shall be identified in Forms Page 14 entitled “Names And Titles Of Persons Subject To Disclosure That Answered Yes” to any questions on Forms Pages 11-13 and shall complete Forms Pages 15-16 entitled, “Criminal Background Disclosure Form For Persons Who Have Been Convicted of A Crime.”

Should the Contractor or any Person Subject to Disclosure advise that they are subject to pending criminal charges, said Person shall be identified in Forms Page 14 and shall complete the form annexed hereto as Forms Pages 17-18 entitled, “Criminal Background Disclosure Form For Persons Who Are Subject to Pending Criminal Charges.”

Should the Contractor or any Person Subject to Disclosure refuse to answer whether they have been convicted of a crime or are currently subject to pending criminal charges, the name and title of said Person(s) shall be listed on Forms Page 19 entitled “Persons That refused To Answer”.

It shall be the duty of the Contractor to submit to the Procuring Officer all of the attached applicable Disclosure Forms prior to the commencement of this Contract. It is the responsibility of each Contractor to assure that all of their proposed Subcontractors complete the criminal background and disclosure certification forms and submit the forms to the Procuring Officer before they will be approved to perform work on the contract.

Under no circumstances shall the existence of a language barrier serve as a basis for the waiver of or an exception to this obligation. If the Contractor needs to obtain translation services to fulfill this obligation, it shall be at the sole cost and expense of the Contractor.

The Contractor shall be required to make the same inquiry and forward updated Disclosure Forms to the Procuring Officer regarding additional Persons Subject to Disclosure in connection with this Contract during the term of this Contract. **NO NEW PERSON SUBJECT TO DISCLOSURE SHALL PERFORM WORK OR SERVICES OR ENTER ONTO COUNTY PREMISES UNTIL THE UPDATED DISCLOSURE FORMS ARE FILED WITH THE PROCURING OFFICER.**

THE CONTRACTOR HAS A CONTINUING OBLIGATION TO MAINTAIN THE ACCURACY OF THE DISCLOSURE FORMS FOR THE DURATION OF THIS CONTRACT, INCLUDING ANY AMENDMENTS OR EXTENSIONS THERETO AND SHALL PROVIDE ANY UPDATES TO THE PROCURING OFFICER AS NECESSARY TO COMPLY WITH THE DISCLOSURE REQUIREMENTS BY EXECUTIVE ORDER 1-2008.

Any failure by the Contractor to comply with the disclosure requirements of Executive Order 1–2008, absent proof of exemption deemed satisfactory by the County Procuring Officer, may be considered by the County, a material breach by the Contractor and may be grounds for immediate termination of this Agreement by the County.

44. MANDATORY OSHA CONSTRUCTION SAFETY AND HEALTH TRAINING

Pursuant to NYS Labor Law §220-h – On all public work projects of at least \$250,000 all laborers, workers and mechanics employed, in the performance of the contract on the public work site, either by the contractor, sub-contractor or other person doing or contracting to do the

INFORMATION FOR BIDDERS

whole or a part of the work contemplated by the contract, are required to be certified as having successfully completed an OSHA construction safety and health course of at least 10 hours prior to performing any work on the project.



3. GENERAL CLAUSES

DEPARTMENT OF PUBLIC WORKS

Division of Engineering

GENERAL CLAUSES

1. MATERIAL AND WORKMANSHIP

It is the intent of these specifications to require first-class work and new and best quality materials. For any unexpected features arising during the progress of the work and not fully covered herein the specifications shall be interpreted to require first-class work and materials, and such interpretations shall be binding upon the Contractor.

- 1) Upon award of the Contract, the Contractor shall furnish in writing to the Construction Administrator the sources of supply for concrete, and other materials that it proposes to use in the work, and material shall not be furnished from other sources of supply except after written approval by the Construction Administrator. The Contractor shall, before ordering equipment verify that Suppliers of equipment will provide the required warranties, guarantees, and maintenance services.

2. DEFINITIONS

COMMISSIONER - The head of the Department of Public Works of the County of Westchester.

CONSTRUCTION ADMINISTRATOR- The representative of the Commissioner of Public Works at the project site who, unless specifically designated otherwise in the Contract, shall in the first instance, make such determinations as are necessary for the expeditious completion of the Work, except for those determinations that are reserved to the Commissioner.

CONTRACT - Shall mean each of the various parts of these documents both as a whole or severally and except for titles, subtitles, headings and table of contents, shall include the Notice to Bidders, Information for Bidders, the Proposal, the Specifications, the Performance Bond, the Plans, the Contract Form, and all addenda and provisions required by law.

CONTRACTOR - Party of the second part to the Contract acting directly or through its agents, subcontractors, or employees, and who is responsible for all debts pertaining to and for the acceptable performance of the work for which it had contracted.

COUNTY - Party of the first part to the Contract as represented by the Board of Acquisition and Contract and the Commissioner of Public Works for the County of Westchester.

ENGINEER - An Engineer or Architect that designed the project and is serving as the duly authorized representative of the Commissioner of Public Works who, in addition to the duties set forth in the Contract, shall, in the first instance, make such determinations as are necessary to ensure the Contractor's compliance with its obligations for the preparation and submission of shop drawings and all other submittals required for the Work. If there is no Engineer the duties of the Engineer shall be performed by the Construction Administrator and all references in this

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Agreement to the Engineer shall be deemed to mean the Construction Administrator.

MAJOR SUBCONTRACTOR- Subcontractors performing all or a portion of the work for Electrical; Heating, Ventilating and Air Conditioning; Fire Prevention; General Construction; and/or any Subcontractor whose subcontract price is equal to or greater than ten percent (10%) of the Contract Price.

OWNER - The County of Westchester.

PLANS - All official drawings or reproductions of drawings pertaining to the work or to any structure connected therewith.

SPECIFICATIONS - The body of directions, requirements, etc. contained in this present volume, together with all documents of any descriptions and agreements made (or to be made), pertaining to the methods(or manner) of performing the work or to the quantities and quality. Specifications shall also include the Notice to Contractors, Instructions to Bidders, Bond, Proposal and Contract Agreement.

SURETY - The corporate body, which is bound with and for the Contractor and which engages to be responsible for the faithful performance of the contract, and to indemnify the County against all claims for damages.

A.A.S.H.O. - American Association of State Highway Officials

A.R.E.A. - American Railway Engineering Association

A.S.T.M. - American Society for Testing Materials

A.W.W.A. - American Water Works Association

N.E.C. - National Electrical Code

N.E.M.A. - National Electric Manufacturers Association

3. BOUNDARIES OF WORK

The County will provide land or rights-of-way for the work specified in this Contract. Other contractors, employees or concessionaires of the county, may for all necessary purposes enter upon the work and premises used by the Contractor, and the Contractor shall give to other contractors and employees of the County all reasonable facilities and assistance for the completion of adjoining work.

4. OVERLAPPING WORK

The Contractor shall take notice that because of work on other contracts within and adjacent to the contract limits it may not have exclusive occupancy of the territory within or adjacent

GENERAL CLAUSES

to the contract limits, and that during the life of this contract the owners and operators of Public Utilities may make changes in their facilities.

The said changes may be made by utility employees or by contract within or adjacent to the contract limits and may be both temporary and permanent.

The Contractor shall cooperate with other Contractors and owners of various utilities and shall coordinate and arrange the sequence of its work to conform with the progressive operations of work already or to be put under contract. Cooperation with Contractors already or to be engaged upon the site is essential to properly coordinate the construction efforts of all Contractors, Utility Owners and Subcontractors engaged in work within and adjacent to the contract limits.

The Contractor shall coordinate the work of its various Subcontractors. Their respective operations shall be arranged and conducted so that delays are avoided. Where the work of the Contractor or Subcontractor overlaps or dovetails with that of other Contractors, materials shall be delivered and operations conducted so as to carry on the work continuously in an efficient and workmanlike manner. The Contractor shall coordinate its work to be done hereunder with the work of the other Contractor(s) and the Contractor shall fully cooperate with such other Contractor(s) and carefully fit its own work to that provided under other contracts as may be directed by the Construction Administrator. If the Construction Administrator shall determine that the Contractor is failing to coordinate its work with the work of the other Contractor(s) as the Construction Administrator has directed, then the Commissioner shall have the right, at its sole option, to withhold any payments otherwise due hereunder until the Construction Administrator's directions are complied with by the Contractor and/or deduct the costs incurred by the County due to the Contractor's failure or refusal to so cooperate. Delays or oversights on the part of the Contractor or Subcontractors or Utility Owners in performing their work in the proper manner thereby causing cutting, removing and replacing work already in place, shall not be the basis for a claim for extra compensation.

In the event of interference between operations of Utility Owners and other Contractors, or among the Contractors themselves, the Construction Administrator shall be the sole judge of the rights of each Contractor insofar as the sequence of work necessary to expedite the completion of the entire project, and in all cases its decision shall be final. The Contractor agrees that it has included in its unit prices bid for the various items of the contract the possible additional cost of performing the work under this contract because it may not have a clear site for its work and because of possible interference of roadway use, other Contractors and necessary utility work, and the necessity or desirability of opening certain sections of pavement to traffic before the entire work is completed. The County shall not be liable for any damages suffered by any Contractor by reason of another Contractor's failure to comply with the directions of the Construction Administrator, or by reason of another Contractor's default in performance or by any act or failure to act of any Utility Owner or anyone working on its behalf, it being understood that the County does not guarantee the responsibility or continued efficiency of any Contractor or Utility Owner and under no circumstances shall the County be liable to any Contractor or Utility Owner for any delays, interferences or any other impediment or hindrance to the Contractor's or Utility Owner's work .

GENERAL CLAUSES

Should the Contractor sustain any damage through any act or omission of any other contractor having a Contract with the County for the performance of work upon the site or of work which may be necessary to be performed for the proper prosecution of the work to be performed hereunder, or through any act or omission of a supplier or subcontractor of whatever tier of such contractor, the Contractor shall have no claim against the County for such damage, but shall have a right to recover such damage from the other contractor under the provision similar to the following provision that has been or will be inserted in the Contracts with such other contractors.

Should any other Contractor having or who shall hereafter have a Contract with the County for the performance of work upon the site sustain any damage through any act or omission of the Contractor hereunder or through the act or omission of any subcontractor of whatever tier of the Contractor, the Contractor agrees to reimburse such other Contractor for all such damages and to defend at his own expense any suit based upon such claim and if any judgment or claims against the County shall be allowed the Contractor shall pay or satisfy such judgment or claim and pay all costs and expenses, including attorney's fees, incurred by the County in connection therewith and to indemnify and hold the County harmless from all such claims.

The County's right to indemnification hereunder shall not be diminished or waived by its assessment against the Contractor of liquidated damages as may be provided elsewhere herein.

Delays in availability of any part of the site or any delays due to interference between the several Contractors and the Utility Owners shall be compensated for by the Construction Administrator solely through granting an extension of time in which to complete the work of the contract without assessment of Engineering charges. The Contractor in submitting its bid hereby agrees that it shall make no other claim against the County for any damages due to such delays or interference.

5. PROPER METHOD OF WORK AND PROPER MATERIALS

The Construction Administrator shall have the power in general to direct the order and sequence of the work, which will be such as to permit the entire work under this contract to be begun and to proceed as rapidly as possible, and such as to bring the several parts of the work to a successful completion at about the same time.

If at any time before the commencement or during the progress of the work the materials and appliances used or to be used appear to the Construction Administrator as insufficient or improper for securing the quality of work required, or the required rate of progress, he may order the Contractor to increase their efficiency or to improve their character, and the Contractor shall promptly conform to such order; but the failure of the Construction Administrator to demand any increase of such efficiency or improvement shall not release the Contractor from its obligation to secure the quality of work or the rate of progress specified.

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6. CONTROL OF AREA

Unloading of materials and parking of equipment shall be subject to the orders of the Construction Administrator so far as he may find necessary for the protection and safety of the traveling public and the preservation of property.

7. PERMITS, FEES, ETC.

The County will obtain at its sole cost the necessary New York State Pollutant Discharge Elimination System (“SPDES”) Permit and will sign the associated Notice of Intent (“NOI”). The Contractor and its subcontractors will sign the required Certification Statement (a copy of which is contained as Proposal Page) when it signs the contract.

All necessary permits from County, State or other concerned Public Authorities shall be secured at the cost and expense of the Contractor. It shall also give all notices required by law, ordinance, or the rules and regulations of the concerned Public Bureaus or Departments, and also as a part of the Contract, comply without extra charge or compensation with all State Laws and all other Ordinances or Regulations that may be applicable to this work. Contractor, however, shall first notify the Commissioner before proceeding with securing of all necessary permits and the giving of required notices.

8. TRAFFIC

The General Contractor shall be responsible for the Maintenance and Protection of traffic at all times until the date of completion and acceptance of its work.

During the whole course of the work the Contractor shall so conduct its work and operations so as to interfere with traffic passing the work as little as possible and effect by every reasonable means the safety and comfort of pedestrians, vehicles and vehicle passengers passing the work.

9. INSPECTION

The Contractor shall at all times provide convenient access and safe and proper facilities for the inspection of all parts of the work. No work, except such shop work as may be so permitted, shall be done except in the presence of the Construction Administrator or his/her assistants. No material of any kind shall be used upon the work until it has been inspected and accepted by the Construction Administrator. All materials rejected shall be immediately removed from the work and not again offered for inspection. Any materials or workmanship found at any time to be defective shall be remedied at once, regardless of previous inspection. The inspection and supervision of the work by the Construction Administrator is intended to aid the Contractor in supplying labor and materials in accordance with the specifications, but such inspection shall not operate to release the Contractor from any of its contract obligations.

10. STOPPING WORK

The Commissioner, Construction Administrator or Engineer may stop by written order any work or any part of the work under this contract if, in his/her opinion, the methods employed

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or conditions are such that unsatisfactory work might result. When work is so stopped it shall not be resumed until the methods or conditions are revised to the satisfaction of the Commissioner, which must be signified in writing. The Contractor agrees to make no claim for increased costs arising from the issuance of any stop work order.

11. DIMENSIONS

Figured dimensions on the plans shall be given preference over scaled dimensions, but shall be checked by the Contractor before starting construction. Any errors, omissions or discrepancies shall be brought to the attention of the Engineer and his/her decision thereon shall be final.

12. PAYMENTS TO COUNTY

Wherever in the Contract Documents the Contractor is required to make a payment to the County, the Contractor agrees that the County has the option to withhold such sum(s) from payments otherwise due to the Contractor and that all such sums withheld shall be deemed not to be earned by the Contractor.

13. PROTECTION OF UTILITIES AND STRUCTURES

The Contractor shall be responsible for the preservation of all public and private underground and surface utilities/structures at or adjacent to the construction work; insofar as they may be endangered by the work. This shall hold true whether or not they are shown on the contract drawings. If they are shown on the drawings, the County does not guarantee their locations even though the information will be from the best available sources.

The Contractor shall give ample and reasonable notice to all private, corporate or municipal owners before work is done near their utility or structure; shall properly protect all utilities/structures encountered; shall at their expense repair/replace any items that are damaged; and shall proceed with caution to prevent undue interruptions to utility services.

Investigation and/or on-site mark-out, by the County, must be done prior to excavation work at the Valhalla Campus. This investigation/mark-out is to serve as a guide for the Contractor and does not absolve the Contractor from the responsibility to repair/replace identified or non-identified utilities/structures, at no cost to the County.

All excavation work performed at the Valhalla Campus requires the submission of a completed "Ground Penetration" form/sketch(es) will be distributed to the appropriate utility owners. Therefore, the Contractor should assume that no excavation work can be performed until approximately twenty (20) working days after submission of the form/sketch(es), but not prior to approval by the DPW-BO Superintendent of Buildings.

14. PROTECTION OF WATER RESOURCES & THE ENVIRONMENT

The Contractor is responsible to review the specifications and drawings as they relate to this Agreement to ascertain what procedures must be followed in order to comply with all applicable stormwater management, water quality control, erosion, and sediment control

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laws, rules, regulations and permits. If the Contractor is of the opinion that any work required, necessitated, or contained in the specifications or otherwise ordered conflicts with the applicable stormwater management, water quality control, erosion, and sediment control laws, rules, regulations, procedures, and permits, including, without limitation, all applicable provisions of the New York State Stormwater Management Design Manual, and the New York Standards and Specifications for Erosion and Sediment Control as they may be amended from time to time, it must promptly notify the First Deputy Commissioner of the Department of Public Works in writing.

In addition to all other requirements contained in this Agreement, the Contractor recognizes and understands that it is an essential element of this Agreement that the Contractor complies with the County's policies to protect water resources and the environment. The Contractor must comply with all applicable stormwater management, water quality control, erosion, and sediment control laws, rules, regulations, permits, procedures and specifications, including, without limitation, all applicable provisions of the New York State Stormwater Management Design Manual,¹ the New York Standards and Specifications for Erosion and Sediment Control as they may be amended from time to time. All of these documents should be obtained from the New York State Department of Environmental Conservation to ensure that the Contractor has the latest version. It should be noted that the standards set forth in the New York State Stormwater Management Design Manual, and the New York Standards and Specifications for Erosion and Sediment Control apply to ALL work done for the County, regardless of the size of the project. In case of a conflict among the governmental regulations and standards, the most stringent regulation, standard or recommendation shall apply to the work done under this Agreement.

The Contractor and its subcontractors shall execute the required Stormwater Pollution Prevention Certification, which is located at Proposal Page 20. In addition, the Contractor acknowledges that if the work required under this Agreement requires that a State Pollutant Discharge Elimination System ("SPDES") permit be obtained from the New York State Department of Environmental Conservation, then the Contractor must comply with the terms and conditions of the SPDES permit for stormwater discharges from construction activities and the Contractor will not take any action or fail to take any necessary action that will result in the County being held to be in violation of said permit or any other permit. The Contractor shall cooperate with the County in obtaining the permit and comply with the SPDES permit and all other applicable laws, rules, regulations and permits.

The Contractor shall provide, as the Commissioner or his designee may request, proof of compliance with the County's policies to protect water resources and the environment, and all applicable stormwater management, water quality control, erosion and sediment control laws, rules, regulations, permits, procedures and specifications.

The Contractor is responsible to ascertain which of the laws, rules, regulations, permits and standards referenced above affect its construction activities, and the Contractor shall be solely responsible for all costs and expenses, including any penalties or fines, incurred by the County, due to the Contractor's failure to comply with such applicable laws, rules,

¹ available at <http://www.dec.state.ny.us/website/dow/swmanual/swmanual.html> - The location of this reference is provided to assist the Contractor; it does not relieve the Contractor from the obligation of obtaining and complying with the latest version of the document.

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permits, regulations, standards and County policies. The Contractor shall be responsible to defend and indemnify the County from any and all claims resulting from the Contractor's failure to comply with the applicable laws, rules, regulations, permits, standards and County policies.

Failure of the Contractor to comply with the County's policies to protect water resources and the environment, and all applicable stormwater management, water quality control, erosion and sediment control laws, rules, regulations, permits, procedures and specifications may result in the withholding of progress payments to the Contractor by the County. Such withholding of progress payments shall not relieve the Contractor of any requirements of the Agreement including the completion of the work within the specified time, and any construction sequence requirement of the Agreement.

The Contractor acknowledges that its failure to comply with the County's policies to protect water resources and the environment, and all applicable stormwater management, water quality control, erosion and sediment control laws, rules, regulations, permits, procedures and specifications shall constitute a material breach under this contract. For the breach or violation of this provision, without limiting any other rights or remedies to which the County may be entitled, the County shall have the right, in its sole discretion to suspend, discontinue or terminate this Agreement immediately upon notice to the Contractor. In such event, the Contractor shall be liable to the County for any additional costs incurred by the County in the completion of the project.

The failure of the Contractor to comply with these requirements could lead to a determination that the Contractor is not a responsible bidder when the Contractor is bidding on other projects.

15. SANITARY REGULATIONS

The Contractor shall obey and enforce such sanitary regulations and orders and shall take such precautions against infectious diseases as may be deemed necessary. The building of shanties or other structures for housing the men, tools, machinery or supplies will be permitted only at approved places, and the sanitary condition of the grounds in and at such shanties or other structures must be at all times maintained in a satisfactory manner.

16. CLEANING UP

Upon completion of the work, the Contractor shall remove all equipment, rubbish, debris and surplus materials from the buildings, and grounds, and provide a suitable dumping place for such materials. The premises shall be left in a neat, clean and acceptable condition.

No litter, debris of any kind shall be allowed to accumulate for more than one day in any portion of the buildings or grounds, and must be removed from the area at the end of each workday.

17. PREVENTION OF DUST HAZARD

In accordance with the New York State Labor Law, Section 22a, in the event a silica or other harmful dust hazard is created due to construction operations under the contract, the Contractor shall install, maintain and keep in effective operation the appliances and methods

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for the elimination of such silica dust or other harmful dust as have been recommended and approved by State and local authorities.

18. REPRESENTATIVE ALWAYS PRESENT

The Contractor in case of its absence from the work shall have a competent representative **fluent in English** or foreman present, who shall obey without delay, all instructions of the Construction Administrator in the prosecution and completion of the work in conformity with this contract, and shall have full authority to supply labor and material immediately.

19. WORK IN BAD WEATHER

During freezing, stormy or inclement weather, no work shall be done except such as can be done satisfactorily and in a manner to secure first-class construction throughout.

20. PROTECTION OF WORK UNTIL COMPLETION

The Contractor shall be responsible for the protection and maintenance of its work until the same has been accepted by the Owner and shall make good any damage to the work caused by floods, storms, settlements, accidents, or acts of negligence by its employees or others so that the complete work when turned over to the Owner will be in first-class condition and in accordance with the plans and specifications.

21. REMOVAL OF TEMPORARY STRUCTURES AND CLEANING UP

On or before the completion of the work the Contractor shall, without charge therefore, tear down and remove all buildings and other structures built by him for facilitating the carrying out of the work, shall remove all rubbish of all kinds from the grounds which he has occupied, shall do any small amount of additional trimming and grading and shall leave the entire work and premises clean, neat and in good condition. The Contractor shall provide at its own expense suitable dumping places for such material. When the necessity for protecting traffic ends, the Contractor shall remove all signs, lighting devices, barricades and temporary railings from the site of the work.

22. GROSS LOADS HAULED ON HIGHWAY

The Contractor shall at no time during the construction of this contract, haul gross loads exceeding the legal limit prescribed by the Highway Law over the highways of access to, or the highway included in this contract.

23. CONCRETE BATCH PROPORTIONS - YIELD

No Construction Administrator or Engineer is authorized to instruct or inform the Contractor, or any of its agents or employees, or its concrete supplier as to the weights of the ingredients to be used to produce a cubic yard of concrete or as to the yield to be used to produce a cubic yard of concrete or as to the yield to be expected from any batch. The Contractor shall make its own determination and give its own instructions to its agents, employees and concrete supplier as to the total quantity of ingredients to be purchased as a

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cubic yard of concrete. The right is reserved to the Construction Administrator and Engineer, however, to verify yields after batch weights have been established by the Contractor and to order a reduction in total weight per load in the event his/her calculations show that the rated capacity of truck mixers, if approved for use, will be exceeded.

24. DAMAGE DUE TO CONTRACTOR'S OPERATIONS

In the event that damage is caused to structures, surfacing, pavement, shrubbery, trees or to grassed areas through trucking operations, delivery of materials, the actual performance of the work, or other causes, the Contractor shall fully restore the same to their original condition at its own expense. In the event that more than one contractor causes damages to any one area, the Director of Project Management will apportion the amount of repair work to be done by each contractor. The decision of the Director of Project Management shall be final and binding upon the Contractor(s) and may not be challenged except pursuant to a proceeding brought pursuant to Article 78 of the Civil Practice Law and Rules.

25. PROPERTY DAMAGE

The Contractor shall not enter upon nor make use of any private property along the line of work except when written permission is secured from the owner of that property. In case of any damage or injury done along the line of work in consequence of any act or omission on the part of the Contractor, or any one in its employ, in carrying out the contract, the Contractor shall at its own expense restore the same or make repairs as are necessary in consequence thereof in a manner satisfactory to the owner of the affected property; provided, however, that the obligation thus assumed by the Contractor shall not inure directly or indirectly to the benefit of any insurer of physical damage to property or loss of use, rents or profits of property regardless of whether the insurer has actually paid the claim or made only a loan to its insured, nor to the latter if it shall waive or abandon any claim against its insurer or insurers.

In case of failure on the part of the Contractor to restore or repair such property in a manner satisfactory to the owner of the affected property, the party of the first part may upon forty-eight hours notice to the Contractor proceed with such restoration or repair. The expense of such restoration or repair shall be deducted from any monies, which are due or may become due the Contractor under its contract. The Construction Administrator shall be the sole judge as to what constitutes failure to restore or repair as above stated and service of notice by mail addressed to the Contractor at the address stated in the proposal shall be sufficient.

26. CLAIMS FOR DAMAGES

The Contractor agrees that it will make no claim against the County or any of its representatives for damages for delay, interference or disruption of any kind in the performance of its Contract and further agrees that any such claim arising from acts or failure to act of the County or any of its representatives shall be fully and exclusively compensated for by an extension of time to complete the performance of the work as provided herein.

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27. EXTENSIONS OF TIME

An extension or extensions of time may be granted only by the Commissioner and only upon a verified application therefore by the Contractor. Each application for an extension of time must set forth in detail the nature of each cause of delay in the completion of the work, the date upon which each such cause of delay began and ended, and the number of days attributable to each of such causes. If the schedule for this project is based upon the Critical Path Method, the Contractor must also demonstrate that the delay for which an extension of time is sought occurred on the critical path. A formal written notice of the Contractor's intent to apply for an extension of time must be submitted to the Commissioner within seven (7) calendar days of the start of the alleged delay. The formal application for the extension of time must be submitted to the Commissioner no later than ten (10) calendar days after the end of the delay, but in no event later than the Contractor's submittal of its application for its substantial completion payment. The failure of the Contractor to timely submit either its formal written notice of its intent to apply for an extension of time or the application thereof shall be deemed a waiver of any entitlement to any extension of time.

The Contractor shall be entitled to an extension of time for delay in completion of the work caused solely (1) by the acts or omissions of the County, its officers, agents or employees; or (2) by the acts or omissions of other Contractors on this project; or (3) by supervening conditions entirely beyond the control of either party hereto (such as, but not limited to, Acts of God, excessive inclement weather, war, or any other national emergency making performance temporarily impossible or illegal, or strikes or labor disputes not brought about by any act or omission of the Contractor).

The Contractor shall not be entitled to receive a separate extension of time for each of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the work as determined by the Engineer or Commissioner. If one of multiple causes of delay operating concurrently results from any act or omission of the Contractor or of its subcontractors of whatever tier, and would of itself (irrespective of concurrent causes) have delayed the work, no extension of time will be allowed for the period of delay resulting from such act or omission and the Contractor shall re-arrange his Progress Schedule and operations so as to complete the Work within the time set forth in the Contract and minimize the impact of the Work on the other Prime Contractors.

The determination made by the Commissioner or Engineer on an application for an extension of time shall be binding and conclusive on the Contractor and may not be challenged except in a proceeding commenced pursuant to Article 78 of the Civil Practice Law and Rules.

Permitting the Contractor to continue with the work after the time fixed for its completion has expired, or after the time to which such completion may have been extended has expired, or the making of any payment to the Contractor after such time, shall not operate as waiver on the part of the County of any of its rights or remedies under this contract nor shall it relieve the Contractor from his obligation under the Contract, including without limitations its liability to the County for liquidated damages, engineering costs, delays, damages, and/or costs incurred by the County.

If the Commissioner deems it advisable and expedient to have the Contractor complete and furnish the Work after the expiration of the time of Completion of Work (see "Required

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Time For Completion Of The Work” of the General Requirements) and in order that the County’s fiscal officers may be permitted to make payment to the Contractor for Work performed beyond that date, the Commissioner may extend the Contract solely for the purpose of enabling the Contractor to be paid for Work performed. This extension shall in no way relieve the Contractor from his obligation under the Contract, including without limitations its liability to the County for liquidated damages, engineering costs, delays, damages, attorney’s fees and/or costs incurred by the County, nor shall such extension of time be asserted by the Contractor in any action or proceeding as evidence that it completed its work in a timely manner.

The time necessary for review by the Engineer of all submittals including vendors, shop drawings, substitutions, etc., and delays incurred by normal seasonal and weather conditions should be anticipated and is neither compensatory nor eligible for Extensions of Time.

When the Work embraced in the Contract is not completed on or before the date specified herein, engineering and inspection expenses incurred by the County of Westchester upon the Work from the completion date originally fixed in the Contract to the final date of completion of the Work may be charged to the Contract and be deducted from the final monies due the Contractor.

28. REQUEST FOR APPROVAL OF EQUAL

A. GENERAL REQUIREMENTS

Wherever in the Contract Documents an article, material, apparatus, product or process is called for by trade name or catalog reference, or by the name of the patentee, manufacturer or dealer, it is understood that it constitutes the standard requirement to meet the contract specifications. Where two or more articles, materials, apparatus, products or processes are listed as acceptable by reference to trade name or otherwise, the choice of these will be optional to the bidder.

Bidders may base their bid on one of the specified items, or they may base their bid on an “equal”. However, the bidder should be aware that the County makes the final determination as to what constitutes an equal.

If the Engineer shall reject the proposed equal as not being the equal of that specifically named in the contract, the successful bidder (Contractor) shall immediately proceed to furnish the designated article, material, apparatus, product or process as specified or an approved equal without additional cost or time delay to the County.

B. REVIEW PROCESS

- 1) Within fifteen (15) days from the Notice to Proceed, requests for approval of equals must be proposed to the Commissioner on the “Request For Approval Of Equal” form of the Sample Forms. This Period for submitting requests will be strictly enforced. Such requests shall conform to the requirements of this Article.
- 2) Requests for approval of equals will be received and considered from Prime Contractors only and not from manufacturers, suppliers, Subcontractors, or other third parties.
- 3) If the materials and equipment submitted are offered as equals to the Contract

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Documents the Contractor shall advise the County and the Engineer of the requested equal and comply with the requirements hereinafter specified in this Article.

- 4) Where the acceptability of an equal is conditioned upon a record of satisfactory operation and the proposed equal does not fulfill this requirement, the Engineer, at his/her sole discretion, may accept the equal if the Contractor provides a bond or cash deposit which guarantees replacement at no cost to the County for any failure occurring within the specified time. The equal item must meet all other technical requirements contained in the Specification.
- 5) The successful bidder shall furnish such information as required by the Engineer to demonstrate that the equal article, material, apparatus, product or process is the equal of that specified in quality, finish, design, efficiency and durability and has been elsewhere demonstrated to be equally serviceable for the purpose for which it is intended. The Contractor shall set forth the reasons for desiring to utilize the proposed equal.
- 6) Contractor shall submit:
 - a. For each proposed request for approved equal sufficient details, complete descriptive literature and performance data together with samples of the materials, where feasible, to enable the Engineer to determine if the proposed request for approved equal is equal, including manufacturer's brand or trade names, model numbers, description of specification of item, performance data, test reports, samples, history of service, and other data as applicable.
 - b. Certified tests, where applicable, by an independent laboratory attesting that the proposed equal is equal.
 - c. A list of installations where the proposed equal equipment or materials is performing under similar conditions as specified.
- 7) Requests for approval of equal after the period set forth in B. REVIEW PROCESS, Paragraph 1, above will not be accepted for evaluation except in case of strikes, discontinuance of manufacturer or other reason deemed valid by the Engineer whereby the specified products or those approved are unattainable. In such case the Contractor shall provide substantial proof that the acceptable products are unavailable.
- 8) Where the approval of an equal requires revision or redesign of any part of Work, including that of other Contracts, all such revision and redesign, and all new drawings and details required therefore, shall be provided by the Contractor at its own cost and expense, and shall be subject to the approval of the Commissioner.
- 9) In the event that the Engineer is required to provide additional engineering services, then the engineer's charges for such additional services shall be promptly paid by the Contractor to the County.
- 10) Any modifications in the Work required under other Contracts to accommodate the changed design will be incorporated in the appropriate Contracts and any resulting increases in Contract prices will be paid by the Contractor who initiated the

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changed design to the County.

- 11) In all cases the Engineer shall be the judge as to whether a proposed equal is to be approved. The Contractor shall abide by his/her decision when proposed equal items are judged to be unacceptable and shall in such instances furnish the item specified or indicated. No equal items shall be used in the Work without written approval of the Engineer.
- 12) In making request for approval of equal, Contractor represents that:
 - a. Contractor has investigated proposed equal, and determined that it is equal to or superior in all respects to the product, manufacturer or method specified.
 - b. Contractor will provide the same or better warranties or bonds for proposed equal as for product, manufacturer or method specified.
 - c. Contractor waives all claims for additional costs or extension of time related to proposed equal that subsequently may become apparent.
 - d. Contractor shall have and make no claim for an extension of time or for damages by reason of the time taken by the Engineer in considering an equal proposed by the Contractor or by reason of refusal of the Engineer to approve an equal proposed by the Contractor. Any delays arising out of consideration, approval, or utilization of an equal shall be the sole responsibility of the Contractor requesting the equal and it shall arrange its operations to make up the time lost.
- 13) Proposed Equal Will Not Be Accepted If:
 - a. Acceptance will require substantial revision of Contract Documents.
 - b. They will change design concepts or Technical Specifications.
 - c. They will delay completion of the Work, or the Work of other Contractors.
 - d. They are indicated or implied on a Shop Drawing and are not accompanied by a formal request for approval of equal from Contractor.
- 14) Only those products originally specified and/or added by approved requests for equals submitted in accordance with the preceding paragraphs may be used in the Work. Whenever requests for equals are approved, it shall be understood that such approval is conditional upon strict conformance with all requirements of the Contract and further subject to the following:
 - a. Any material or article submitted for approval in accordance with the above procedure must be equal, in the sole opinion of the Engineer, to the material or article specified. It must be readily available in sufficient quantity to prevent delay of any Work; it must be available in an equivalent color, texture, dimension, gauge, type and finish as to the item or article specified; it must be equal to the specified item in strength, durability, efficiency, serviceability, compatibility with existing systems, ease and cost of maintenance; it must be compatible with the design and not necessitate substantial design modifications; it must be equal in warranties and guarantees; its use must not impose substantial additional Work, or require substantial changes in the Work of any

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- other Contractor. Availability of spare parts shall be assured for the useful life of the Project.
- b. The Engineer reserves the right to disapprove, for aesthetic reasons, any material or equipment on the basis of design or color considerations alone, without prejudice to the quality of the material or equipment, if the manufacturer cannot meet the required colors or design.
 - c. All requests for approval of equals of materials or other changes from the contract requirements shall be accompanied by an itemized list of all other items affected. The Engineer shall have the right, if such is not done, to rescind any approvals for equals or changes and to order such Work removed and replaced with Work conforming to the specified requirements of the contract, all at the Contractor's expense, or to assess all additional costs resulting from the equal to the Contractor.
- 15) Approval of an equal will not relieve Contractor from the requirement to submit Shop Drawings or any of the provisions of the Contract Documents.
- 16) In the event that the Engineer is required to provide additional engineering services as a result of a request for approval of an equal of materials or equipment which are not "or equal" by the Contractor, or changes by the Contractor in dimension, weight, power requirements, etc., of the equipment and accessories furnished, or as a result of Contractor's errors, omissions or failure to conform to the requirements of the Contract Documents or if the Engineer is required to examine and evaluate any changes proposed by the Contractor solely for the convenience of the Contractor, or for evaluation of deviations from Contract Documents, then the Engineer's charges in connection with such additional services shall be paid by the Contractor to the County.
- 17) The Contractor shall respond to required submittals with complete information and with a degree of accuracy to achieve approvals within three (3) submissions. All costs to the Engineer involved with subsequent submissions requiring approval, will be paid by the Contractor to the County.

29. SUBSTITUTION

- A. Should the Contractor desire to substitute other articles, materials, apparatus, products or processes than those specified or approved as equal, the Contractor shall apply to the Engineer in writing for approval of such substitution. It should be noted that the bid shall not be based on a substituted article, material, apparatus, product or process. With the application shall be furnished such information as required by the Engineer to demonstrate that the article, material, apparatus, product or process he wishes to use is the equivalent of that specified in quality, finish, design, efficiency and durability and has been elsewhere demonstrated to be equally serviceable for the purpose for which it is intended. The Contractor shall set forth the reasons for desiring to make the substitution and shall further state what difference, if any, will be made in the construction schedule and the contract price for such substitution should it be accepted; it being the intent hereunder that any savings shall accrue to the benefit of the County.

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- B. If the Engineer shall reject any such desired substitution as not being the equivalent of that specifically named in the contract, or if it shall determine that the adjustment in price in favor of the County is insufficient, the Contractor shall immediately proceed to furnish the designated article, material, apparatus, product or process.
- C. Request for substitutes must be proposed to the Commissioner on the "Request For Approval Of Substitution" form of the Sample Forms. Such requests shall conform to the requirements of this Article.
- D. Requests for substitutions shall include full information concerning differences in cost, and any savings in cost resulting from such substitutions shall be passed on to the County.
- E. Requests for utilization of substitutes will be reviewed during the course of the project. The impact on the project and the timeliness of submission will be of key consideration.
- F. The approval of utilization of a substitute is subject to the sole and final discretion of the Engineer.
- G. REVIEW PROCESS
 - 1) Requests for approval of substitutions will be received and considered from Prime Contractors only and not from manufacturers, suppliers, Subcontractors, or other third parties.
 - 2) If the materials and equipment submitted are offered as substitutions to the Contract Documents or approved equal the Contractor shall advise the County and the Engineer of the requested substitutions and comply with the requirements hereinafter specified in this Article.
 - 3) Where the acceptability of substitution is conditioned upon a record of satisfactory operation and the proposed substitution does not fulfill this requirement, the Engineer, at his/her sole discretion, may accept the substitution if the Contractor provides a bond or cash deposit which guarantees replacement at no cost to the County for any failure occurring within the specified time. The substitution item must meet all other technical requirements contained in the Specification.
 - 4) The Contractor shall furnish such information as required by the Engineer to demonstrate that the equal article, material, apparatus, product or process is the equivalent of that specified in quality, finish, design, efficiency and durability and has been elsewhere demonstrated to be equally serviceable for the purpose for which it is intended and/or that it offers substantial benefits to the County in saving of time and/or cost. The Contractor shall set forth the reasons for desiring to make this substitution.
 - 5) Contractor shall submit:
 - a. For each proposed request for approved substitute sufficient details, complete descriptive literature and performance data together with samples of the materials, where feasible, to enable the Engineer to determine if the proposed request for approval should be granted, including manufacturer's brand or trade names, model numbers, description of specification of item, performance data, test reports, samples, history of service, and other data as applicable.

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- b. Certified tests, where applicable, by an independent laboratory attesting to the performance of the substitute.
 - c. A list of installations where the proposed substitute equipment or materials is performing under similar conditions as specified.
- 6) Where the approval of a substitute requires revision or redesign of any part of Work, including that of other Contracts, all such revision and redesign, and all new drawings and details required therefore, shall be provided by the Contractor at its own cost and expense, and shall be subject to the approval of the Engineer.
- 7) In the event that the Engineer is required to provide additional engineering services, then the engineer's charges for such additional services shall be paid by the Contractor to the County.
- 8) Any modifications in the Work required under other contracts to accommodate the changed design will be incorporated in the appropriate contracts and any resulting increases in contract prices will be charged to the Contractor by the County who initiated the changed design.
- 9) In all cases the Engineer shall be the judge as to whether a proposed substitute is to be approved. The Contractor shall be bound by his/her decision. No substitute items shall be used in the Work without written approval of the Engineer.
- 10) In making request for approval of substitute, Contractor represents that:
- a. Contractor has investigated proposed substitute, and determined that it is equal to or superior in all respects to the product, manufacturer or method specified or offers other specified advantages to the County.
 - b. Contractor will provide the same or better warranties or bonds for proposed substitute as for product, manufacturer or method specified.
 - c. Contractor waives all claims for additional costs or extension of time related to proposed substitute that subsequently may become apparent.
 - d. Contractor shall have and make no claim for an extension of time or for damages by reason of the time taken by the Engineer in considering a substitute proposed by the Contractor or by reason of failure of the Engineer to approve a substitute proposed by the Contractor. Any delays arising out of consideration, approval, or utilization of a substitute shall be the sole responsibility of the Contractor requesting the substitute and it shall arrange its operations to make up the time lost.
- 11) Proposed substitute will not be accepted if:
- a. Acceptance will require substantial revision of Contract Documents.
 - b. They will substantially change design concepts or Technical Specifications.
 - c. They will delay completion of the Work, or the Work of other Contractors.
 - d. They are indicated or implied on a Shop Drawing and are not accompanied by a formal request for approval of substitute from Contractor.
- 12) The Engineer reserves the right to disapprove, for aesthetic reasons, any material or

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equipment on the basis of design or color considerations alone, without prejudice to the quality of the material or equipment, if the manufacturer cannot meet the required colors or design.

- 13) All requests for approval of substitutes of materials or other changes from the contract requirements, shall be accompanied by an itemized list of all other items affected by such substitution or change. The Engineer shall have the right, if such is not done, to rescind any approvals for substitutions and to order such Work removed and replaced with Work conforming to the specified requirements of the contract, all at the Contractor's expense, or to assess all additional costs resulting from the substitution to the Contractor.
- 14) Approval of a substitute will not relieve Contractor from the requirement to submit Shop Drawings or any of the provisions of the Contract Documents.
- 15) In the event that the Engineer is required to provide additional engineering services as a result of a request for approval of a substitute results in changes by the Contractor in dimension, weight, power requirements, etc., of the equipment and accessories furnished, or as a result of Contractor's errors, omissions or failure to conform to the requirements of the Contract Documents or if the Engineer is required to examine and evaluate any changes proposed by the Contractor solely for the convenience of the Contractor, or for evaluation of deviations from Contract Documents, then the Engineer's charges in connection with such additional services shall be paid by the Contractor.
- 16) Structural design shown on the Drawing is based upon the configuration of and maximum loading for major items of equipment as indicated on the Drawings and as specified. If the substituted equipment furnished differs from said features, the Contractor shall pay to the County all costs of redesign and for any construction changes required to accommodate the equipment furnished, including the Engineer's charges in connection therewith.
- 17) The Contractor shall respond to required submittals with complete information and with a degree of accuracy to achieve approvals within two (2) submissions. All costs to the Engineer involved with subsequent submissions of Shop Drawings, Samples or other items requiring approval, will be paid by the Contractor to the County, by deducting such costs from payments due for Work completed. In the event an approved item is requested by the Contractor to be changed or substituted for, all costs involved in the reviewing and approval process will likewise be backcharged to the Contractor unless determined by the Engineer that the need for such substitution and/or deviation from Contract Documents is beyond the control of the Contractor.

30. EXTRA WORK: INCREASED COMPENSATION/DECREASED WORK: CREDIT TO THE OWNER

The Director of Project Management may, at any time, by a written order, and without notice to the sureties, require the performance of Extra Work or require or approve changes in the work, or Decreased Work ("work" to include but not be limited to specified methods of performing work) as he may deem necessary or desirable. The amount of compensation

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to be paid to the Contractor for any Extra Work, as so ordered, or credit to the Owner for such decreased work, as so ordered or approved, shall be determined as follows:

- 1) **First:** By such applicable unit prices, if any, as set forth in the Contract; or
- 2) **Second:** If no such prices are so set forth, then by unit prices or by a lump sum, or sums, mutually agreed upon by the Director of Project Management and the Contractor; or
- 3) **Third:** If, in the opinion of the Director of Project Management, the aforesaid unit prices, under "First" above, are not applicable, or if the two parties hereto cannot reach agreement as to new unit prices or a lump sum, or sums, under "Second" above, then by the actual net cost in money to the Contractor of the materials and of the wages of applied labor (including cost of supplements provided and premiums for Workmen's Compensation Insurance, FICA, and Federal and State Unemployment Insurance) required for such Extra Work, plus twenty (20%) percent as compensation for all items of profit and costs or expenses including administration, overhead, superintendence, insurance (other than those specifically noted above) materials used in temporary structures, allowances made by the Contractor to subcontractors, including those made for overhead and profit, additional premiums upon the performance bond of the Contractor and the use of small tools and any and all other costs and expenses not enumerated above, plus such rental for plant and equipment (other than small tools) required and approved for such extra work. Where extra work is performed by a Subcontractor, the twenty percent stipulated above shall be divided between the Contractor and the Subcontractor as per their contractual agreement, or if not defined therein, then as the Contractor sees fit.

Rental rates for any power operated machinery, trucks or equipment, which it may be found necessary to use as in "Third" above, shall be reasonable and shall be based on those prevailing in the area of the County where such work is to be done, and they shall be agreed upon in writing before the work is begun.

In no case shall the rental rates submitted exceed the rates set up in the current edition of "Equipment Watch" plus the cost of fuel and lubricants.

These rates shall include all repairs, fuel, lubricants, applicable taxes, insurance, depreciation, storage and all attachments complete, ready to operate, but excluding operators. Operators shall be paid as stated here in above for labor.

For equipment, which is already on the project, the rental period shall start when ordered to work by the Construction Administrator, and shall continue until ordered to discontinue by him. The minimum payment for any one rental period shall be four hours, unless otherwise agreed upon between the Construction Administrator and the Contractor.

For equipment which has to be brought to the project, specifically for use as in "Third" above, the County will pay all loading and unloading costs, also all transportation costs will not be paid, if the equipment is used for work other than in "Third" above while on the project. The rental period shall begin at the time the equipment has been unloaded on the

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project, and shall end on and include the day the order to discontinue the use of the equipment as in "Third" above is given to the Contractor by the Construction Administrator.

The daily rate shall apply for rental periods of four calendar days or less, the weekly rate shall apply for rental periods of more than four and not exceeding twenty-one calendar days, and the monthly rate shall apply for rental periods in excess of twenty-one calendar days. For fractional periods above the full unit rental period (day, week, month) reimbursement shall be proportioned on the basis of the applicable rental period. (Day-8 hrs.; Week-7 calendar days; Month-30 calendar days).

No percentage shall be added to the amounts of equipment rental prices agreed upon, but the price agreed upon shall be the total compensation allowed for the use of such equipment.

The provisions hereof shall not affect the power of the Contractor to act in case of emergency.

31. DISPUTED WORK - NOTICE OF CLAIMS FOR DAMAGES

If the Contractor is of the opinion that any work required, necessitated, or ordered violates or conflicts with or is not required by the terms and provisions of this Contract, it must promptly, within five (5) calendar days after being directed to perform such work, notify the Construction Administrator, in writing, of its contentions with respect thereto and request a final determination thereon. If the Construction Administrator determines that the work in question is contract and not extra work, or that the order complained of is proper, he will direct the Contractor in writing to proceed and the Contractor shall promptly comply. In order, however, to preserve its right to claim compensation for such work or damages resulting from such compliance, the Contractor must, within seven (7) calendar days after receiving notice of the Construction Administrator's determination and direction, notify the Construction Administrator, in writing that the work is being performed or that the determination and direction is being complied with, under protest. Failure of the Contractor to so notify shall be deemed as a waiver of claim for extra compensation or damages therefore.

While the Contractor is performing disputed work or complying with a determination or order under protest in accordance with this Article, in each such case the Contractor shall furnish the Construction Administrator daily with three copies of written statements signed by the Contractor's representatives at the site showing:

- 1) the name of each worker employed on such work or engaged in complying with such determination or order, the number of hours employed thereon, and the character of the work each is doing; and
- 2) the nature and quantity of any materials, plant and equipment furnished or used in connection with the performance of such work or compliance with such order, and from whom purchased or rented.

It is expressly agreed that no dispute over the scope of the Contractor's work or any portion thereof shall cause any delay or interruption to the Contractor's work.

In addition to the foregoing statements, the Contractor shall, upon notice from the Board of Acquisition and Contract, produce for examination by the duly appointed representative of

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the Board of Acquisition and Contract, all its books of accounts, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books and canceled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this contract, and submit itself, its agents, servants and employees for examination under oath by any duly appointed representative designated by the Board of Acquisition and Contract to investigate claims made against the County. Unless the aforesaid statements shall be made and filed within the time aforesaid and the aforesaid records submitted for examination and the Contractor, its agents, servants, and employees submit themselves for examination as aforesaid, the County shall be released from all claims arising under, relating to or by reason of this contract, except for the sums certified by the Construction Administrator to be due and agreed that no person has power to waive any of the foregoing provisions, and that in any action against the County to recover any sum in excess of the sums certified by the Construction Administrator to be due under or by reason of this contract, the Contractor must allege in its complaint and prove, at the trial, strict compliance with the provisions of this article.

Before final acceptance of the work by the County, all matters of dispute must be adjusted to the mutual satisfaction of the parties thereto. Determinations and decisions in case any question shall arise, shall constitute a condition precedent to the right of the Contractor to receive the money therefore, until the matter in question has been adjusted.

32. CONTRACTOR'S SUBCONTRACTS AND MATERIAL LISTS

Within fifteen (15) days after execution of the Contract, the successful bidder shall submit to the County for approval a list of the subcontractors, materialmen and materials that he/she plans to use in the performance of the work and statements of the work they are to perform. The format and content of the list shall be in accordance with directives from the Construction Administrator. He/sit shall also submit additional information regarding their qualifications as may be later requested by the County. No part of the work may be sublet until after the Contractor has received the County's approval.

The Contractor shall be fully responsible for all acts and omissions of its subcontractors and persons directly or indirectly employed by them, and the County's approval to sublet parts of the work will in no way relieve the Contractor of any of its obligations under the Contract. All dealings of the Construction Administrator with the subcontractors shall be through the Contractor, subcontractors being recognized by the County only as employees of the Contractor.

By executing the Agreement, the Contractor represents that the Contractor shall insert appropriate clauses in all subcontracts to bind the subcontractors to the Contractor by all applicable provisions of the Contract Documents executed between the Contractor and the County, but this shall not be construed as creating any contractual relationships between subcontractors and the County. Prior to approval of the subcontractors, the County has the right to review and recommend changes in the subcontracts. The County reserves the right to reject any subcontractor proposed by the Contractor if in the reasonable opinion of the County such subcontractor lacks the experience, capability or integrity to perform its subcontract work or is otherwise non-responsible.

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By executing the Agreement, the Contractor represents that the Contractor shall insert appropriate clauses in each subcontract that require that if the Contractor is terminated by the County either for default or convenience that at the sole option of the County the subcontract shall automatically attach to the County and the subcontractor shall continue without delay or interruption to fully perform all of the obligations required by its subcontract.

Where the specifications permit the Contractor a choice of different materials or manufactured products, it shall state the choice he has made in making up its bid, with the understanding that all choices must subsequently be approved by the Commissioner, after award of the contract to the successful bidder. If the bidder wishes to propose utilization of materials or manufactured products other than those specified, it shall so state and submit the required information in accordance with Article "Request For Approval Of Equal" of the General Clauses."

33. ASSIGNMENT OF CONTRACT

The Contractor shall not assign, transfer, convey or otherwise dispose of the contract or any part of it or any monies due and payable under the contract, without prior written approval of the County. If such approvals are granted by the County, they shall in no way relieve the Contractor or from any obligations under the terms of this Contract.

All documents assigning the contract or any part of it or any monies due and payable under the contract shall contain a clause stating that all monies to be paid the assignee in accordance with the terms of the Contractor's contract with the County, are subject to a prior lien for services rendered or materials and equipment supplied, in favor of all persons, firms or corporations rendering such services or supplying such materials and equipment.

34. PAYMENT FOR GENERAL PROVISIONS

No direct payment will be made for work done or materials furnished in compliance with the General Provisions of the specifications, unless otherwise noted. All compensation to the Contractor for its performance of the requirements of any general provision shall be considered to have been included in the prices he has bid for the individual items if a unit price contract and/or for a lump sum price if a lump sum contract.

In the event the Contractor fails or refuses to proceed with its work and/or correct or repair deficient or defective work then without prejudice to any and all of the County's other rights and remedies, and upon three (3) days notice to Contractor, the County may perform and/or employ any other person or persons to correct and/or repair any or all such work. All costs incurred by the County pertaining thereto shall be paid forthwith by the Contractor to the County.

35. COSTS INCURRED BY COUNTY

Wherever in these Contract Documents the County is entitled to recover costs from the Contractor or charge the Contractor for the costs incurred for the correction, supervision or for any other reason related to the Contractor's work or arising from the Contractor's failure or refusal to proceed with its work in a timely manner, such costs and/or charges shall be

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deemed to include, but not be limited to, the County's costs and fees for inspection(s), engineering, consultant(s) and attorneys.

36. GUARANTEE OF WORK

- A. Except as otherwise specified, all work performed under the Contract shall be guaranteed by the Contractor against defects resulting from the use of inferior materials, equipment or workmanship for one year from the guarantee starting date (which shall be defined as the date of the County's approval of the final Certificate for Payment or the date of actual full occupancy of the building, whichever is earlier). The building, section thereof, or item of equipment, shall be occupied or put into actual use by the Owner only after judged completed by the Construction Administrator and Owner and approved by him as ready for occupancy.
- B. If, within any guarantee period, repairs or changes are required in connection with guaranteed work, which in the opinion of the Construction Administrator or Owner is rendered necessary as a result of the materials, equipment or workmanship which are inferior, defective, or not in accordance with terms of the Contract, the Contractor shall promptly upon receipt of notice from the Construction Administrator or Owner and without expense to the Construction Administrator or Owner:
 - 1) Place in satisfactory condition, in every particular, all of such guaranteed work, correct all defects thereof, and
 - 2) Make good all damages to the building or site, or equipment or contents thereof, and
 - 3) Make good any work or material, or equipment and contents of said building or site disturbed in fulfilling any such guarantee.
- C. In any case where in fulfilling requirements of the Contract or of any guarantee embraced in or required thereby the Contractor disturbs any work, it shall restore such disturbed work to a condition satisfactory to the Construction Administrator.
- D. If the Contractor, after notice, fails to proceed promptly to comply with terms of its guarantee, the Owner may have the defects corrected and the Contractor shall be liable for all expenses incurred.
- E. All special guarantees applicable to definite parts of the work that may be stipulated in the Specifications or other papers forming a part of the Contract shall be subject to the requirements and term of this article.

37. SEPARATE CONTRACTS

- A. Contractor's attention is specifically directed to the fact that, because of the work of other contracts within and adjacent to the limits of this Contract they may not have exclusive occupancy of the territory within or adjacent to the limits of this Contract.
- B. Contractor's attention is further directed to the fact that, during the life of this Contract the owners and operators of Public Utilities may make changes in their facilities. These changes may be made by the Utility employees or by contract within the limit or adjacent to these contracts and may be both temporary and permanent.

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- C. Contractor shall be required to cooperate with other contractors and the owners of the various utilities, and to coordinate and arrange the sequence of their work to conform to the progressive operations of the work already under contract and to be put under contract.
- D. Contractor shall be responsible for the coordination of the work of their various subcontractors. Their respective operations shall be arranged and conducted so that delays will be avoided. Where the work of a subcontractor overlaps or dovetails with that of other subcontractors, materials shall be delivered and operations conducted so as to carry on the work continuously in an efficient and workmanlike manner. Delays or oversights on the part of Contractor or its subcontractors or utility owners in getting any or all of their work done in the proper way thereby causing cutting, removing and replacing work already in place, shall not be the basis for claim for extra compensation.
- E. In case of interference between the operations of the utility owners and different Contractors, the Construction Administrator will be the sole judge of the rights of each Contractor and the sequence of work necessary to expedite the completion of the entire project, and in all cases the Construction Administrator's decision shall be accepted as final and may not be challenged except in a proceeding brought pursuant to Article 78 of the Civil Practice Law and Rules.

38. COOPERATION WITH OWNER

Each Contractor shall cooperate with the Owner as to parking of vehicles, availability of storage and working areas and confining of activities and personnel to same. **NO PARKING FOR CONTRACTOR'S EMPLOYEES.**

39. JOB MEETINGS & PROJECT SUPERINTENDANT

- A. An officer of the Contractor, or its project manager or superintendent, who is fluent in English and authorized to make binding decision on behalf of the Contractor shall attend job meetings with the Commissioner and/or the Construction Administrator, and any subcontractors whom the Inspector may designate; for the purpose of discussing expedition, execution and coordination of the work.
- B. Job meetings will be scheduled periodically (the first to be prior to commencement of construction) at a time and place designated by the Construction Administrator.
- C. The Contractor shall not commence any work prior to the first (pre-construction) meeting between the Contractor, Commissioner and/or Construction Administrator, client, and other concerned governmental and utility company representatives.
- D. At the pre-construction meeting, the scheduling of the work on an arrow-flow diagram (showing chronologically and in detail the sequence and methods that will be followed) will be provided, and details for the proper execution and special requirements of the work will be explained and discussed.
- E. The Contractor shall be responsible for providing a detailed construction schedule that provides for a Critical Path Method ("CPM") and which is compatible with any of the state of the art CPM Method scheduling software.

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F. Updated coordinated arrow-flow diagrams or CPM schedules, as the case may be, will be provided by the Contractor, as above, on a monthly basis to the County.

The Contractor shall indicate on the construction schedules noted above, time for shop drawing preparation, approvals, fabrication and delivery of materials and equipment for major items. The County may request that additional important items be included on the schedule.

G. The Contractors shall ensure that its Project Superintendent shall be on site full time at all times when the Contractor's Work is being performed.

40. PATENT WARRANTY

A. Contractor expressly represents, warrants and agrees that he has the legal right to furnish and install and to authorize the County to purchase and use the equipment hereby offered and each and every one of its several parts and every feature thereof, under one or the other, or partly under one and partly under the other of the following representations.

- 1) That the Contractor possesses a valid patent(s) covering the equipment to be furnished hereunder or part or features thereof or has or will obtain permit(s) and license(s) authorizing the Contractor to furnish and install same and to authorize the purchase and use thereof by the County.
- 2) The Contractor is responsible before ordering material, equipment, parts, systems, etc, to verify that the suppliers of all such material, equipment, parts, systems, etc, will supply the required warranty, guarantee, O & P manual, and maintenance service schedule.
- 3) That the equipment offered or certain parts or features thereof are not covered by any valid patent(s) within the knowledge of the Contractor.

B. Contractor further warrants and agrees that if any patent(s) is hereafter issued to any person whatsoever with respect to the equipment or any part or features thereof, to be furnished and installed hereunder, the Contractor will obtain such permit(s) or license(s) from the Patentee as may be necessary to authorize the use of the equipment by the County.

C. Contractor further represents, warrants and agrees that he and its sureties shall hold themselves responsible for and defend any claims made against the County for any infringement of patents due to the purchase and use by the County of said equipment or any part or feature thereof; that they will indemnify and save harmless the County from all costs, expenses and damages which it shall be obliged to pay by reason of any such infringement of patent(s); that in case the use of any such equipment is enjoined, they will bear the expenses of removing same and replacing same with equipment which will satisfactorily perform the function without constituting an infringement of any patent(s); and in case the use of any equipment shall be enjoined, that they shall pay to the County the sum of \$1,000.00 per day, as liquidated damages, for each and every day during which the County shall be enjoined from using the same up to the day on which such

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equipment is replaced by other equipment which will satisfactorily perform the same function but which will not constitute an infringement of any other patent(s).

- D. The Contractor further agrees in the event the use of any of the equipment is enjoined and the Contractor is unable within a reasonable time to devise other equipment which will satisfactorily perform the same functions without infringement on any patent(s), that he will remove the equipment and refund to the County the entire cost of its purchase and installation, plus the sum of \$ 1,000.00 per day as liquidated damages for each and every day until the substitute equipment has been purchased and installed by the County, excepting however that such period shall not exceed three months.
- E. The Contractor further agrees in the event that any claim or notice of claim for infringement of patent(s) are made or filed prior to the making of payment by the County for the equipment and/or material proposed to be furnished and installed hereunder, that the County may withhold any sum due to the Contractor for such equipment and/or material until such claims shall have been settled or adjudicated or until additional surety bonds or other guarantees of indemnification shall have been posted, if deemed necessary by the County for its protection.

41. MATERIALS

A. Quality

- 1) It is the intent of these Specifications to describe definitely and fully the character of materials and workmanship required with regard to all ordinary conditions of the work and to require first-class work and new and best quality materials in all particulars. For unexpected conditions arising during the progress of the work and not fully covered herein, the Specifications shall be interpreted by the Construction Administrator to require first-class work and materials and such interpretations shall be accepted by the Contractor.
- 2) The Contractor is responsible before ordering material, equipment, parts, systems, etc, to verify that the suppliers of all such material, equipment, parts, systems, etc, will supply the required warranty, guarantee, O & P manual, and maintenance service schedule.
- 3) Where materials or devices are specified in these documents by reference to government, manufacturer's association, or professional society standards, the pertinent sections of the latest edition of such standards shall have the same force and effect as if set forth in full in these Specifications. The following abbreviations shall be used as indicated for the principal societies:

| | |
|-------|---|
| AASHO | American Association of State Highway Officials |
| ACI | American Concrete Institute |
| AIA | American Institute of Architects |
| AISC | American Institute of Steel Construction |
| ANSI | American National Standards Institute |

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| | |
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| ASHRAE | American Society of Heating, Refrigerating, and Air Conditioning Engineers |
| ASTM | American Society for Testing and Materials |
| AWWA | American Water Works Association |
| AWI | American Woodworking Institute |
| AWS | American Welding Society |
| BHMA | Builders Hardware Manufacturers Association |
| CS | Commercial Standards |
| FS | Federal Specifications |
| IEEE | Institute of Electrical and Electronic Engineers |
| NEC | National Electric Code |
| NEMA | National Electrical Manufacturer's Association |
| NFPA | National Fire Protection Association |
| SDI | Steel Deck Institute |
| SMACNA | Sheet Metal and Air Conditioning Contractors National Association, Incorporated |
| TCA | Tile Council of America, Incorporated |
| TMCA | Tile and Marble Contractors of America |
| UL | Underwriter's Laboratories, Incorporated |

B. Delivery, Storage and Handling:

- 1) Materials shall be delivered in manufacturer's original sealed containers with complete identification of contents and manufacturer, and kept sealed in original containers until used. Labels shall not be removed until materials have been installed and inspected.
- 2) Materials shall be delivered, stored, and handled with proper equipment and in a manner to protect them from damage.
- 3) The Contractor shall make arrangements for the receipt of materials delivered to the construction site. No representative of the County will accept any materials ordered by the Contractor.
- 4) Finish materials shall be protected from dirt and damage, and perishable materials shall be stored within appropriate weatherproof enclosures.
- 5) Delivery of materials shall be coordinated with the Operations Schedule.
- 6) The Contractor shall confine the apparatus, the storage of materials and the operations of the workmen to the limits indicated by law, ordinances, permits, or directions of the Construction Administrator, and shall not encumber the premises beyond the contract limits.

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- 7) The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety.
- 8) Whenever the Contract Documents require delivery by the Contractor of any materials, equipment, or other items, the term delivery shall be deemed to include unloading and storing with proper protection where directed.

C. Federal Regulations

- 1) Should the Federal Government, because of Declaration of an Emergency, or other cause, establish controls over the use of certain construction materials, then the Contractor, immediately after signing the Contract or immediately after Declaration of an Emergency, shall furnish the Commissioner with an itemized list of all critical materials required for use on the project. For each item, the quantity required and the approximate date on which delivery will be required shall be indicated.

D. Name Plates

- 1) Each piece of operable equipment to be furnished and installed by a Contractor under its Contract such as motors, pumps, heaters, fans, transformers, switch and fuse racks and other similar equipment shall be provided with a substantial name plate of non-corrodible metal securely fastened in place and clearly and permanently inscribed with the manufacturer's name, the model or type designation, the serial number, the principal rated capacities, the electrical or other power characteristics and other similar and appropriate information.
- 2) Manufacturer's identification shall be inconspicuous, but where nameplates contain information relative to characteristics or maintenance, they shall be clearly visible and located for easy access.
- 3) The nameplate of a subcontractor or a distributor will not be permitted.

E. Manufacturer's Certification

- 1) Prior to the delivery of any water or sewer pipe to the construction site, the Contractor shall furnish properly attested documents certifying as to the type, class, name of manufacturer and source of supply of the pipe. One copy of each document shall be forwarded to the Construction Administrator at the construction site and to the Director of Project Management care of the Engineering Division, Michaelian Office Building, White Plains, New York.

F. Samples

- 1) The Contractor shall furnish, for approval of the Engineer, any samples required by the specifications or that may be requested by the Owner, of all materials he proposes to use, and shall pay all shipping charges for the samples. The Contractor shall send all samples to the office of the Engineer, except when directed otherwise. The sample of approved material will remain on file in the Engineer's office. A disapproved sample will be returned to the Contractor.
- 2) No samples are to be submitted with bids.
- 3) No materials or equipment of which samples are required to be submitted for

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approval shall be used on the work until such approval has been given by the Engineer or Construction Administrator, save only at the Contractor's risk and expense.

- 4) Each sample shall have a label indicating the material represented, its place of origin and the names of the producer, the Contractor and the Contract for which the material is intended.
- 5) Approval of any sample shall be only for characteristics or for uses named in such approval, and no other. No approval of a sample shall be taken in itself to change or modify any Contract requirement. When a material has been approved, no additional sample of that material will be considered and no change in brand or make will be permitted. Approved samples held by the Engineer will be returned to the Contractor upon completion of the work, if requested.
- 6) Transactions with manufacturers or subcontractors shall be through the Contractor.

G. Dissimilar Materials

- 1) Where metals are placed in contact with or fastened to dissimilar metals, concrete, masonry, wood or other absorptive materials subject to repeated wetting or wood treated with a preservative non-compatible with the metal or if drainage from dissimilar materials passes over the work; treat the contact surfaces with a heavy coat of approved alkali-resident bituminous paint.
- 2) Where one of the metals is aluminum, a coat of zinc-chromate primer shall be applied prior to the bituminous paint.

42. STANDARD OF QUALITY

Wherever in the contract documents an article, material, apparatus, device, product or process is called for by trade name or catalog reference, or by the name of the patentee, manufacturer or dealer, it shall be construed as establishing a standard of quality and not construed as limiting competition. In such instances, the Contractor may use any article, material, etc. which, in the judgment of the Engineer, expressed in writing, is equal to and acceptable for the intent specified.

43. PROPRIETARY ITEM

Whenever less than three names are used in proprietary item specifications, it has been determined that:

- A. The use of trade names is necessary for effective and workable specifications for the item.
- B. All manufacturers known by the individuals familiar with the trade involved have been listed.
- C. Equal items may be approved in accordance with Article "Request For Approval Of Equal" of the General Clauses.

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44. SHOP DRAWINGS

A. Shop Drawing Schedule

- 1) Within fifteen (15) days after the Notice to Proceed, the Contractor shall prepare and submit two (2) copies of its schedule of Shop Drawing submissions to the Engineer for review and approval. The schedule is to be submitted on the “Shop Drawing Schedule” form of the Sample Forms.
- 2) In order to maintain the construction schedule for this project the Contractor shall submit all Shop Drawings per approved schedule. The Contractor is expressly cautioned that its failure or refusal to timely submit a shop drawing schedule acceptable to the Engineer and/or any deviation from the approved shop drawing schedule shall be deemed a default under this Contract.
- 3) Shop Drawings shall be submitted without fail in time to permit correction, resubmission and final approval, as hereinafter specified, without causing any delay in the construction of any Work.
- 4) Samples and Shop Drawings, which are related to the same unit of Work or Specification Section, shall be submitted at the same time. If related Shop Drawings and Samples are submitted at different times, they cannot be reviewed until both are furnished to the Engineer.
- 5) The schedule shall be updated every four-(4) weeks or more frequently as required by the Engineer.
- 6) Two (2)-updated copies of the schedule shall be submitted to the Engineer with each application for Partial Payment.
- 7) Form of Schedule

Schedule shall be in tabular form with appropriate spaces to insert the following information for principal items of equipment and materials:

- a. Date on which Shop Drawings are requested and received from the manufacturer.
- b. Dates on which Shop Drawings are transmitted to the Engineer by the Contractor.
- c. Dates on which Shop Drawings are returned by the Engineer for revisions.
- d. Dates on which Shop Drawings are revised by manufacturer and resubmitted to the Engineer.
- e. Date on which Shop Drawings are returned by Engineer annotated either “Approved” or “Approved as Noted”.
- f. Date on which accepted Shop Drawings are transmitted to manufacturer and Contractor’s Invoice Number.
- g. Date of manufacturer’s scheduled delivery.
- h. Date on which delivery is actually made.

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i. Sample of schedule follows on next page.

B. Shop Drawing Requirements

- 1) Shop Drawings for the Work shall include working and setting drawings, schedules, shop details, wiring diagrams, manufacturer's catalog cuts and brochures and all other drawings, schedules and diagrams necessary for the proper correlation of the Work.

Insofar as it is practicable, all drawings shall be uniform in size. They shall be dated, numbered consecutively and shall be identified with the Contract Number and Title, a description of the material or equipment and the area of the work and where it is to be installed. Shop drawings shall accurately and clearly show sizes, work, erection dimensions, arrangement and sectional views, necessary details including information for making connection with the work of other items as may be required, materials and finishes, detailed parts lists, and performance characteristics and capacities as may be required.

- 2) All detailing for structural components shall be done in accordance with the provisions for design and workmanship in the latest additions of the publications listed below except as may be modified in the Contract Documents:
 - a. "Manual of Steel Construction" of the American Institute of Steel Construction.
 - b. "Building Code Requirements for Reinforced Concrete" and "Manual of Standard Practice for Detailing Reinforced Concrete Structures" of American Concrete Institute.
- 3) Detailing practices for other components shall be done to conform to the best trade practices.
- 4) Contractor Responsibilities
 - a. Before submitting Shop Drawings to the Engineer all submittals from its Subcontractors, manufacturers or suppliers shall be sent directly to the Contractor for preliminary review, coordination and checking.

Contractor shall be responsible for their submission at the proper time so as to prevent delays in delivery of material or equipment. Contractor shall thoroughly check all drawings for accuracy and conformance to the intent of the Contract Documents. Drawings found to be inaccurate or otherwise in error shall be returned to the Subcontractors, manufacturers, or suppliers by the Contractor for correction.

- b. All submittals, including Shop Drawings prepared by or under the direction of the various Contractors, shall be thoroughly checked by the Contractor for accuracy and checked by the Contractor for accuracy and conformance to the intent of the Contract Documents before being submitted to the Engineer and shall bear the Contractor's signature certifying that they have been so checked. Before submitting them to the Engineer, all submittals shall be properly labeled and consecutively numbered. In a clear space above the title block, the Contractor shall provide the "Shop Drawing ID" form of the Sample Forms, and enter the required information:

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- c. Shop Drawings shall be submitted as a single package including all associated drawings for any operating system and shall include all items of equipment and any mechanical units involved or necessary for the functioning of such system. Where applicable, the submittal shall include elementary wiring diagrams showing circuit functioning and necessary interconnecting wiring diagrams for construction.
- d. If the submittals contain any departures from the Contract Documents, specific mention thereof shall be made in the Contractor's letter of transmittal. Otherwise, the review of such submittals shall not constitute approval of the departure. The Contractor shall also call the Engineer's attention to any changes by the use of larger letters of at least 1" in height on the Shop Drawings along with a letter by the Contractor advising the Engineer to the recommended change and the reason therefore. If this is not done, even if the Work is incorporated in the construction, it will not be accepted by the Engineer even if Shop Drawings are "Approved".
- e. No materials or equipment shall be ordered, fabricated or shipped or any Work performed until the Engineer returns to the Contractor the submittals herein required, annotated "Approved".
- f. Where errors, deviations, and/or omissions are discovered at a later date in any of the submittals, the Engineer's prior review of the submittals does not relieve the Contractor of the responsibility for correcting all errors, deviations and/or omissions.
- g. Two (2) copies of Preliminary Operations and Maintenance Manuals shall be submitted with the final Shop Drawings for each item of equipment.
- h. Submittals shall be transmitted in strict compliance with Special Clause 10. A.2 and in sufficient time to allow the Engineer adequate time for review and processing so as not to delay the Project per the approved Shop Drawing Schedule.
- i. Contractor shall transmit five (5) prints of each submittal to the Engineer for review. Any submissions, which in the opinion of the Engineer, are not legible will not be reviewed and will be returned to the Contractor annotated "Disapproved".
- j. Contract drawings are for engineering and general arrangement purposes only and are not to be used as Shop Drawings.
- k. Shop Drawings shall accurately and clearly present the following:
 - All working and installation dimensions.
 - Arrangement and sectional views.
 - Units of equipment in the proposed positions for installation, details of required attachments and connections, and dimensioned locations between units and in relation to the structures.
 - Necessary details and information for making connections between the

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various trades including, but not limited to, power supplies and interconnecting wiring between units, accessories, appurtenances, etc.

- l. Structural and all other layout drawings prepared specifically for the Project shall have a plan scale of not less than 1/4-inch equal to 1 foot and they shall be not larger than the size of the Contract Drawings.
 - m. Where manufacturer's publications in the form of catalogs, brochures, illustrations, compliance certificates, or other data sheets are submitted in lieu of prepared Shop Drawings, such submissions shall specifically indicate the item for which approval is requested. Identification of items shall be made in ink, and submissions showing only general information are not acceptable.
 - n. The Contractor shall provide all required copies for the use of the various trades and at the Site, and one (1) copy of approved Shop Drawings shall be provided by the Contractor to each of the other Prime Contractors unless otherwise noted in writing by the Engineer.
 - o. The Contractor shall respond to required submittals with complete information and accuracy to achieve required approvals within three (3) submissions. All costs to the Owner involved with subsequent submissions of Shop Drawings, Samples or other items requiring approval, will be backcharged to the Contractor, at the rate of 3.0 times direct technical labor cost, by deducting such costs from payments due for Work completed. In the event an approved item is requested by the Contractor to be changed or substituted, all involved costs in the review process will likewise be paid by the Contractor to the County unless determined by the Director of Project Management or Commissioner that the need for such deviation is beyond the control of the Contractor. Contractor shall be responsible for coordinating its Work and submittals with its Subcontractors.. Should Contractor cause the need for additional submissions or reviews of previous submissions all involved costs will similarly be paid to the County.
- 5) Procedure for Review
- a. Shop Drawings will be checked for design conformance with the Contract Documents and general arrangement only.
 - b. Submittals will be annotated by the Engineer in one of the following ways:
 - "Approved" - no exceptions are taken.
 - "Approved as Noted" - minor corrections are noted and shall be made and a resubmittal is required.
 - "Disapproved because" - with specific deficiencies noted.
 - "Disapproved" - based on the information submitted, the submission is not in conformance with the Contract Documents. The deviations from the Contract Documents are too numerous to list and a completely revised submission of the proposed equipment or a submission of other equipment is required.

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- c. One copy of the reviewed submittals will be returned to the Contractor. It is the Contractor's responsibility to provide copies to:
 - Its Subcontractors.
 - Its Materialmen and Suppliers.unless notified otherwise in writing by the Engineer.
- 6) Disapproved drawings will be returned to the Contractor for correction and resubmission. After the Contractor has had the required corrections made on the original drawing, it shall again submit five copies for review by the Engineer.
- 7) The acceptance of Shop Drawings by the Engineer shall be only general in nature and shall not relieve the Contractor of any responsibility for the accuracy of the drawings, the proper fitting and construction of the Work or for the furnishing of materials or other Work required by the Contract Documents, but not shown on the Shop Drawings. Acceptance of Shop Drawings by the Engineer shall not be construed as approving departures from the Contract requirements unless specifically noted by the Engineer. Acceptance of Shop Drawings for one item shall not be construed as approval for other changes even if noted by the Contractor on the drawing.
- 8) Shop Drawings submitted other than in accordance with the outlined procedures will be returned to the Contractor for resubmission and the Contractor shall bear all expense and risk of all delays as if no Shop Drawings had been submitted.
- 9) No Work shall be performed until the Shop Drawings have been accepted by the Owner, and the Contractor shall be responsible for all costs and damages, which may result from proceeding prior to the approval of the Shop Drawings.

45. SEQUENCE OF CONSTRUCTION OPERATIONS

- A. It is mandatory that the premises continue to be occupied and facilities therein shall continue to function during the performance of the construction work.
- B. Detailed sequence of construction and availability of spaces in areas through which services must pass shall be coordinated between the Owner and the Contractor, before actual commencement of the Work.
 - 1) To enable the Work to be laid out and prosecuted in an orderly and expeditious manner, Contractor shall provide a proposed Progress Schedule, within fifteen (15) days after the issuance of the Notice to Proceed of this Contract unless otherwise directed in writing by the Construction Administrator. The proposed Progress Schedule shall show the anticipated time of commencement and completion of each of the various operations to be performed under this Contract; together with all necessary and appropriate information regarding the sequence and correlation of Work; and the Schedule of Shop Drawings and delivery of all materials and equipment required for the Work. The Contractor shall prepare a Master Progress Schedule (Schedule) for the Work. Contractor as directed by the Construction Administrator shall revise the proposed Schedule until each activity is properly sequenced to provide that the Work will be completed in the proper order and

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within the allotted Contract duration, without any conflicts. When the Construction Administrator has accepted the Schedule the Contractor will sign it. The Contractor shall then provide one (1) copy of such approved Schedule to each Subcontractor and two (2) copies to the Construction Administrator. Contractor shall afford its Subcontractors a reasonable opportunity for the introduction and storage of their materials and the execution of their Work and shall properly connect and coordinate its Work with others.

Contractor shall strictly adhere to the Schedule unless changed as provided for in the following paragraph.

- 2) Within five (5) days after receiving notice of any change in the Contract, or of any Extra Work to be performed, or of any suspension of the whole or any portion of the Work, or of any other conditions which are likely to cause or are actually causing delays, Contractor must notify the Construction Administrator in writing of the effect, if any, of such change or Extra Work or suspension or other condition upon the previously approved schedule, and must state in what respects, if any, the Schedule should be revised, with the reasons therefor. These proposed changes in the Schedule shall be reviewed and, if appropriate, approved, in writing, by the Construction Administrator. Contractor must strictly adhere to the revised Schedule. Distribution of the revised Schedule shall be as described in paragraph B-1 above. Contractor's compliance with the requirements of this paragraph is in addition to, and not in lieu of, compliance with other notice requirements pertaining to delays and extensions of time contained elsewhere in the contract.
 - 3) The Schedule shall be reviewed by Contractor every two (2) weeks or as directed by the Construction Administrator.
 - 4) If Contractor shall fail to adhere to the approved Schedule, or to the Schedule as revised, they must promptly adopt additional means and methods of construction with no additional cost to the County that will make up for the lost time and will assure completion in accordance with such Schedule. The proposed means and methods shall be described in writing to the County within two (2) days after the Contractor discovered or should have reasonably discovered that the Schedule would not be met as originally proposed. Failure to comply with this requirement may result in the County enforcing its rights under the Contract including, without limitation, default of the Contract.
- C. From time to time as the Work progresses and in the sequence indicated by the approved Schedule, the Contractor must submit to the Construction Administrator a specific request in writing for each item of information or approval required. These requests shall be submitted sufficiently in advance of the date upon which the information or approval is actually required by the Contractor to allow for the time the Construction Administrator may reasonably take to act upon such submissions or resubmissions. The Contractor shall not have any right to an Extension of Time on account of delays due to its failure to timely submit requests for the information or approvals.
- D. Certain construction work shall be required, which will be disruptive to the Owner's staff insofar as noise, dirt and dust is concerned. The Contractor, therefore, shall

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perform such work during other than normal working hours. Subject to the requirements of law, the Owner imposes no limitation on the Contractor's working hours and whatever overtime work may be necessary or required shall be considered by the Contractor and reflected in its Bid Proposal without the benefit of extra compensation.

46. PROTECTION

- A. The Contractor shall at all times exercise all necessary precautions for the safety of the public, employees performing the work and County personnel. The Contractor shall provide and maintain barricades, danger signals and other safeguards about the work and shall be held responsible for all accidents or damages to persons or property caused by failure to do so throughout the progress of the work, and shall comply with all applicable provisions of Federal, State and County Safety Laws.
- B. The Contractor shall during the performance of its work, protect at all times all adjacent portions of the existing surfaces and existing equipment from damage due to the performance of the construction work.
- C. The Contractor shall furnish temporary facilities and/or temporary dust-proof partitions separating all work areas and access routes from those areas not involved in active alterations, so that this work will not interfere with the Owner's access or normal use of areas not allocated to the Contractor, or any essential service to such areas, when ordered by the Construction Administrator.

47. CLEANUP AND REMOVAL OF DEBRIS

- A. At the end of each working day, the Contractor shall sweep up and collect all the rubbish and place it in appropriate containers, furnished by the Contractor. Containers shall be kept at a location on, or adjacent to the work site, as designated by the Construction Administrator. Wood or cardboard crates and other debris of a similar nature shall be broken up, securely bundled and neatly stacked alongside the containers. Once each week and at the completion of the work, the Contractor shall remove all accumulated debris and rubbish.
- B. At the completion of the work, the Contractor shall clean all equipment, fixtures, surfaces and accessories, removing all dust and other foreign matter, ready for use by the Owner.

48. TEMPORARY SERVICE

- A. Sanitary facilities will be provided by the Contractor for its personnel.
- B. The Contractor will supply and pay for the cost of all-temporary water and temporary electric power (120 volt, 60 hertz). The Contractor shall furnish and install all temporary electrical and water connections required for work under this Contract, at and to locations as designated by the Construction Administrator.

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49. OPERATING TESTS

- A. Where operating tests are specified the Contractor shall test the work as it progresses and shall make satisfactory preliminary tests in all cases before applying to the Engineer for official tests.
- B. Official tests will be made in the manner specified for the different branches of the work, in the presence of the Construction Administrator or Engineer. Should defects appear they shall be corrected by the Contractor and the test repeated until the installation is acceptable to the Construction Administrator or Engineer and to any authorities having jurisdiction.
- C. No work of any kind shall be covered or enclosed before it has been tested and approved.
- D. The Contractor shall furnish all materials and apparatus, make connections and conduct tests, without extra compensation unless noted otherwise.

50. OPERATING INSTRUCTIONS AND PARTS LISTS

- A. Where the Specifications require any Contractor to supply equipment operating and maintenance instructions and spare parts lists prior to the completion of the work it shall provide three copies of the publications for each piece of equipment he has furnished and installed under the Contract, upon receipt of the approved shop drawings.
- B. Publications shall be prepared for the specific equipment furnished and installed, containing the following information, and shall not refer to other sizes, types or models of similar equipment:
 - 1) Clear and concise instructions for the operation, adjustment, lubrication and other maintenance of the equipment, including a complete lubrication chart.
 - 2) A complete listing of all parts for the equipment, with catalog numbers and other data necessary for ordering replacement parts.
- C. Advertising literature will not be acceptable.

51. CUTTING AND PATCHING

Contract with Single Bid:

- A. Where the project does not involve separate bids pursuant to the New York General Municipal Law the following will apply:
 - 1) Where walls, floors, ceilings, roofs or other items require cutting for the installation of new work, all such cutting shall be done by the Contractor with the approval of the Construction Administrator; and the Contractor shall patch the opening to make the cut portions match the adjacent finished surfaces, unless otherwise indicated.
 - 2) The Contractor shall not endanger any existing condition by its operations.
 - 3) The cost of all cutting and patching caused by the Contractor's negligence shall be

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borne by the Contractor.

Contract with Separate Bids:

- B. If the project is one where separate bid specifications are required pursuant to the New York General Municipal Law the following will apply:
- 1) A sufficient time in advance of the construction of new floors, walls, ceilings, roofs, or other items, each Contractor shall be responsible for properly locating and providing in place all sleeves, inserts and forms required for their work, and shall furnish the Contractor for General Construction with complete information relative to exact locations and dimensions of all required openings in the General Contractor's work. Other Contractors shall periodically consult the Job Progress Chart of the General Contractor so that they will not be delayed by their work requirements, but the General Contractor shall be obliged to give all other Contractors at least seventy-two hours notice before commencing the previously mentioned new construction work.
 - 2) The cost shall be borne by the responsible Contractor for all cutting, patching, re-waterproofing and re-caulking of new work necessary for reception of the work of a Contractor, caused by the Contractor's failure to timely or properly locate and provide in place all sleeves, inserts and forms required for its own work, or by a Contractor's failure to inform the General Contractor of required openings. The General Contractor shall do all cutting, patching, re-waterproofing and re-caulking of all new work no matter how or by whom such work was caused and shall be reimbursed for such extra work by the responsible Contractor, in accordance with the terms of the Contract. All cutting and patching shall have prior approval of the Construction Administrator.
 - 3) Where sleeves, inserts, forms or openings are required in existing walls, floors, ceilings roofs, or other existing items, all necessary cutting, patching, re-waterproofing and re-caulking required shall be done by the individual responsible Contractor, except for finished surfaces. The responsible Contractor shall do all rough patching to bring the cut areas to the proper surface ready to receive the finished surface. All finishing work required to make the cut portions match the adjacent finished surfaces shall be performed by the General Contractor.
 - 4) Each Contractor shall be responsible for coordinating their work with the work of all other Contractors engaged on the project. If directed, Contractors shall submit coordinated shop drawings showing how the fitting of the various parts of the work will be accomplished, for the Construction Administrator's acceptance.
 - 5) All cutting and patching shall be governed by the applicable divisions of the Specifications with regard to workmanship, materials and methods.
 - 6) No Contractor shall endanger any work by unauthorized cutting, excavating, or other alteration of the work, unless previously authorized by the Construction Administrator.

GENERAL CLAUSES

52. CONFLICTS AMONG CONTRACT DOCUMENTS

In the event of any conflict among the Contract Documents, the Contractor shall notify the Commissioner and comply with the Commissioner's interpretation, according to the following priorities:

| <u>Priority Order</u> | <u>Document</u> |
|-----------------------|---|
| 1..... | Modification issued after execution of Agreement |
| 2..... | Agreement between Owner and Contractor |
| 3..... | Addenda issued prior to the execution of the Agreement (Later date to take precedence) |
| 4..... | Special Notices |
| 5..... | Technical Specifications |
| 6..... | Construction Drawings: |
| 6A..... | Schedule on Construction Drawings |
| 6B..... | Notes on Construction Drawings |
| 6C..... | Large Scale Details on Construction Drawings |
| 6D..... | Small Scale Details on Construction Drawings |
| 7..... | General Requirements |
| 8..... | Special Clauses |
| 9..... | Information for Bidders and General Clauses |

53. RECORD DRAWINGS

- A. The Owner shall furnish, at the first job meeting, one set of "paper" copies of the contract drawing(s) - this is in addition to the five sets of contract drawings as described in the Article "Contract Drawings" of the General Requirements; for the Contractor's use to indicate change(s) as they occur for the duration of the construction work. Upon request from the Contractor, the County will supply the Contractor a copy of the original Contract Drawings in AutoCAD format.
- B. The Contractor shall record neatly and legibly, using reasonable drafting care, all approved change(s) (including minor revisions or corrections of pipes, ducts, electric outlets, circuit panels and other features, as well as invert elevations and locations of underground lines).
- C. When all approved changes are recorded and clearly identified, the Contractor shall prepare a set of "as-built" (record) drawings, in the latest version of AutoCAD, using the approved County format and associated CAD layering guidelines, with 24" x 36" drawing sizes, showing the project as built including all changes in the work made during construction based on marked-up prints, drawings, and other data. These drawings shall be filed on a CD and submitted to the Construction Administrator.
- D. All additional "paper" or reproducible drawings are to be obtained by the Contractor at their own expense.

GENERAL CLAUSES

54. TIME

- A. All time limits (see Article “Required Time For Completion Of The Work” of the General Requirements, and, Article “Time Of Starting” of the Information For Bidders) stated in the specifications are of the essence of the Contract.
- B. The Contractor may perform all necessary labor during other than normal working hours. The Owner imposes no limitation of the Contractor's working hours and whatever overtime work may be necessary or required shall be considered by the Contractor and reflected in its Bid Proposal without the benefit or extra compensation. The Contractor must give a minimum of four (4) hours notice to the Construction Administrator when overtime Work is necessary. The Contractor shall promptly pay to the County the additional cost of the Engineer and Construction Administrator for inspection services during the overtime Work.

55. ACCELERATION OF THE WORK

The Owner may, at its sole discretion and for any reason, require the Contractor to accelerate the schedule of performance by providing overtime, extended day, extra crews, Saturday, Sunday and/or holiday work and/or by having all or any subcontractors designated by the Owner provide overtime, extended day, extra crews, Saturday, Sunday or holiday work by the Contractor’s or his subcontractor’s own forces, and such requirements is independent of and not related in any way to any apparent inability of the Contractor to comply with the schedule(s), Milestone(s) and/or completion date requirements, the Owner, pursuant to a written change order as signed by the Commissioner shall reimburse the Contractor for the direct cost to the Contractor of the premium time for the labor utilized by the Contractor in such overtime, extended day, extra crews, Saturday, Sunday or holiday work (but not for the straight time costs of such labor) together with any social security and state or federal unemployment insurance taxes in connection with such premium time. However, no overhead, supervision costs, commissions, profit or other costs and expenses of any nature whatsoever, including impact costs or costs associated with lost efficiency or productivity, shall be payable in connection therewith. Anything to the foregoing notwithstanding, in the event that the Contractor has fallen behind schedule or in the Owner’s judgment appears likely to fall behind schedule, Owner shall have the absolute right to direct the Contractor to accelerate the performance of its work, including that of its subcontractors, and the full costs for such acceleration shall be borne solely by the Contractor.

56. ULTRA LOW SULFUR DIESEL FUEL

- A. Contractors and Subcontractors operating onroad and nonroad vehicles to perform County work must power those vehicles with ultra low sulfur diesel fuel. Ultra low sulfur diesel fuel is any diesel fuel that has a sulfur content of no more than fifteen parts per million.
- B. In addition, all onroad and nonroad diesel vehicles used to perform County work and equipped with a model year 2003 or older engine shall utilize the best available

GENERAL CLAUSES

technology² in accordance with the following schedule:

- a) effective September 1, 2007 - 35% of all such motor vehicles used on this project;
 - b) effective September 1, 2008 - 65% of all such motor vehicles used on this project;
 - c) effective September 1, 2009 - 100% of all such motor vehicles used on this project.
- C. All onroad and nonroad diesel vehicles to perform County work having a gross vehicle weight rating of more than 14,000 pounds shall utilize the best available technology or be equipped with an engine certified to the applicable 2007 United States Environmental Protection Agency (“EPA”) standard for particulate matter as set forth in Section 86.007-11 of Title 40 of the Code of Federal Regulations or to any subsequent EPA standard for such pollutant that is at least as stringent, in accordance with the following schedule:
- a) by September 1, 2007 - 35% of all such motor vehicles;
 - b) by September 1, 2008 - 65% of all such motor vehicles;
 - c) by September 1, 2009 - 100% of all such motor vehicles
- D. Any contractor who violates any provision of Section 873.1329 shall be liable for a civil penalty not to exceed ten thousand dollars plus twice the amount of money saved by such contractor for failure to comply with this section.
- E. Any contractor who makes a false claim may be liable for a civil penalty not to exceed twenty thousand dollars, in addition to twice the amount of money saved by such contractor as a result of having made such false claim.
- F. Nothing in this section shall be construed to limit the County’s authority to cancel or terminate a contract, deny or withdraw approval to perform a subcontract or provide supplies, issue a non-responsibility finding, issue a non-responsiveness finding, deny a person or entity pre-qualification as a vendor, or otherwise deny a person or entity public entity business.
- G. If sufficient quantities of ultra low sulfur diesel fuel are not available to meet the needs of a contractor to fulfill the requirements of this contract, the Contractor may submit a written request to the Commissioner to use diesel fuel with a sulfur content of no more than thirty parts per million as long as the contractor shall use whatever quantity of ultra low sulfur diesel fuel that is available. Such determination shall be made in writing on a case by case basis upon written application to the Commissioner. If the Commissioner grants such authority it shall expire sixty days thereafter and may be renewed upon written request for additional periods of sixty days.

² Best Available Technology means a system for reducing the emission of pollutants which is based on technology verified by the U.S. Environmental protection Agency or the California Air Resources Board or which has been identified pursuant to NYC’s Department of Environmental Protection that (1) reduces diesel particulate matter emissions by at least 85 percent, as compared to a similar engine operating on traditional diesel fuel without emission control technology, or reduces engine emissions to 0.01 grams diesel particulate matter per brake horsepower per hour or less; and 2) achieves the greatest reduction in emissions of nitrogen oxides at a reasonable cost and in no case produces a net increase in nitrogen oxides in excess of 10%.

GENERAL CLAUSES

H. The Contractor, in order to comply with Subsections B & C above, must retrofit its vehicles to include both of the following in order to comply with the Best Available Technology Requirements:

- Diesel Oxidation Catalysts (DOC)
- Crankcase Vent Filters (CVF)

If the Contractor wants to propose an alternative technology it must submit a written request to the Commissioner with sufficient detail to enable the Commissioner to make a determination as to whether to accept the alternative technology. Any approval of alternative technology must be in writing.

57. QUALIFIED TRANSPORTATION FRINGE PROGRAM (VOID)

58. USE OF FLUORESCENT LIGHT BULBS & ENERGY EFFICIENT BULBS

The use of incandescent light bulbs is prohibited in County-owned buildings and facilities. Only fluorescent light bulbs may be installed in County buildings and facilities. Exterior lights must utilize energy-efficient bulbs. For further details see Article 58 of the General Clauses.

59. COUNTY OF WESTCHESTER PHOSPHORUS-FREE LAWN FERTILIZER POLICY

Executive Order 8-2007 limits the use of lawn fertilizers containing phosphorous and other compounds containing phosphorous, such as phosphate on County owned property.

EXECUTIVE ORDER NO.8 OF 2007

WHEREAS, the New York City water supply watershed is a critical drinking water source for approximately eight million New York City consumers and approximately one million upstate consumers. Over eighty-five percent (85%) of Westchester County's residents consume water from the New York City water supply system; and

WHEREAS, eutrophication is a natural aging process of lakes or streams brought on by

GENERAL CLAUSES

nutrient enrichment. Eutrophication can be greatly accelerated by human activities that increase the rate at which nutrients and organic substances enter aquatic ecosystems from their surrounding watersheds; and

WHEREAS, as a result of accelerated eutrophication, enhanced plant growth reduces dissolved oxygen in the water creating severely impaired water bodies with unpleasant water taste and odor, discoloration, release of toxins and increased turbidity that interferes with the health and diversity of indigenous fish, plant, and animal populations and with the recreational use of rivers, lakes and wetlands. Consequently, eutrophication restricts water use for fisheries, recreation, industry, and drinking due to the increased growth of undesirable algae and aquatic weeds and the oxygen shortages caused by their death and decomposition; and

WHEREAS, nutrient pollution due to human activities is one of the leading causes of eutrophication in the NYC Watershed, and is specifically accelerated by the introduction of excessive phosphorus into the environment. In fact, most reservoirs in the East of Hudson portion of the New York City Watershed (5 of the 7 located in Westchester County) are designated as phosphorous-restricted basins in accordance with the New York City Watershed Rules & Regulations due to excessive phosphorous volumes which have not been reduced despite phosphorous reductions mandated by the New York State Department of Environmental Conservation (NYSDEC); and

WHEREAS, one unnecessary source of phosphorus pollution in the watershed is the many pounds of lawn fertilizer applied by residents and businesses in the County of Westchester each year; and

WHEREAS, when phosphorus fertilizer is applied to phosphorus-rich lawns, much of the excess simply runs off of the lawn into the storm drainage systems where it can be carried into rivers, lakes, streams, and wetlands, causing eutrophication; and

WHEREAS, soil tests conducted pursuant to a six-year study by the Cornell Cooperative Extension, an extension of the State's designated Land-Grant University, have shown that approximately 90% of the lawns in Westchester County have medium-to-high levels of phosphorus; and

WHEREAS, the New York City Watershed Pesticide and Fertilizer Technical Working Group, established by the New York City Watershed Memorandum of Agreement, issued a report in 2000, noting the high percentage of phosphorus in regional soils and recommending that phosphorus-based lawn fertilizers be added only when a soil analysis identifies phosphorus deficiencies.

WHEREAS, the proposed Stormwater Phase II regulations recently issued by the New York State Department of Environmental Conservation, and which are expected to go into effect in January of 2008, will allow the use of phosphorus-based lawn fertilizers on municipally-owned land only where soil testing indicates that phosphorus concentrations are inadequate, in order to ensure that municipalities in the New York City Watershed are

GENERAL CLAUSES

taking satisfactory steps to achieve the above-referenced mandatory phosphorous reductions.

WHEREAS, the United States Environmental Protection Agency has also determined that a Nonpoint Source Implementation Plan was necessary in the Croton Watershed because the phosphorus reductions necessary to meet the targeted applicable water quality standards could not be achieved by wastewater treatment plant upgrades alone; and

WHEREAS, Section 110.11 of the Laws of Westchester County places the responsibility to supervise, direct and control, subject to law, the administrative services and departments of the county, upon the County Executive; and

WHEREAS, I have determined that restricting the application and use of lawn fertilizer containing phosphorus on all County-owned property will address one source of unnecessary and preventable phosphorus pollution and will improve water quality in the County; and

WHEREAS, the Department of Planning, after review of the applicable regulations under the State Environmental Quality Review Act, has advised that this Executive Order has been classified as a Type II action, pursuant to 6 N.Y.C.R.R. § 617.5(c)(20), “routine or continuing agency administration and management, not including new programs or major reordering of priorities that may affect the environment,” and 6 N.Y.C.R.R. § 617.5(c)(27), “adoption of regulations, policies, procedures and local legislative decisions in connection with any action on this list.” As such, no further environmental review is required.

GENERAL CLAUSES

NOW THEREFORE, I, _____, County Executive of the County of Westchester, in light of the aforementioned, do hereby order and direct each and every department, board, agency, and commission of the County of Westchester under my jurisdiction to ensure that the policies and procedures set forth in the following Phosphorus-Free Lawn Fertilizer Policy are complied with.

COUNTY OF WESTCHESTER
PHOSPHORUS- FREE LAWN FERTILIZER POLICY

I. Definitions:

(1) "Certified laboratory" means any laboratory certified by the New York State Department of Health pursuant to section five hundred two of the New York State Public Health Law to conduct soil analysis.

(2) "Commercial fertilizer" means any substances containing one or more recognized plant nutrients which is used for its plant nutrient content, and which is designed for use or claimed to have value in promoting plant growth, except unmanipulated animal or vegetable manures, agricultural liming material, wood ashes, gypsum and other products exempted by regulation of the New York State Commissioner of Agriculture and Markets.

(3) "Lawn fertilizer" means a commercial fertilizer distributed primarily for non-farm use, such as lawns, shrubbery, flowers, golf courses, municipal parks, cemeteries, greenhouses and nurseries, and such other use as the commissioner may define by regulation. Lawn fertilizer does not include fertilizer products intended primarily for garden and indoor plant application.

II. Use and Application of Lawn Fertilizer:

(1) Any lawn fertilizer that is labeled as containing more than 0% phosphorus or other compound containing phosphorus, such as phosphate, shall not be applied upon any County-owned property, except as provided in section III. Of this Executive Order.

(2) No lawn fertilizer shall be applied upon County-owned property when the ground is frozen.

(3) Lawn fertilizer shall not be applied to any impervious surface upon County-owned property, including parking lots, roadways, and sidewalks. If such application occurs, the fertilizer must be immediately contained and either applied to turf in a manner consistent with this Executive Order or placed in an appropriate container.

III. Exemptions:

The prohibition against the use of lawn fertilizer under section II of this Executive Order shall not apply to:

GENERAL CLAUSES

(1) Newly established turf or lawn areas during their first growing season.

(2) Turf or lawn areas that soil tests, performed within the past three years by a certified laboratory or by the Cornell University Cooperative Extension of Westchester County, confirm the need for additional phosphorus application in accordance with the phosphorus levels established by the Cornell University Cooperative Extension of Westchester County. The lawn fertilizer application shall not contain an amount of phosphorus exceeding the amount and rate of application recommended in the soil test evaluation.

(3) Agricultural uses, vegetable and flower gardens, or application to trees or shrubs.

IV. The transition to phosphorus-free lawn fertilizer shall occur as soon as possible in a manner that avoids wasting of existing inventories; accommodates establishment of supply chains for new products; enables the training of County employees and licensees in appropriate work methods; and allows the phase-out of products and practices inconsistent with this Executive Order. However, in no event shall lawn fertilizer containing phosphorus (i.e., labeled as containing more than 0% phosphorus or other compound containing phosphorus, such as phosphate) be applied upon County-owned property after January 1, 2009, unless an exemption set forth in Section III of this Executive Order applies.

V. This Executive Order shall take effect on the date hereof, and shall remain in effect until otherwise superseded, repealed, modified or revoked.



SAMPLE FORMS

DEPARTMENT OF PUBLIC WORKS

Division of Engineering

SAMPLE FORMS

AFFIRMATIVE ACTION PROGRAM REQUIREMENT- SUBCONTRACTOR(S)

County of Westchester, Department of Public Works

(To Be Completed By Subcontractor and Submitted with Request to Utilize Subcontractor)

Affirmative Action Program

An approved Affirmative Action Plan shall be required for all Subcontractors for public work where the subcontracted work exceeds \$50,000 or more than fourteen (14) persons are employed by the Subcontractor.

Does the Subcontractor participate in an approved Affirmative Action Program? Yes [] No []

If Yes, give name of Program: _____

If No, how many employees will the Subcontractor employ on this project? _____

An approved Affirmative Action Program shall mean a plan approved or adopted by Westchester County including but not limited to, the Home-Town Plan, the Recruitment Training Program or any other program approved or meeting the requirements of the State or Federal government.

The "Monthly Employment Utilization Report" of the Sample Forms, shall be filled out by the Contractor and/or Subcontractor(s) who are required to have an Affirmative Action Program, prior to the start of the work.

SAMPLE FORMS

CONTRACTOR'S REPORT OF EMPLOYMENT AND WEEKLY AFFIDAVIT

County of Westchester, Department of Public Works

Contract No. _____

Report No. _____

Week(s) ending _____

Title of Contract and Location _____

Contractor or Subcontractor _____

Address _____

STATE OF _____)
COUNTY OF _____) SS.:

I, _____, being duly sworn, depose and say:

1. I pay or supervise the payment of the persons employed by _____
(Contractor or Subcontractor)

in connection with the above referenced contract;

2. During the payment period commencing on the ____ day of _____,

20____ and ending on the _____ day of _____, 20____, all persons employed by

_____ in connection with such contract have been paid in full
(Contractor or Subcontractor)

weekly wages and supplements earned by such persons except the following: (strikeout, if not applicable)

3. Such persons have been paid the prevailing rate of wages and the supplements as determined and required by Section 220 of the New York State Labor Law.

SAMPLE FORMS

4. No rebates or deductions have been deducted from such wages and supplements except as authorized or required by applicable statutes or regulations of the Federal, State and County Governments.

5. The following is a true and accurate summary of wages and supplements paid:

_____ During the week _____ Total to date

Number of names on payroll _____

Hours worked _____

Total wages earned _____

6. I have read the foregoing statement of wages and supplement, know the contents thereof, and the same is true to my own knowledge.

(Signature)

STATE OF NEW YORK)
COUNTY OF WESTCHESTER) ss.:

On this _____ day of _____, 20___, before me personally came _____ to me known, and known to me to be the person who executed the above instrument, and who being duly sworn did say that he executed the same.

Sworn to before me
this _____ day of _____

License No.

Notary Public - State of New York

SAMPLE FORMS

MONTHLY EMPLOYMENT UTILIZATION REPORT
County of Westchester, Department of Public Works

| | | | | | | | | | | | |
|---|----------------------------|------------------------------|-----|---|-----|---|---|-----------------------|---------------------|---|---|
| <u>MONTHLY EMPLOYMENT UTILIZATION REPORT</u> | | | | | | | | | | CONTRACT NO.: | |
| WESTCHESTER COUNTY DEPARTMENT OF PUBLIC WORKS DIVISION OF ENGINEERING | | | | | | | | | | REPORTING PERIOD: FROM: _____ TO: _____ | |
| JOB TITLE: | | | | | | | | | | TOTAL NUMBER OF EMPLOYEES | |
| NAME AND LOCATION OF CONTRACTOR: | | | | | | | | | | TOTAL NUMBER OF MINORITY EMPLOYEES | |
| CONSTRUCTION TRADE | CLASSIFICATION | TOTAL ALL EMPLOYEES BY TRADE | | | | | | MINORITY PERCENTAGE % | FEMALE PERCENTAGE % | TOTAL NUMBER OF EMPLOYEES | |
| | | M | HRS | F | HRS | M | F | | | M | F |
| | JOURNEY WORKER | | | | | | | | | | |
| | APPRENTICE | | | | | | | | | | |
| | TRAINEE | | | | | | | | | | |
| | SUB-TOTAL | | | | | | | | | | |
| | JOURNEY WORKER | | | | | | | | | | |
| | APPRENTICE | | | | | | | | | | |
| | TRAINEE | | | | | | | | | | |
| | SUB-TOTAL | | | | | | | | | | |
| | JOURNEY WORKER | | | | | | | | | | |
| | APPRENTICE | | | | | | | | | | |
| | TRAINEE | | | | | | | | | | |
| | SUB-TOTAL | | | | | | | | | | |
| | JOURNEY WORKER | | | | | | | | | | |
| | APPRENTICE | | | | | | | | | | |
| | TRAINEE | | | | | | | | | | |
| | SUB-TOTAL | | | | | | | | | | |
| | TOTAL JOURNEY WORKER | | | | | | | | | | |
| | TOTAL APPRENTICES | | | | | | | | | | |
| | TOTAL TRAINEES | | | | | | | | | | |
| | GRAND TOTAL (#HRS & #EMPL) | | | | | | | | | | |
| COMPANY OFFICIAL'S SIGNATURE AND TITLE: | | | | | | | | | | DATE SIGNED: | |
| TELEPHONE NUMBER (Include Area Code): | | | | | | | | | | PAGE: _____ OF _____ | |

This report must be filled out by all contractors (both prime and sub) who are required to have an Affirmative Action Program, and must be filed with the Engineer by the 5th day of each month during the term of the Contract, and shall include the total work hours of each employee classification in each trade in the covered area for the Monthly Reporting Period. The Prime Contractor shall submit a report for its Aggregate Work Force and collect and submit reports for each subcontractor's Aggregate Work Force to the Engineer.

SAMPLE FORMS

SHOP DRAWING SCHEDULE
County of Westchester, Department of Public Works

| SHOP DRAWING SCHEDULE | | | | | | | | | | | |
|-----------------------|-----------------------------|------------|---|--|------------------------------------|----------------------------------|--|--------------------|---|---|----------------------|
| SPECIFICATION NUMBER | DESCRIPTION OF ITEM/MODEL # | SUBMISSION | REQUEST FROM CONTRACTOR TO MANUFACTURER | RECEIVED BY CONTRACTOR FROM MANUFACTURER | RECEIVED BY COUNTY FROM CONTRACTOR | RETURNED BY COUNTY TO CONTRACTOR | RETURNED BY CONTRACTOR TO MANUFACTURER | APPROVED BY COUNTY | APPROVED SHOP DRAWING MANAGER FROM CONTRACTOR | INVOICE NO. AND SCHEDULED DELIVERY DATE | ACTUAL DELIVERY DATE |
| | | ORIGINAL | | | | | | | | | |
| | | 2 | | | | | | | | | |
| | | 3 | | | | | | | | | |
| | | 4 | | | | | | | | | |
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SAMPLE FORMS

SHOP DRAWING ID

County of Westchester, Department of Public Works

WESTCHESTER COUNTY DRAWING _____ OF _____

NAME OF PROJECT

Date _____

Contract No. _____

Item/Model No. _____

Manufacturer _____

Contract Drawing No. _____

Specification Section _____

This document has been reviewed, coordinated and checked for accuracy of content and for compliance with the Contract Documents. The information contained herein has been coordinated with all other Contract Work.

Contractor _____

Signed _____

SAMPLE FORMS

CONTRACTOR'S ULTRA LOW SULFUR DIESEL FUEL AFFIDAVIT

County of Westchester, Department of Public Works

Contract No. _____ Period Included in this Report: _____, 20__ to _____, 20__

Title of Contract and Location _____

Contractor _____

Address _____

Subcontractor _____

Address _____

STATE OF _____) ss.:
COUNTY OF _____)

I, _____ being duly sworn, depose and say:
(print name) (print title)

1. I certify under penalty of perjury that I agree to comply with the requirements of Chapter 878, Article XIII, Section 873.13.29 of the Laws of Westchester County.
2. During the period _____ through _____, all diesel-powered vehicles, used in the performance of Contract No. _____, were powered by ultra low sulfur diesel fuel (15 ppm Sulfur Maximum).
3. No fuel other than Ultra Low Sulfur Diesel Fuel (15 ppm Sulfur Maximum) was utilized on this project for the above described vehicles.
4. The annexed Ultra Low Sulfur Diesel Fuel Log is a true and accurate summary of the low sulfur diesel fuel (15 ppm Sulfur Maximum) purchased and utilized in the performance of this project.
5. I have read the foregoing statement, have full knowledge of the contents thereof, and it is my intent that the County of Westchester will rely on the statements contained herein.

(Signature)

STATE OF _____) ss.:
COUNTY OF _____)

On this _____ day of _____, 20__, before me personally came _____ to me known, and known to me to be the person who executed the above instrument, and who being duly sworn did say that he/she executed the same.

Sworn to before me this

_____ day of _____, 20__.

Notary Public

The Ultra Low Sulfur Diesel Fuel-Log must be attached.

This Certification also has to be submitted by your subcontractor(s). *Additional copies of this form can be acquired from the Department of Public Work.*

- New
 Change
 No Change

Electronic Funds Transfer (EFT) Vendor Direct Payment Authorization Form

INSTRUCTIONS: Please complete both sections of this Authorization form and attach a voided check. See the reverse for more information and instructions (Forms Page 21). If you previously submitted this form and there is no change to the information previously submitted, **ONLY** complete lines 1 through 6 of section 1.

Section I - Vendor Information

1. Vendor Name:

2. Taxpayer ID Number or Social Security Number:

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

3. Vendor Primary Address

4. Contact Person Name:

Contact Person Telephone Number:

5. Vendor E-Mail Addresses for Remittance Notification:

6. Vendor Certification: *I have read and understand the Vendor Direct Payment Program and hereby authorize payments to be received by electronic funds transfer into the bank that I designate in Section II. I further understand that in the event that an erroneous electronic payment is sent, Westchester County reserves the right to reverse the electronic payment. In the event that a reversal cannot be implemented, Westchester County will utilize any other lawful means to retrieve payments to which the payee was not entitled.*

Authorized Signature

Print Name/Title

Date

Section II- Financial Institution Information

7. Bank Name:

8. Bank Address:

9. Routing Transit Number:

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

10. Account Type:
(check one)

Checking

Savings

11. Bank Account Number:

12. Bank Account Title:

13. Bank Contact Person Name:

Telephone Number:

14. FINANCIAL INSTITUTION CERTIFICATION (required **ONLY** if directing funds into a Savings Account **OR** if a voided check is not attached to this form): *I certify that the account number and type of account is maintained in the name of the vendor named above. As a representative of the named financial Institution, I certify that this financial Institution is ACH capable and agrees to receive and deposit payments to the account shown.*

Authorized Signature

Print Name / Title

Date

**(Leave Blank - to be completed by
Westchester County) - Vendor number assigned**

| | | | | | | | | | |
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Electronic Funds Transfer (EFT) Vendor Direct Payment Authorization Form

GENERAL INSTRUCTIONS

Please complete both sections of the Vendor Direct Payment Authorization Form and forward the completed form (along with a voided check for the account to which you want your payments credited) to: Westchester County Board of Acquisition and Contract, 148 Martine Ave, Room 104, White Plains, NY 10601, Attention: Vendor Direct. Please see item 14 below regarding attachment of a voided check.

Section I - VENDOR INFORMATION

1. Provide the name of the vendor as it appears on the W-9 form.
2. Enter the vendor's Taxpayer ID number or Social Security Number as it appears on the W-9 form.
3. Enter the vendor's complete primary address (not a P.O. Box).
4. Provide the name and telephone number of the vendor's contact person.
5. Enter the business e-mail address for the remittance notification. THIS IS VERY IMPORTANT. This is the e-mail address that we will use to send you notification and remittance information two days prior to the payment being credited to your bank account. We suggest that you provide a group mailbox (if applicable) for your e-mail address. You may also designate multiple e-mail addresses.
6. Please have an authorized Payee/Company official sign and date the form and include his/her title.

Section II - FINANCIAL INSTITUTION INFORMATION

7. Provide bank's name.
8. Provide the complete address of your bank.
9. Enter your bank's 9 digit routing transit number.
10. Indicate the type of account (check one box only).
11. Enter the vendor's bank account number.
12. Enter the title of the vendor's account.
13. Provide the name and telephone number of your bank contact person.
14. If you are directing your payments to a Savings Account OR you can not attach a voided check for your checking account, this line needs to be completed and signed by an authorized bank official. IF YOU DO ATTACH A VOIDED CHECK FOR A CHECKING ACCOUNT, YOU MAY LEAVE THIS LINE BLANK.



SAMPLE CONTRACT AND BOND
FOR CONSTRUCTION

DEPARTMENT OF PUBLIC WORKS

Division of Engineering

COUNTY OF WESTCHESTER

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION

**COUNTY OFFICE BUILDING/ROOM 500
WHITE PLAINS, NEW YORK**

CONTRACT AND BOND

FOR:

CONTRACT

XX-XXX

**XXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXX, NEW YORK**

SAMPLE

**John Nonna
County Attorney**

CONTRACT NO.:

Amount of Contract: \$

THIS AGREEMENT made this **th** day of , **2022**, by and between the **COUNTY OF WESTCHESTER**, a municipal corporation of the State of New York, hereinafter, “County”, and

hereinafter called the “Contractor”, WITNESSETH as follows:

WHEREAS, the Commissioner of Public Works and Transportation, hereinafter called “Commissioner”, by virtue of the power and authority in him vested did advertise for proposals and bids for:

Westchester County, New York, to furnish all labor, tools, implements and materials that may be requisite and necessary to the execution and completion of the work according to the plans, specifications, profiles and other drawings relating to such work, as approved by the County of Westchester and now on file in the Office of the Commissioner, and

WHEREAS, the Contractor did bid for said work in the manner and form as required by said plans and specifications and, being the lowest responsible bidder therefore, was duly awarded the Contract for such work at prices named in the itemized proposal by a resolution of the Board of Acquisition and Contract of the said County of Westchester.

NOW THEREFORE, the Contractor, in consideration of the prices so named for the various items of work to be paid for as hereinafter provided, does for itself, its representatives, agents, executors, administrators, successors or assigns, covenant and agree with the County that it, the said Contractor, shall and will at its own proper costs and charges and in conformity with said plans and specifications which are made a part of this Contract without setting forth same herein, provide all manner and kind of materials, molds, models, cartage, appliances and appurtenances required and of every description necessary for the due and proper performance of this Contract and the completion of said work to be done under the supervision and direction of the Commissioner, in a good workmanlike manner and in conformity with said plans and specifications without any alteration, deviation, additions, or omissions therefrom except upon due request and under the written direction of said Commissioner.

The Contractor acknowledges receipt of the “Information for Bidders, General and Special Clauses, Specification, Proposal and Plans” relating to this Contract, as well as all issued Addenda thereto, all of which are expressly incorporated in this Contract as if fully set forth herein.

IT IS FURTHER UNDERSTOOD AND AGREED by and between the parties to this Contract that if in the opinion of the said Commissioner of the County of Westchester it shall become necessary to make any change in the work called by the plans and specifications which are a part of this Contract, whereby, consistent with the Information for Bidders, the work contemplated by said plans and specifications is modified and reduced and the costs and expenses of such work lessened, that then and in that event the Contractor will do the work as changed and modified and the said Commissioner shall estimate the difference between the original estimate of quantities therefor and the amount that should be paid by reason of the modification and change and the difference shall be deducted from the original estimate of quantities therefore of said Contract and said Contractor shall be paid accordingly. The estimate of said Commissioner shall be final and conclusive upon the parties hereto and may not be challenged except in a proceeding commenced pursuant to Article 78 of the Civil Practice Law and Rules. Any changes, modifications or deductions shall in no way invalidate this Contract and said Contractor agrees that in the event of any such change or modification reducing the original, estimated quantities therefore, it will not make any claim for any profit, or loss of profit by reason thereof. Notwithstanding any dispute or disagreement arising hereunder, Contractor agrees that the Work shall not be delayed nor disrupted by reason thereof.

The County hereby covenants and agrees with the said Contractor, in consideration of the covenants and agreements herein being strictly and in all respects complied with by the said Contractor as specified, that it will well and truly pay unto the said Contractor the unit prices set forth in the Proposal for the various items included in the Contract.

All partial payments will be made in accordance with the provisions set forth in the “Information for Bidders” and especially that part thereof which relates to “Estimates and Payments”.

Furthermore, all partial payments will be made on the claim voucher and verified certificate of the Commissioner, both of which shall be filed in the Office of the Commissioner of Finance of the County of Westchester. The said claim voucher shall show the value of the work completed and the verified certificate shall show the said work was done in accordance with the plans and specifications.

With the final estimate the Contractor shall furnish to the Construction Administrator a sworn statement listing all unpaid bills and liabilities incurred under this Contract up to and including the date of the estimate. Where there are any bills or liabilities in excess of moneys due under any estimate under this Contract, the Construction Administrator may withhold payment of the estimate pending a satisfactory proof of settlement or adjustment of any excess claims. No final estimate will be approved or passed for payment unless and until the Contractor furnishes satisfactory proof that all bills and liabilities incurred under the Contract are paid in full and complies with the requirements of Section 220-a of the Labor Law.

Acceptance shall be effected as follows: whenever, in the opinion of the Commissioner, the Contractor shall have completely performed the Contract on his part to be performed, the Commissioner shall so certify in writing to the Board of Acquisition and Contract of the County and file such certificate with the said Board, stating therein, in substance that the work has been duly examined by him and that the same has been fully performed and completed in accordance with the terms of the Contract therefor, and recommending the acceptance thereof. When the Board of Acquisition and Contract by resolution duly adopts, approves and ratifies, the said acceptance shall be complete. No final payment shall be made under this Contract until such certificate of completion and recommendation of acceptance have been approved and ratified by a resolution of said Board of Acquisition and Contract.

Unless otherwise provided for in the contract documents, the Commissioner may take over, use, occupy or operate any part of the Work at any time prior to Final Acceptance upon written notification to the Contractor. The Engineer shall inspect the part of the Work to be taken over, used, occupied or operated, and will furnish the Contractor with a written statement of the Work, if any, that remains to be performed on such part. The Contractor shall not object to, nor interfere with, the Commissioner's decision to exercise the rights granted herein. In the event the Commissioner takes over, uses, occupies or operates any part of the work: (i) the Commissioner shall issue a written determination of Substantial Completion with respect to such part of the Work; and (ii) the Contractor shall be relieved of its absolute obligation to protect such part of the unfinished work in accordance with Article 19 of the General Clauses.

The Commissioner will approve a final estimate for final payment consistent with the authorization of final acceptance from the Board of Acquisition and Contract less previous payments and any and all deductions authorized to be made by the Commissioner under the Contract or law. Payment pursuant to such final estimate less any additional deductions authorized to be made by the Commissioner of Finance under the Contract or law shall constitute the final payment and shall be made by the Commissioner of Finance. If the contract is terminated prior to final acceptance the Commissioner is authorized to prepare a final payment as otherwise authorized by the Board of Acquisition and Contract subject to the above noted adjustments.

Upon the completion and acceptance of this Contract by the Board of Acquisition and Contract, as aforesaid, the Commissioner shall proceed with all reasonable diligence to ascertain from actual measurements the whole amount of work done by the Contractor, and also the value of such work under and according to the terms of this Contract, and thereupon make out in writing a final estimate therefor.

After the completion and acceptance as herein above-mentioned, the Commissioner of Public Works and Transportation shall file with the Commissioner of Finance of the County of Westchester the original verified certificate, claim voucher and the certification required by Section 220-a of the Labor Law, together with a certified copy of the resolution of approval and ratification of the Board of Acquisition and Contract of the said verified certificate and claim voucher and the resolution of acceptance of completion.

IT IS FURTHER UNDERSTOOD AND AGREED by and between the parties to this Contract that the Contractor will accept the unit prices named in the proposal for all additions to or deductions from the original quantities as given in the specifications. It is agreed that the Commissioner will make estimates of the value for the work completed as provided in the specifications and the final estimate will be made accordingly.

The Contractor further agrees that if at any time before or within thirty days after the whole of the work herein agreed to be performed has been completed and accepted any person or persons claiming to have performed any labor or furnished any material towards the performance and completion of this contract shall file with the proper officials any such notice as is described in the Lien Law, or any other act of the Legislature of the State of New York, the Contractor shall cause such Lien to be discharged of record. Otherwise and in every case and until the Lien is discharge of record the County shall retain, anything herein to the contrary notwithstanding, from the moneys under its control and due or to grow due under this Contract the sum of one hundred fifty (150%) percent of the amount of such Lien, unless otherwise authorized to withhold a larger amount. The Contractor further agrees to pay the County upon demand the costs, including but not limited to attorney's fees, incurred by the County in any action(s) brought to foreclose or otherwise enforce said Lien.

The term of this Agreement shall commence on **August 25, 2022** and shall terminate on **August 20, 2025**. It is recognized and understood by the parties that the above Agreement termination date is solely for accounting purposes to allow for final closeout of this Agreement. Accordingly, the Contractor covenants and agrees to commence the work embraced in this Agreement on the Agreement commencement date and to complete said work in all respects on or before the work completion date set forth the General Requirements section of this Agreement.

It is further understood and agreed by the parties hereto that the time of completion is of the essence of this Contract.

It is further understood and agreed by the Contractor that before entering upon the performance of this Contract it shall have approved by the County Attorney the Bond required to be furnished by it in the sum of --- **FOUR MILLION ONE HUNDRED FIFTY THOUSAND NINE HUNDRED DOLLARS-00/100--- [\$4,150,900.00]**-conditioned for the faithful performance of the work.

It is further understood and agreed by the Contractor that, in addition to, and not in limitation of the insurance requirements contained in Schedule "A" entitled "Standard Insurance Provisions", attached hereto and made a part hereof, the Contractor agrees:

(a) that except for the amount, if any, of damage contributed to, caused by or resulting from the sole negligence of the County, the Contractor shall indemnify and hold harmless the County, its officers, employees and agents from and against any and all liability, damage, claims, demands, costs, judgments, fees, attorneys' fees or loss arising directly or indirectly out of the acts or omissions hereunder by the Contractor or third parties under the direction or control of the Contractor; and

(b) to provide defense for and defend, at its sole expense, any and all claims, demands or causes of action directly or indirectly arising out of this Agreement and to bear all other costs and expenses related thereto.

(c) In the event the Contractor does not provide the above defense and indemnification to the County, and such refusal or denial to provide the above defense and indemnification is found to be in breach of this provision, then the Contractor shall reimburse the County's reasonable attorney's fees incurred in connection with the defense of any action, and in connection with enforcing this provision of the Agreement.

The Contractor hereby covenants and agrees to observe the plans, specifications and directions of the Commissioner in the doing of the work provided for under this Contract and to furnish the necessary materials and implements required therefore and to remove condemned material and rubbish as provided by plans and specifications and to employ a competent and sufficient force of workmen to complete the work of this improvement within the time specified. Should the Contractor at any time become insolvent, make an assignment for the benefit of creditors, abandon the Work, reduce its working force to a number which, if maintained, would be insufficient, in the sole opinion of the Commissioner, to complete the Work in accordance with the approved progress schedule; sublet, assign or otherwise dispose of this Contract other than as permitted elsewhere herein, refuse or neglect to supply a sufficiency of properly skilled workmen, or of material of the proper quantity or fail in any respect to prosecute the work with promptness and diligence, or fail in any other way in the performance of any of the agreements herein contained; all the foregoing being deemed acts of default, and such default being certified by the Commissioner, the County of Westchester, acting by the Board of Acquisition and Contract, shall be at liberty after five days written notice to the Contractor to provide any such labor or materials, use any and all sums due or to become due to the Contractor under this Contract, to pay for such labor and material, and if the Commissioner shall certify that such default is sufficient ground for such action, the County of Westchester acting by the Board of Acquisition and Contract, shall also be at liberty to terminate the employment of the Contractor for the said work and to enter upon the premises and take possession for the purpose of completing the work included under this Contract of all materials, tools and appliances thereon and to employ any other person or persons to finish the work and provide the materials therefore. Upon the Contractor's receipt of a notice from the County the Contractor shall immediately discontinue all further operations under this Contract. In case of such termination, the Contractor shall not be entitled to receive any further payment under this Contract until the said work shall be wholly finished, at which time if the unpaid balance of the amount to be paid under this Contract shall exceed the reasonable value of the work performed and the material furnished or the total costs therefor, whichever is greater, in finishing the work, such excess shall be paid by the County of Westchester to the Contractor, but if such expense shall exceed such unpaid balance, the Contractor shall pay the difference to the County.

The expense incurred by the County and the total costs as herein provided either for furnishing materials or for finishing the work and any damage incurred through such default shall be certified by the Commissioner whose certificate thereof shall be final and conclusive

upon the parties and may not be challenged except in a proceeding commenced pursuant to Article 78 of the Civil Practice Law and Rules.

In case the County shall declare the Contractor in default as to a part of the work only, the Contractor shall immediately discontinue such part, shall continue performing the remainder of the Work in strict conformity with the terms of the Contract.

In completing the whole or any part of the Work under the provisions of this Contract, the Commissioner shall have the power to depart from or change or vary the terms and provisions of this Contract. Such departure, change or variation, even to the extent of accepting a lesser or different performance, shall not affect the conclusiveness of the Commissioner's certification of the cost of completion referred to above, nor shall it constitute a defense to an action to recover the amount by which such certificate exceeds the amount which would have been payable to the Contractor hereunder but for his default or partial default.

In addition to termination as provided for above, the County may terminate this Contract for the convenience of the County by written notice to the Contractor from the Commissioner. In such event and upon receipt of such notice the Contractor shall stop work on the date specified in the notice; take such actions as may be necessary to protect and preserve the County's materials and property; cancel all cancelable orders for material and equipment; assign to the County and deliver to the jobsite or any other location designated by the Commissioner any non-cancelable orders for material and equipment that is not capable of use except in the performance of this Contract and which has been specifically fabricated for the sole purpose of this Contract and not incorporated in the Work; and take no action that will increase the amounts payable by the County under this Contract.

In the event the contract is cancelled for the convenience of the County the following provisions shall apply:

(a) For Work completed prior to the notice of termination, the Contractor shall be paid the fair and reasonable value of its work determined by the pro rata portion of the lump sum bid amount based upon the percent completion of the Work as of the date of termination as determined by the Commissioner, plus work completed pursuant to approved change orders, less amounts previously paid. For purposes of determining the pro rata portion of the lump sum bid amount to which the Contractor is entitled, the Contractor's approved bid breakdown pursuant to Article 21 of the Information for Bidders shall be considered but shall not be dispositive as to the fair and reasonable value.

(b) For non-cancelable material and equipment that is not capable of use except in the performance of this Contract and which has been specifically fabricated for the sole purpose of this Contract, but not yet incorporated in the Work, the Contractor shall be paid the fair and reasonable value thereof as determined by the Commissioner, but not more than the Contractor's cost for such material and equipment, plus an additional sum of two (2%) percent of such fair and reasonable value.

(c) In the event the County terminates a lump sum Contract for convenience within thirty (30) days after the Contractor has received the Notice of Award from the County, the Contractor shall be paid one (1%) percent of the difference between the total lump sum bid amount and the total of all payments made prior to the notice of termination plus all payments allowed pursuant to (a) and (b).

(d) On all unit price Contracts, or on unit price items in a Contract, the County will pay the Contractor the sum of (e) and (f) below, less all payments previously made pursuant to this Contract:

(e) For all completed units, the unit price stated in the Contract, and

(f) For units that have been ordered but are only partially completed, the Contractor will be paid (i) a pro rata portion of the unit price as stated in the Contract based upon the percent completion of the unit as determined by the Commissioner and (ii) for non-cancelable material and equipment, payment will be made pursuant to (b), above.

(g) The Commissioner's determination(s) hereunder shall be final, binding and conclusive and subject to review only pursuant to Article 78 of the New York Civil Practice Law and Rules.

(h) The County shall not be liable to the Contractor for any payment or claim if the termination for convenience results in a reduction of thirty (30%) percent or less of the original contract price as bid.

On all Contracts or items in a Contract where time and material records are specified as the basis for payment of the Work, the Contractor shall be paid in accordance with Article 29 of the General Clauses, less all payments previously made pursuant to this Contract.

In no event shall any payments made pursuant to a termination for convenience exceed the Contract price for such items, either individually or collectively.

All payments made pursuant to a termination for convenience shall be in the nature of liquidated damages and shall be accepted by the Contractor in full satisfaction of all claims against the County.

The County may deduct or set off against any sums due and payable arising from a termination for convenience, any claims it may have against the Contractor.

In the event the County terminates the Contractor for default and it is subsequently determined that the Contractor was not in default, said termination shall automatically be converted for all purposes into a termination for convenience.

It is further understood and agreed between the parties hereto that no certificate given or payment made under this Contract, except the final certificate or final payment shall be conclusive evidence of the performance of this Contract either wholly or in part and that no payment shall be construed to be an acceptance of defective work or improper materials. If the Contractor shall fail to replace any defective work or materials, the County may cause such defective materials to be removed and defective work to be replaced and the expense thereof shall be deducted from the amount to be paid the Contractor.

Anything to the contrary in the preceding paragraph notwithstanding, the Contractor is responsible for the repair of defects in materials and workmanship for a period of one year from the date of final acceptance of the work by the Board of Acquisition and Contract, unless a longer term is specified in the specifications.

The Contractor further agrees not to assign, transfer, convey, sublet or otherwise dispose of this Contract, or its right, title or interest in or to the same, or any part hereof without the previous consent in writing of the Board of Acquisition and Contract of the County. Before a Subcontractor shall proceed with any work, the Commissioner must first recommend and the Board of Acquisition and Contract must approve the use of the Subcontractor on this Contract. If a Subcontractor is not approved it may not work on this Contract. The Contractor specifically waives any claim due to the failure or refusal of the Commissioner or the Board of Acquisition and Contract to approve said Subcontractor.

The Contractor agrees to hold himself responsible for any claims made against the County for any infringement of patents by the use of patented articles in the construction and completion of the work or any process connected with the work agreed to be performed under this Contract or of any material used upon the said work, and shall indemnify and save harmless the County for the costs, expenses and damages which the County may be obligated to pay by reason of any infringement of patents used in the construction and completion of the work.

The parties hereto agree that no laborer, workman or mechanic in the employ of the Contractor, Subcontractor or other person doing or contracting to do the whole or part of the work contemplated by the Contract shall be permitted or required to work more than eight hours in any one calendar day or more than five days in any one week except in cases of extraordinary emergency including fire, flood or danger to life or property. No such person shall be so employed more than eight hours in any day or more than five days in any one week except in such emergency. Time lost in any week because of inclement weather by employees engaged in the construction, reconstruction and maintenance of highways outside of the limits of cities and villages may be made up during that week and/or the succeeding three weeks.

The Contractor further agrees to erect and maintain during construction all necessary guards, rails and signals to prevent accidents to persons, vehicles or to the adjoining property and also agrees to use all necessary precautions in blasting and that he will indemnify and save the County of Westchester harmless from all suits and actions of any kind and nature whatsoever from or on account of the construction of said work.

It is further understood and agreed by the parties hereto that should any dispute arise respecting the true construction, interpretation or meaning of the Contract plans, specifications or conditions herein, or the measurements for the payment thereunder, same shall be referred to and decided by the said Commissioner and his decision thereon shall be final and conclusive upon the parties thereto and may not be challenged except in a proceeding commenced pursuant to Article 78 of the Civil Practice Law and Rules. This provision shall also apply to the true value of and duly authorized extra work or any work permitted by agreement in case any work shall be ordered performed, or any work called for shall be so omitted under and upon the direction of said Commissioner.

The Contractor by the submitting of bids and execution of this Contract hereby covenants and agrees that he has examined the plans, specifications and the site work, as to local conditions, difficulties and accuracy of approximate estimate of quantities and does hereby further covenant and agree that he will not make any claim for damages by reason of any such local conditions, difficulties or variation of approximate estimate of quantities.

The Contractor represents and warrants to the County with the knowledge and expectation that this warranty will be relied upon by the County that it is not now participating and has not at any time participated, either directly or through any substantially owned or affiliated person, firm, partnership or corporation, in an international boycott in violation of the provisions of United States Export Administration Act of 1969, 50 USC 2401 et seq. or the regulations promulgated thereunder.

The Contractor further warrants and represents that it is financially solvent, and sufficiently experienced and competent to perform the work and that the facts provided by it to the County in its bid and supporting documents, and contract documents are true and correct in all respects.

This Contract shall become void and any rights of the Contractor hereunder shall be forfeited if, subsequent to the execution hereof, the Contractor is convicted of a violation of the provision of the United States Export Administration Act of 1969, 50 USC 2401 et seq. as amended or has been found upon the final determination of the United States Commerce Department or any other appropriate agency of the United States or the State of New York to have violated such act or regulations.

If the Contractor, any officer, director, or any party holding a controlling interest (defined as five (5%) percent or more, or in the case of a corporation, any stockholder owning five (5%) percent or more of the outstanding shares) is convicted of a crime (excluding Class B and Unclassified Misdemeanors as defined under the New York State Penal Law and their equivalent in any city, state or under Federal law related to the type of services or activities which are the subject matter of this Contract) or if a related or affiliated company, partnership or corporation is convicted of a crime (excluding Class B and Unclassified Misdemeanors as defined above) after this Contract is fully executed, the County shall have the right to terminate this Agreement immediately and without penalty. An "affiliated company" as used herein means any affiliate which is a partnership, corporation, proprietorship, association or other entity (i) in which a 50% or greater ownership interest (as defined below) is directly or indirectly held by the Contractor or

any of its management personnel (as defined below) or directors, (ii) which directly or indirectly holds 50% or more of the ownership interest in the Contractor, (iii) in which an aggregate 20% or greater ownership interest is directly or indirectly held by one or more shareholders (or partners or proprietors, in the case of a partnership or proprietorship) which or who in the aggregate hold a 20% or greater ownership interest in the Contractor, or (iv) which, whether by Contract or otherwise, directly or indirectly controls, is controlled by or is under common control with the Contractor. An "ownership interest" means the ownership, whether legally or beneficially, of the stock of or assets employed by a corporation, of a partnership interest in or assets employed by a partnership or of a similar interest in or assets employed by any other entity. "Management personnel" means executive officers and all other persons, whether or not officers or employees, who perform policy-making functions similar to those of executive officers.

The Contractor represents that at the time of execution of this Contract, no individual or entity, as described above, has been convicted of a crime during the five (5) year period preceding the execution of this Contract.

Pursuant to Chapter 308 of the Laws of Westchester County (Local Law 18-1997), it is the goal of the County to use its best efforts to encourage, promote and increase participation of business enterprises that are owned and controlled by persons of color or women in contracts and projects funded by the County, and to monitor such participation. The parties agree that the Contractor has completed the questionnaire contained in the bid specifications attached hereto as part of this Agreement.

The County believes it is a laudable goal to provide business opportunities to veterans who were disabled while serving our country, and wants to encourage the participation in County contracts of certified business enterprises owned and controlled by service-disabled veterans. As part of the County's program to encourage the participation of such business enterprises in County contracts, and in furtherance of Article 17-B of the New York State Executive Law, the parties agree that the Contractor has completed the questionnaire entitled Questionnaire Regarding Business Enterprises Owned and Controlled by Service-Disabled Veterans contained in the bid specifications attached hereto as part of this Agreement.

It is recognized and understood by the parties that this Contract is subject to appropriation by the Westchester County Board of Legislators. The County shall have no liability under this Contract beyond the funds, if any, that are appropriated and available for payment of the amounts due under this Contract. Notwithstanding the foregoing, the County will do all things lawfully within its power to obtain, maintain and properly request and pursue funds from which payments under this Contract may be made.

The parties hereto for themselves, their legal representatives, successors and assigns, expressly agree that any legal action or proceeding that may arise out of or relating to this Contract shall be brought and maintained only in the courts of the State of New York ("New York State Court") located in the County of Westchester. With respect to any action between the County and Contractor in New York State Court, the Contractor hereby expressly waives and relinquishes any rights it may otherwise have (i) to move to dismiss on grounds of forum *non*

conveniens; (ii) to remove to Federal Court; and (iii) to move for a change of venue to a New York State Court outside of Westchester County.

The Contractor for itself, its legal representatives, successors or assigns expressly agrees that no legal action or proceeding shall lie or be maintained against the County upon any claims based upon or arising out of this Contract unless such action or proceeding shall be commenced within six (6) months of final acceptance of the work by the Board of Acquisition and Contract, or within six (6) months after the termination of this Contract, whichever first occurs.

This Contract and its terms, covenants, obligations, conditions and provisions shall be binding upon all the parties hereto, their legal representatives, successors and assigns.

This Contract shall not be enforceable until it is signed by all parties and approved by the Office of the County Attorney.

SAMPLE

[Intentionally Left Blank.
Signatures to Follow.]

IN WITNESS WHEREOF, the parties hereto have executed this agreement, THE COUNTY OF WESTCHESTER pursuant to law by:

_____ its Commissioner

and the **CONTRACTOR:**

BY _____ its _____
(Type or Print Name) (Type or Print Title)

THE COUNTY OF WESTCHESTER:

BY: _____
Commissioner

CONTRACTOR:

(SEAL)

ELQ INDUSTRIES, INC.

BY: _____
(Signature)

ATTEST
BY: _____
(Signature)

Recommended:

Department of Public Works and Transportation

Approved as to form and manner of execution this _____ day of _____, 2022

County Attorney

**CERTIFICATE OF AUTHORITY
(CORPORATION)**

I, _____
(Officer OTHER THAN officer signing contract)

certify that I am _____ of
(Title)

(Name of Corporation)

a corporation duly organized and in good standing under the _____

(Law under which organized, e.g., the New York Business Corporation Law) named in the foregoing agreement; that

(Person executing Agreement)

who signed said Agreement on behalf of the _____
(Name of Corporation)

was at the time of execution _____ of the Corporation and
(Title of such person)

that said agreement was duly signed for and on behalf of said Corporation by authority of its Board of Directors, thereunto duly authorized and that such authority is in full force and effect at the date of hereof.

(Signature)

STATE OF NEW YORK)

)ss:

COUNTY OF)

On the _____ day of _____, in the year 2022, before me, the undersigned, a Notary Public in and for said State, _____ personally appeared, personally known to me or proved to me on the basis of satisfactory evidence to be the officer described in and who executed the above certificate, who being by me duly sworn did depose and say that he/she resides at _____ and he/she is an officer of said corporation; that he/she is duly authorized to execute said certificate on behalf of said corporation, and that he/she signed his/her name thereto pursuant to such authority.

Notary

Date: _____

SAMPLE

PERFORMANCE AND PAYMENT BOND

Bond No. _____

KNOW ALL BY THESE PRESENT,

that we, _____,
(Insert legal name and address of Contractor)

as Principal (hereinafter, together with its successors, assigns, subcontractors, administrators, executors or any other designees or transferees, collectively the "Principal"), and
_____,
(Insert legal name and address of Surety)

as Surety (hereinafter, together with its successors, assigns, subcontractors, administrators, executors or any other designees or transferees, collectively the "Surety"), are held and firmly bound along with our heirs, executors, administrators, successors and assigns, jointly and severally, unto **THE COUNTY OF WESTCHESTER, 148 Martine Avenue, White Plains, New York 10601**, as Obligee, (hereinafter "Obligee") for payment of the penal sum of _____.

(hereinafter the "Penal Sum"), in lawful money of the United States, as more particularly set forth herein.

Said Penal Sum shall apply separately and independently, in its total amount, to the payment provision and the performance provision of this bond and shall not reduce or limit the right of the Obligee or any other claimant to recover under the other said provision.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Acquisition and Contract, has authorized the award of an agreement to the Principal for the work (the "Work") commonly described as:

Contract # _____.

WHEREAS, the Principal has entered into an agreement with the Obligee for performance of the Work in strict accordance with the agreement, its attachments and specifications contained therein; (the agreement with all attachments is hereinafter collectively referred to as the "Contract" and are incorporated herein and made a part hereof by reference); and

WHEREAS, by the terms of the Contract, the Principal is required to furnish a bond ensuring the Principal's prompt, full and faithful performance of the Contract.

NOW THEREFORE, if the Principal shall

(1) promptly, fully and faithfully perform the Work and each and all of the terms and obligations to be carried out and performed by the Principal in strict accordance with the terms, conditions and covenants of the Contract as it may be modified or amended from time to time; and if the Principal shall indemnify and save harmless the Obligee and all of its officers, agents and employees from any and all losses, liability and damages, claims, judgments, liens, costs, and fees of every description, which may be incurred by the Obligee by reason of a default or failure on the part of the Principal in the strict performance of any or all of the terms or obligations of the Contract, including all modifications, and amendments, thereto, and any warranties or guarantees required thereunder; and

(2) also promptly make payment of all wages, labor, services, supplies and material rendered or reasonably required for use in the performance of the Contract, of all persons and firms engaged in the Work provided for in the Contract, whether such persons are agents, servants or employees of the Principal, or any subcontractor or of any assignee or designee thereof, regardless of any contractual relationship between the Principal, or any subcontractor or any designee thereof, and further, shall pay or cause to be paid all lawful claims of subcontractors, materialmen and other third persons in connection with the work, labor, services, supplies and material furnished in and about the performance of the Contract, then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

PROVIDED, however, that this bond is subject to the following additional terms and conditions:

The Surety, for value received, hereby stipulates and agrees that no change, adjustment of the time for performance of the Contract, any extension of time, adjustment of the Contract's not-to-exceed amount, any payment whether or not before the time required, any waiver of any provision, or by an assignment, subletting or other transfer of any of the Work, or of payment or non-payment of any moneys due or to become due under the Contract, any alterations, deletions, additions, or any other modifications to the terms of the Contract, the Work to be performed, or to the Contract specifications shall limit, restrict or otherwise impair Surety's obligations or Obligee's rights hereunder; The Surety hereby waives notice of any and all of such changes, modifications to the Contract, including but not limited to extensions of time for performance, adjustments of the Contract not-to-exceed amount, modifications, changes in the Work to be performed, alterations, deletions, omissions, additions, changes, payments, waivers, any changes in time, assignments, subcontracts and transfers; And the Surety hereby stipulates and agrees that any and all actions performed or omitted by and in relation to executors, administrators, successors, assigns, Subcontractors, and other designees, shall have the

same effect as to said Surety as though done or omitted to be done by and in relation to said Principal.

In the event of a failure of strict performance of the Contract by the Principal, which shall include, but not be limited to, any breach or default of the Contract by the Principal, and within fifteen (15) days after written notice from the Oblige to the Surety of the Principal's breach or default of the Contract, the Surety shall provide Oblige with written notice of its assumption of all obligations hereunder and request Oblige's approval of its proposed election ("Notice of Assumption and Election") to either: a) remedy or cause to be remedied the default or breach of the Principal Contract and cause the Principal to immediately commence and timely complete the Contract; or b) to take charge of the Work of the Contract and immediately commence and timely complete the Work at its own expense itself, through its agents or independent qualified contractors proposed by the Surety and acceptable to Oblige; provided, however, that the Surety hereby stipulates and agrees that both its proposed remedy procedure ("a" and "b" above) and proposed independent contractor, if any, in Surety's Notice of Assumption and Election shall be subject to the prior written approval of the Oblige, which approval shall be granted or withheld in the Oblige's sole discretion, and subject to Oblige's receipt of any and all necessary legal approvals. Surety shall, within five (5) days after written approval from the Oblige of Surety's Notice of Assumption and Election, commence or cause to be commenced the completion of the Work in strict accordance with its Notice of Assumption and Election and the terms, conditions and covenants of the Contract as they may be modified or amended from time to time, time being of the essence for the performance of the Work and this bond. The Surety shall not assert solvency/insolvency of the Principal or the Principal's denial of default as justification for its failure to give the Notice of Assumption and Election, or for its failure to promptly remedy the failure of performance or default of the Principal, or to complete the Work.

In the event the Surety shall fail to issue the Notice of Assumption and Election to Oblige and/or Surety fails to commence completion of the Work within the time periods provided above, the Oblige may thereafter cause the cure or remedy of the Principal's failure of performance or default, or complete the Work. The Principal and the Surety shall be each jointly and severally liable to the Oblige for all damages and costs sustained by the Oblige as a result of the Principal's failure of performance under the Contract or default in its performance of obligations thereunder, including without limitation the costs of cure or completion exceeding the then remaining balance of the Contract Price, and any other remedy available to Oblige; provided that the Surety's liability hereunder for the costs of performance, damages and other costs sustained by the Oblige upon the Principal's failure of performance under or default under the Contract shall be limited to the Penal Sum hereof, which shall be deemed to include the costs or value of any modifications to the Work which increases the Contract Price, plus the amount of costs, expenses and fees, including reasonable attorneys' fees in connection with any suit or other proceeding brought upon this bond by the Oblige, as more particularly set forth herein.

All persons who have performed labor or rendered services, as aforesaid, all subcontractors, and all persons, firms, corporations, including materialmen and third persons, as aforesaid, furnishing work, labor, services, supplies and material under or in connection with said Contract or in or about the performance and completion thereof, shall have a direct right of action (subject to the prior right of the Obligee under any claim which it may assert against the Principal and/or the Surety) against the Principal on this bond, upon first furnishing the Obligee with a Bond of Indemnity for costs in an amount satisfactory to the Obligee, which right of action shall be asserted in proceedings instituted in the State in which such work, labor, services, supplies or material was performed, rendered or furnished or where work, labor, services, supplies or material has been performed, rendered or furnished, as aforesaid, in more than one State, than in any such State, no later than one (1) year after the complete performance of said Contract and final settlement thereof.

The Surety shall not be liable hereunder for any damages or compensation recoverable under any worker's compensation or employer's liability statute.

In no event shall the Surety be liable under the foregoing clauses for a greater sum than the Penal Sum of this bond, plus the amount of costs, expenses and fees, including reasonable attorneys' fees in connection with any suit or other proceeding brought upon this bond by the Obligee, as more particularly set forth herein, provided; however, that said Penal Sum is separately and independently applicable, in its total amount to the payment provision and the performance provision of this bond, and shall not reduce or limit the right of the Obligee to recover under the other said provision, or reduce or limit any suit, action or proceeding hereon that is instituted by any person, firm or corporation under the provisions of the payment provision of this bond. The Principal and the Surety do hereby expressly waive any objections that might be interposed as to the right of the Obligee to require a bond containing the foregoing provisions, and they do hereby further expressly waive any defense which they or either of them might interpose to an action brought hereon by any person, firm or corporation, including Subcontractors, materialmen, and third persons, for work, labor, services, supplies or material performed, rendered or furnished as aforesaid, upon the ground that there is no law authorizing the said Obligee to require the foregoing provision to be placed in this Bond.

Notices to the Surety, Principal and Obligee shall be mailed via certified mail, return receipt requested, or delivered to the addresses shown in the preamble. Notice shall be effective on the date of receipt.

The Penal Sum of this bond is in addition to any other bond furnished by the Principal to the Obligee and in no way shall be impaired or affected by any other bond.

In the event that any suit or other proceeding is brought upon this bond by the Obligee, the Surety shall pay to the Obligee all costs, expenses and fees incurred by the Obligee in connection therewith, including without limitation, attorneys' fees.

[NO FURTHER TEXT ON THIS PAGE. SIGNATURE PAGE FOLLOWS.]

SAMPLE

IN WITNESS WHEREOF, the Principal and Surety have executed this Performance and Payment Bond this _____ day of _____, 20__, by their duly authorized agents or representatives.

PRINCIPAL:

(Corporate Seal)

Principal Name and Title

Principal Signature

SURETY:

(Corporate Seal)

Surety Name

Surety Signature

(Attach Attorney-in-Fact Certificate)

If the Contractor (Principal) is a partnership, the Bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a Corporation, the Bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the Bond corresponding to the number of counterparts of the Contract.

Each executed Bond should be accompanied by:

- (a) appropriate acknowledgments of the respective parties;
- (b) appropriate duly certified copy of Power of Attorney or other Certificate of Authority where the Bond is executed by agent, officer or other representative of Principal or Surety;
- (c) a duly certified extract from By-laws or resolutions of Surety under which Power of Attorney or other Certificate of Authority of its agent, officer or representative was issued, and
- (d) duly certified copy of latest published financial statement of assets and liabilities of Surety.

SCHEDULE "A"

STANDARD INSURANCE PROVISIONS
(Contractor)

1. Prior to commencing work, and throughout the term of the Agreement, the Contractor shall obtain at its own cost and expense the required insurance as delineated below from insurance companies licensed in the State of New York, carrying a Best's financial rating of A or better. Contractor shall provide evidence of such insurance to the County of Westchester ("County"), either by providing a copy of policies and/or certificates as may be required and approved by the Director of Risk Management of the County ("Director"). The policies or certificates thereof shall provide that ten (10) days prior to cancellation or material change in the policy, notices of same shall be given to the Director either by overnight mail or personal delivery for all of the following stated insurance policies. All notices shall name the Contractor and identify the Agreement.

If at any time any of the policies required herein shall be or become unsatisfactory to the Director, as to form or substance, or if a company issuing any such policy shall be or become unsatisfactory to the Director, the Contractor shall upon notice to that effect from the County, promptly obtain a new policy, and submit the policy or the certificate as requested by the Director to the Office of Risk Management of the County for approval by the Director. Upon failure of the Contractor to furnish, deliver and maintain such insurance, the Agreement, at the election of the County, may be declared suspended, discontinued or terminated.

Failure of the Contractor to take out, maintain, or the taking out or maintenance of any required insurance, shall not relieve the Contractor from any liability under the Agreement, nor shall the insurance requirements be construed to conflict with or otherwise limit the contractual obligations of the Contractor concerning indemnification.

All property losses shall be made payable to the "County of Westchester" and adjusted with the appropriate County personnel.

In the event that claims, for which the County may be liable, in excess of the insured amounts provided herein are filed by reason of Contractor's negligent acts or omissions under the Agreement or by virtue of the provisions of the labor law or other statute or any other reason, the amount of excess of such claims or any portion thereof, may be withheld from payment due or to become due the Contractor until such time as the Contractor shall furnish such additional security covering such claims in form satisfactory to the Director.

In the event of any loss, if the Contractor maintains broader coverage and/or higher limits than the minimums identified herein, the County shall be entitled to the broader coverage and/or higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the County.

2. The Contractor shall provide proof of the following coverage (if additional coverage is required for a specific agreement, those requirements will be described in the Agreement):

- a) Workers' Compensation and Employer's Liability. Certificate form C-105.2 or State Fund Insurance Company form U-26.3 is required for proof of compliance with the New York State Workers' Compensation Law. State Workers' Compensation Board form DB-120.1 is required for proof of compliance with the New York State Disability Benefits Law. Location of operation shall be "All locations in Westchester County, New York."

Where an applicant claims to not be required to carry either a Workers' Compensation Policy or Disability Benefits Policy, or both, the employer must complete NYS form CE-200, available to download at: <http://www.wcb.ny.gov>.

If the employer is self-insured for Workers' Compensation, he/she should present a certificate from the New York State Worker's Compensation Board evidencing that fact (Either SI-12, Certificate of Workers' Compensation Self-Insurance, or GSI-105.2, Certificate of Participation in Workers' Compensation Group Self-Insurance).

- b) Commercial General Liability Insurance with a combined single limit of \$1,000,000 (c.s.1) per occurrence and a \$2,000,000 aggregate limit naming the "County of Westchester" as an additional insured on a primary and non-contributory basis. This insurance shall include the following coverages:
 - i. Premises - Operations.
 - ii. Broad Form Contractual.
 - iii. Independent Contractor and Sub-Contractor.
 - iv. Products and Completed Operations.
- c) Commercial Umbrella/Excess Insurance: \$2,000,000 each Occurrence and Aggregate naming the "County of Westchester" as additional insured, written on a "follow the form" basis.

NOTE: Additional insured status shall be provided by standard or other endorsement that extends coverage to the County for both on-going and completed operations.

All Contracts involving the use of explosives, demolition and/or underground work shall provide proof that XCU is covered.

- d) Automobile Liability Insurance with a minimum limit of liability per occurrence of \$1,000,000 for bodily injury and a minimum limit of \$100,000 per occurrence for property damage or a combined single limit of \$1,000,000 unless otherwise indicated in the contract specifications. This insurance shall include for bodily injury and property damage the following coverages and name the "County of Westchester" as additional insured:
 - (i) Owned automobiles.
 - (ii) Hired automobiles.
 - (iii) Non-owned automobiles.

- e) With regard to the insurance coverage provided for in Section 2, subsections b), c) and d) above, in addition to naming the "County of Westchester" as an additional insured, the Contractor shall also name "Standard Amusements LLC" as an additional insured with regard to any contract, work or project to be performed at Playland Park in Rye, New York, on the same terms and conditions as provided for the benefit of the County of Westchester.

3. All policies of the Contractor shall be endorsed to contain the following clauses:

(a) Insurers shall have no right to recovery or subrogation against the County (including its employees and other agents and agencies), it being the intention of the parties that the insurance policies so effected shall protect both parties and be primary coverage for any and all losses covered by the above-described insurance.

(b) The clause "other insurance provisions" in a policy in which the County is named as an insured, shall not apply to the County.

(c) The insurance companies issuing the policy or policies shall have no recourse against the County (including its agents and agencies as aforesaid) for payment of any premiums or for assessments under any form of policy.

(d) Any and all deductibles in the above described insurance policies shall be assumed by and be for the account of, and at the sole risk of, the Contractor.

Certificate Holder should only read: The County of Westchester, 148 Martine Avenue, White Plains, New York 10601

PLEASE NOTE: A printed copy of your full insurance policy is required



SCHEDULE OF HOURLY RATES
AND SUPPLEMENTS

DEPARTMENT OF PUBLIC WORKS
Division of Engineering



Kathy Hochul, Governor

Roberta Reardon, Commissioner

Westchester County DPW & T

Yolanda Spraggins, Secretary II
148 Martine Ave., Rm 518
White Plains NY 10601

Schedule Year 2022 through 2023
Date Requested 08/16/2022
PRC# 2022009628

Location Yonkers Joint Wastewater Plant
Project ID# 16-512
Project Type Secondary System Rehabilitation, Yonkers Joint Wastewater Treatment Plant, Yonkers

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 2022 through June 2023. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.ny.gov. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

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

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

Introduction

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

Responsibilities of the Department of Jurisdiction

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

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

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

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

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

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

There are very few exceptions to this rule. Complete information regarding these exceptions is available on the ["Request for a dispensation to work overtime" form \(PW30\)](#) and ["4 Day / 10 Hour Work Schedule" form \(PW 30.1\)](#).

Wages and Supplements

The wages and supplements to be paid and/or provided to laborers, workers, and mechanics employed on a public work project shall be not less than those listed in the current Prevailing Rate Schedule for the locality where the work is performed. If a prime contractor on a public work project has not been provided with a Prevailing Rate Schedule, the contractor must notify the Department of Jurisdiction (Contracting Agency) who in turn must request an original Prevailing Rate Schedule form the Bureau of Public Work. Requests may be submitted by: mail to NYSDOL, Bureau of Public Work, State Office Bldg. Campus, Bldg. 12, Rm. 130, Albany, NY 12240; Fax to Bureau of Public Work (518) 485-1870; or electronically at the NYSDOL website www.labor.ny.gov.

Upon receiving the original schedule, the Department of Jurisdiction (Contracting Agency) is REQUIRED to provide complete copies to all prime contractors who in turn MUST, by law, provide copies of all applicable county schedules to each subcontractor and obtain from each subcontractor, an affidavit certifying such schedules were received. If the original schedule expired, the contractor may obtain a copy of the new annual determination from the NYSDOL website www.labor.ny.gov.

The Commissioner of Labor makes an annual determination of the prevailing rates. This determination is in effect from July 1st through June 30th of the following year. The annual determination is available on the NYSDOL website www.labor.ny.gov.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. As per Article 6 of the Labor law, contractors and subcontractors are required to establish, maintain, and preserve for not less than six (6) years, contemporaneous, true, and accurate payroll records. At a minimum, payrolls must show the following information for each person employed on a public work project: Name, Address, Last 4 Digits of Social Security Number, Classification(s) in which the worker was employed, Hourly wage rate(s) paid, Supplements paid

or provided, and Daily and weekly number of hours worked in each classification.

The filing of payrolls to the Department of Jurisdiction is a condition of payment. Every contractor and subcontractor shall submit to the Department of Jurisdiction (Contracting Agency), within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury. The Department of Jurisdiction (Contracting Agency) shall collect, review for facial validity, and maintain such payrolls.

In addition, the Commissioner of Labor may require contractors to furnish, with ten (10) days of a request, payroll records sworn to as their validity and accuracy for public work and private work. Payroll records include, but are not limited to time cards, work description sheets, proof that supplements were provided, cancelled payroll checks and payrolls. Failure to provide the requested information within the allotted ten (10) days will result in the withholding of up to 25% of the contract, not to exceed \$100,000.00. If the contractor or subcontractor does not maintain a place of business in New York State and the amount of the contract exceeds \$25,000.00, payroll records and certifications must be kept on the project worksite.

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

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

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

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

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

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

Withholding of Payments

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

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

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

Summary of Notice Posting Requirements

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

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

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

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

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

Apprentices

Employees cannot be paid apprentice rates unless they are individually registered in a program registered with the NYS Commissioner of Labor. The allowable ratio of apprentices to journeyworkers in any craft classification can be no greater than the statewide building trade ratios promulgated by the Department of Labor and included with the Prevailing Rate Schedule. An employee listed on a payroll as an apprentice who is not registered as above or is performing work outside the classification of work for which the apprentice is indentured, must be paid the prevailing journeyworker's wage rate for the classification of work the employee is actually performing.

NYSDOL Labor Law, Article 8, Section 220-3, require that only apprentices individually registered with the NYS Department of Labor may be paid apprenticeship rates on a public work project. No other Federal or State Agency of office registers apprentices in New York State.

Persons wishing to verify the apprentice registration of any person must do so in writing by mail, to the NYSDOL Office of Employability Development / Apprenticeship Training, State Office Bldg. Campus, Bldg. 12, Albany, NY 12240 or by Fax to NYSDOL Apprenticeship Training (518) 457-7154. All requests for verification must include the name and social security number of the person for whom the information is requested.

The only conclusive proof of individual apprentice registration is written verification from the NYSDOL Apprenticeship Training Albany Central office. Neither Federal nor State Apprenticeship Training offices outside of Albany can provide conclusive registration information.

It should be noted that the existence of a registered apprenticeship program is not conclusive proof that any person is registered in that program. Furthermore, the existence or possession of wallet cards, identification cards, or copies of state forms is not conclusive proof of the registration of any person as an apprentice.

Interest and Penalties

In the event that an underpayment of wages and/or supplements is found:

- Interest shall be assessed at the rate then in effect as prescribed by the Superintendent of Banks pursuant to section 14-a of the Banking Law, per annum from the date of underpayment to the date restitution is made.
- A Civil Penalty may also be assessed, not to exceed 25% of the total of wages, supplements, and interest due.

Debarment

Any contractor or subcontractor and/or its successor shall be ineligible to submit a bid on or be awarded any public work contract or subcontract with any state, municipal corporation or public body for a period of five (5) years when:

- Two (2) willful determinations have been rendered against that contractor or subcontractor and/or its successor within any consecutive six (6) year period.
- There is any willful determination that involves the falsification of payroll records or the kickback of wages or supplements.

Criminal Sanctions

Willful violations of the Prevailing Wage Law (Article 8 of the Labor Law) may be a felony punishable by fine or imprisonment of up to 15 years, or both.

Discrimination

No employee or applicant for employment may be discriminated against on account of age, race, creed, color, national origin, sex, disability or marital status.

No contractor, subcontractor nor any person acting on its behalf, shall by reason of race, creed, color, disability, sex or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the work to which the employment relates (NYS Labor Law, Article 8, Section 220-e(a)).

No contractor, subcontractor, nor any person acting on its behalf, shall in any manner, discriminate against or intimidate any employee on account of race, creed, color, disability, sex, or national origin (NYS Labor Law, Article 8, Section 220-e(b)).

The Human Rights Law also prohibits discrimination in employment because of age, marital status, or religion.

There may be deducted from the amount payable to the contractor under the contract a penalty of \$50.00 for each calendar day during which such person was discriminated against or intimidated in violation of the provision of the contract (NYS Labor Law, Article 8, Section 220-e(c)).

The contract may be cancelled or terminated by the State or municipality. All monies due or to become due thereunder may be forfeited for a second or any subsequent violation of the terms or conditions of the anti-discrimination sections of the contract (NYS Labor Law, Article 8, Section 220-e(d)).

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

Workers' Compensation

In accordance with Section 142 of the State Finance Law, the contractor shall maintain coverage during the life of the contract for the benefit of such employees as required by the provisions of the New York State Workers' Compensation Law.

A contractor who is awarded a public work contract must provide proof of workers' compensation coverage prior to being allowed to begin work.

The insurance policy must be issued by a company authorized to provide workers' compensation coverage in New York State. Proof of coverage must be on form C-105.2 (Certificate of Workers' Compensation Insurance) and must name this agency as a certificate holder.

If New York State coverage is added to an existing out-of-state policy, it can only be added to a policy from a company authorized to write workers' compensation coverage in this state. The coverage must be listed under item 3A of the information page.

The contractor must maintain proof that subcontractors doing work covered under this contract secured and maintained a workers' compensation policy for all employees working in New York State.

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

Unemployment Insurance

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



Kathy Hochul, Governor

Roberta Reardon, Commissioner

Westchester County DPW & T

Yolanda Spraggins, Secretary II
148 Martine Ave., Rm 518
White Plains NY 10601

Schedule Year 2022 through 2023
Date Requested 08/16/2022
PRC# 2022009628

Location Yonkers Joint Wastewater Plant
Project ID# 16-512
Project Type Secondary System Rehabilitation, Yonkers Joint Wastewater Treatment Plant, Yonkers

Notice of Contract Award

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

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

Contractor Information

All information must be supplied

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

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

Social Security Numbers on Certified Payrolls:

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concern regarding inclusion of this information on payrolls if another identifier will suffice.

For these reasons, the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor. This change does not affect the Department's ability to request and receive the entire social security number from employers during its public work/ prevailing wage investigations.

Construction Industry Fair Play Act: Required Posting for Labor Law Article 25-B § 861-d

Construction industry employers must post the "Construction Industry Fair Play Act" notice in a prominent and accessible place on the job site. Failure to post the notice can result in penalties of up to \$1,500 for a first offense and up to \$5,000 for a second offense. The posting is included as part of this wage schedule. Additional copies may be obtained from the NYS DOL website, <https://dol.ny.gov/public-work-and-prevailing-wage>

If you have any questions concerning the Fair Play Act, please call the State Labor Department toll-free at 1-866-435-1499 or email us at: dol.misclassified@labor.ny.gov .

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

Effective June 23, 2020

This provision is an addition to the existing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage and supplement rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her job classification. The required notification will be provided with each wage schedule, may be downloaded from our website www.labor.ny.gov or be made available upon request by contacting the Bureau of Public Work at 518-457-5589. *In the event the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(12.20)

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

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, maintenance and repair, and announces the recently-enacted increase to the percentage of the dollar value of such contracts that must be deposited into the Fund. This item also describes the roles of the following entities with respect to the Fund:

- New York State Department of Labor (DOL),
- The Office of the State of Comptroller (OSC), and
- State agencies and public benefit corporations.

2. Background and Statutory References:

DOL uses the Fund to enforce the State's Labor Law as it relates to contracts for construction or reconstruction, maintenance and repair, as defined in subdivision two of Section 220 of the Labor Law. State agencies and public benefit corporations participating in such contracts are required to make payments to the Fund.

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

3. Procedures and Agency Responsibilities:

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

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

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

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

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

Reports should contain the following information:

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

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

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

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

Required Notice under Article 25-B of the Labor Law

**Attention All Employees, Contractors and Subcontractors:
You are Covered by the Construction Industry Fair Play Act**

The law says that you are an employee unless:

- You are free from direction and control in performing your job, **and**
- You perform work that is not part of the usual work done by the business that hired you, **and**
- You have an independently established business.

Your employer cannot consider you to be an independent contractor unless all three of these facts apply to your work.

It is against the law for an employer to misclassify employees as independent contractors or pay employees off the books.

Employee Rights: If you are an employee, you are entitled to state and federal worker protections. These include:

- Unemployment Insurance benefits, if you are unemployed through no fault of your own, able to work, and otherwise qualified,
- Workers' compensation benefits for on-the-job injuries,
- Payment for wages earned, minimum wage, and overtime (under certain conditions),
- Prevailing wages on public work projects,
- The provisions of the National Labor Relations Act, and
- A safe work environment.

It is a violation of this law for employers to retaliate against anyone who asserts their rights under the law. Retaliation subjects an employer to civil penalties, a private lawsuit or both.

Independent Contractors: If you are an independent contractor, **you must pay all taxes and Unemployment Insurance contributions required by New York State and Federal Law.**

Penalties for paying workers off the books or improperly treating employees as independent contractors:

- **Civil Penalty** First offense: Up to \$2,500 per employee
 Subsequent offense(s): Up to \$5,000 per employee
- **Criminal Penalty** First offense: Misdemeanor - up to 30 days in jail, up to a \$25,000 fine and debarment from performing public work for up to one year.
 Subsequent offense(s): Misdemeanor - up to 60 days in jail or up to a \$50,000 fine and debarment from performing public work for up to 5 years.

If you have questions about your employment status or believe that your employer may have violated your rights and you want to file a complaint, call the Department of Labor at (866) 435-1499 or send an email to dol.misclassified@labor.ny.gov. All complaints of fraud and violations are taken seriously. You can remain anonymous.

Employer Name:

IA 999 (09/16)

Attention Employees

THIS IS A: PUBLIC WORK PROJECT

If you are employed on this project as a **worker, laborer, or mechanic** you are entitled to receive the **prevailing wage and supplements rate** for the classification at which you are working.

Chapter 629 of the Labor Laws of 2007:

These wages are set by law and must be posted at the work site. They can also be found at:

<https://dol.ny.gov/public-work-and-prevailing-wage>

If you feel that you have not received proper wages or benefits, please call our nearest office.*

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

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

Contractor Name: _____

Project Location: _____

Requirements for OSHA 10 Compliance

Article 8 §220-h requires that when the advertised specifications, for every contract for public work, is \$250,000.00 or more the contract must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors, required to be paid prevailing rates, receive such training "prior to the performing any work on the project."

The Bureau will enforce the statute as follows:

All contractors and sub contractors must attach a copy of proof of completion of the OSHA 10 course to the first certified payroll submitted to the contracting agency and on each succeeding payroll where any new or additional employee is first listed.

Proof of completion may include but is not limited to:

- Copies of bona fide course completion card (*Note: Completion cards do not have an expiration date.*)
- Training roster, attendance record or other documentation from the certified trainer pending the issuance of the card.
- Other valid proof

**A certification by the employer attesting that all employees have completed such a course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-457-5589.

WICKS

Public work projects are subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work, when the total project's threshold is \$3 million in Bronx, Kings, New York, Queens and, Richmond counties; \$1.5 million in Nassau, Suffolk and Westchester counties; and \$500,000 in all other counties.

For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or the use of a Project Labor Agreement (PLA), and must be open to public inspection.

Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.

The Commissioner of Labor shall have the power to enforce separate specification requirements on projects, and may issue stop-bid orders against public owners for non-compliance.

Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.

Contractors must pay subcontractors within a 7 days period.

(07.19)

Introduction to the Prevailing Rate Schedule

Information About Prevailing Rate Schedule

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

Classification

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

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

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

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

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

Payrolls and Payroll Records

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

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

Paid Holidays

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

Overtime

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

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

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

Supplemental Benefits

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

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.ny.gov) for current wage rate information.

Apprentice Training Ratios

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

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

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

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

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

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

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

Westchester County General Construction

Boilermaker **08/01/2022**

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: 07/01/2022

Boilermaker \$ 63.38
 Repairs & Renovations 63.38

SUPPLEMENTAL BENEFITS
 Per Hour:
 Boilermaker 32% of hourly
 Repair \$ Renovations Wage Paid
 + \$ 25.38

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) 32% of Hourly
 Wage Paid Plus
 Amount Below

| | |
|----------|----------|
| 1st Term | \$ 19.41 |
| 2nd Term | 20.26 |
| 3rd Term | 21.11 |
| 4th Term | 21.96 |
| 5th Term | 22.82 |
| 6th Term | 23.68 |
| 7th Term | 24.52 |

NOTE: "Hourly Wage Paid" shall include any and all premium(s) 4-5

Carpenter **08/01/2022**

JOB DESCRIPTION Carpenter **DISTRICT 8**

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

WAGES
 Per hour: 07/01/2022

Piledriver \$ 58.16
 + 9.54*

Dockbuilder \$ 58.16
 + 9.54*

*This portion is not subject to overtime premiums

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker \$ 44.54

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 |
|--|---------|---------|---------|---------|
| | \$24.60 | \$30.20 | \$38.58 | \$46.97 |
| | + 5.05* | + 5.05* | + 5.05* | + 5.05* |

*This portion is not subject to overtime premiums

Supplemental benefits per hour:

All Terms: \$ 31.03

8-1556 Db

Carpenter

08/01/2022

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

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

WAGES

Per hour: 07/01/2022

Carpet/Resilient

Floor Coverer \$ 55.05
 + 8.25*

*This portion is not subject to overtime premiums

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

SUPPLEMENTAL BENEFITS

Per hour:

\$ 39.40

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 |
|--|----------|----------|----------|----------|
| | \$ 24.80 | \$ 27.80 | \$ 32.05 | \$ 39.93 |
| | + 1.85* | + 2.35* | + 2.85* | + 3.85* |

*This portion is not subject to overtime premiums

Supplemental benefits per hour:

| | | | |
|----------|----------|----------|----------|
| 1st | 2nd | 3rd | 4th |
| \$ 14.80 | \$ 15.80 | \$ 18.90 | \$ 19.90 |

8-2287

Carpenter

08/01/2022

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

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

WAGES

Per Hour: 07/01/2022

Marine Construction:

Marine Diver \$ 73.03
 + 9.54*

Marine Tender \$ 62.11
 + 9.54*

*This portion is not subject to overtime premiums

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker \$ 44.54

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 | \$ 24.60 + 5.05* |
| 2nd year | 30.20 + 5.05* |
| 3rd year | 38.58 + 5.05* |
| 4th year | 56.97 + 5.05* |

*This portion is not subject to overtime premiums

Supplemental Benefits

Per Hour:

All terms \$ 31.03

8-1456MC

Carpenter

08/01/2022

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

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

WAGES

Per hour: 07/01/2022

Building
 Millwright \$ 57.80
 + 12.62*

*This portion is not subject to overtime premiums

SUPPLEMENTAL BENEFITS

Per hour:

Millwright \$ 43.16

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. |
| \$31.24 | \$36.69 | \$42.14 | \$53.04 |
| + 6.75* | + 7.92* | + 9.09* | + 11.43* |

*This portion is not subject to overtime premiums

Supplemental benefits per hour:

One (1) year terms:

| | | | |
|---------|---------|---------|---------|
| 1st. | 2nd. | 3rd. | 4th. |
| \$29.01 | \$31.54 | \$34.72 | \$39.14 |

8-740.1

Carpenter

08/01/2022

JOB DESCRIPTION Carpenter

DISTRICT 8

ENTIRE COUNTIES

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

WAGES

Per Hour:

07/01/2022

Timberman \$ 53.05
+ 10.01*

*This portion not subject to overtime premiums

SUPPLEMENTAL BENEFITS

Per Hour:

07/01/2022

\$ 43.75

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 |
| \$22.42 | \$27.53 | \$35.18 | \$42.84 |
| + 5.30* | + 5.30* | + 5.30* | +5.30* |

*This portion is not subject to overtime premiums

Supplemental benefits per hour:

All terms \$ 30.74

8-1556 Tm

Carpenter **08/01/2022**

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: 07/01/2022 10/18/2022

Core Drilling:

| | | | |
|---------|----------|----------|--|
| Driller | \$ 42.27 | \$ 43.38 | |
| | + 2.30* | + 2.50* | |

Driller Helper

| | | | |
|--|---------|---------|--|
| | 33.47 | 34.47 | |
| | + 2.30* | + 2.50* | |

Note: Hazardous Waste Pay Differential:

For Level C, an additional 15% above wage rate per hour

For Level B, an additional 15% above wage rate per hour

For Level A, an additional 15% above wage rate per hour

Note: When required to work on water: an additional \$ 3.00 per hour.

*This portion is not subject to overtime premiums

SUPPLEMENTAL BENEFITS

Per hour:

| | | | |
|--------------------|----------|----------|--|
| Driller and Helper | \$ 28.30 | \$ 28.85 | |
|--------------------|----------|----------|--|

OVERTIME PAY

See (B, G, P) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

8-1536-CoreDriller

Carpenter - Building / Heavy&Highway **08/01/2022**

JOB DESCRIPTION Carpenter - Building / Heavy&Highway

DISTRICT 11

ENTIRE COUNTIES

Putnam, Rockland, Westchester

WAGES

WAGES:(per hour)

Applies to CAPRENTER BUILDING/HEAVY & HIGHWAY/TUNNEL:

| | 07/01/2022 | 07/01/2023 | 07/01/2024 | 07/01/2025 |
|-----------|------------|------------|------------|------------|
| Base Wage | \$ 38.95 | \$ 1.25** | \$ 1.25** | \$ 1.25** |
| | +\$6.65* | | | |

*For all hours paid straight or premium.

**To be allocated at a later date.

SHIFT DIFFERENTIAL: When it is mandated by a Government Agency irregular or off shift can be worked. The Carpenter shall receive an additional fifteen percent (15%) of wage plus applicable benefits.

SUPPLEMENTAL BENEFITS

Per hour:

| | | |
|---------------|----------|--|
| Journeyworker | \$ 32.88 | |
|---------------|----------|--|

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

BUILDING:

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

HEAVY&HIGHWAY/TUNNEL:

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

Overtime: See (5, 6) on HOLIDAY PAGE

- Holidays that fall on Sunday will be observed Monday

- Must be employed during the five (5) work days immediately preceding a holiday or during the five (5) work days following the paid holiday to receive holiday pay

- If Employee is entitled to a paid holiday, the Employee is paid the Holiday wage and supplemental benefits whether they work or not. If Employee works the Holiday, the Employee will receive holiday pay (including supplemental benefits), plus the applicable premium wage for working the Holiday. If Employee works in excess of 8 hours on Holiday, then benefits will be paid for any hours in excess of 8 hours.

REGISTERED APPRENTICES

1 year terms at the following wage rates:

| 1st | 2nd | 3rd | 4th | 5th |
|----------|----------|----------|----------|----------|
| \$ 19.48 | \$ 23.37 | \$ 25.32 | \$ 27.27 | \$ 31.16 |
| +3.57* | +3.57* | +3.57* | +3.57* | +3.57* |

*For all hours paid straight or premium

SUPPLEMENTAL BENEFITS per hour:

All terms \$ 16.28

11-279.1B/HH

Electrician

08/01/2022

JOB DESCRIPTION Electrician

DISTRICT 9

ENTIRE COUNTIES

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

WAGES

Per hour: 07/01/2022 03/09/2023

Service Technician \$ 35.40 \$ 36.40

Service and Maintenance on Alarm and Security Systems.

Maintenance, repair and /or replacement of defective (or damaged) equipment on, but not limited to, Burglar - Fire - Security - CCTV - Card Access - Life Safety Systems and associated devices. (Whether by service contract of T&M by customer request.)

SUPPLEMENTAL BENEFITS

Per hour:
 Journeyworker: \$ 20.18 \$ 21.07

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6, 11, 15, 16, 17, 25, 26) on HOLIDAY PAGE
 Overtime: See (5, 6, 11, 15, 16, 17, 25, 26) on HOLIDAY PAGE

9-3H

Electrician

08/01/2022

JOB DESCRIPTION Electrician

DISTRICT 8

ENTIRE COUNTIES

Westchester

WAGES

Per hour: 07/01/2022

*Electrician/A-Technician \$ 53.75

Teledata 53.75

*All new installations of wiring, conduit, junction boxes and light fixtures for projects with a base bid of more than \$325,000. For projects with a base bid of \$325,000 or less, see Maintenance and Repair rates.

Note: On a job where employees are required to work on bridges over navigable waters, transmission towers, light poles, bosun chairs, swinging scaffolds, etc. 40 feet or more above the water or ground or under compressed air, or tunnel projects under construction or where assisted breathing apparatus is required, they will be paid at the rate of time and one-half for such work except on normal pole line or building construction work.

SUPPLEMENTAL BENEFITS

Per hour:
 Journeyworker \$ 54.39

OVERTIME PAY

See (A, G, *J, P) on OVERTIME PAGE

*NOTE: Emergency work on Sunday and Holidays is at the time and one-half overtime rate.

HOLIDAY

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

REGISTERED APPRENTICES

(1) year terms at the following wage rates:

| | |
|------------------|------------|
| | 07/01/2022 |
| 1st term | \$ 15.00 |
| 2nd term | 16.00 |
| 3rd term | 18.00 |
| 4th term | 20.00 |
| MIJ 1-12 months | 25.00 |
| MIJ 13-18 months | 28.50 |

Supplemental Benefits per hour:

| | |
|------------------|------------|
| | 07/01/2022 |
| 1st term | \$ 10.82 |
| 2nd term | 13.05 |
| 3rd term | 14.39 |
| 4th term | 15.72 |
| MIJ 1-12 months | 13.49 |
| MIJ 13-18 months | 13.87 |

8-3/W

Electrician

08/01/2022

JOB DESCRIPTION Electrician

DISTRICT 8

ENTIRE COUNTIES

Westchester

WAGES

| | |
|----------------|------------|
| Per hour | 07/01/2022 |
| Electrician -M | \$ 28.50 |
| H - Telephone | 28.50 |

All work with a base bid amount of \$325,000 or less. Including repairs and /or replacement of defective electrical and teledata equipment, all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls, and washing and cleaning of foregoing fixtures.

*If the project exceeds \$375,000 due to changes in the scope of work, an Electrician/A Technician must be part of the labor ratio.

SUPPLEMENTAL BENEFITS

| | |
|--------------------------------|------------|
| | 07/01/2022 |
| Electrician & H - Telephone | \$ 13.87 |

OVERTIME PAY

See (B, G, *J, P) on OVERTIME PAGE

*Note: Emergency work on Sunday and Holidays is at the time and one-half overtime rate.

HOLIDAY

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

8-3m

Elevator Constructor

08/01/2022

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:

07/01/2022 03/17/2023

Elevator Constructor \$ 75.14 \$ 77.49

Modernization & Service/Repair 59.09 60.89

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

NOTE- In order to use the '4 Day/10 Hour Work Schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 IS NOT SUBMITTED you will be liable for overtime payments for work over the allotted hours per day listed.

SUPPLEMENTAL BENEFITS

Per Hour:

Elevator Constructor \$ 43.914 \$ 45.574

Modernization & Service/Repairs 42.787 44.412

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, 2nd, 3rd Terms are based on Average wage of Constructor & Modernization.

Terms 4 thru 9 Based on Journeyman's wage of classification Working in.

6 MONTH TERMS:

| | | | | |
|------------------|------------------------|-----------------------|-----------------------|-----------------------|
| 1st Term* 50% | 2nd & 3rd Term* 50% | 4th & 5th Term 55% | 6th & 7th Term 65% | 8th & 9th Term 75% |
|------------------|------------------------|-----------------------|-----------------------|-----------------------|

SUPPLEMENTAL BENEFITS

Elevator Constructor

1st Term \$ 0.00 \$ 0.00

2nd & 3rd Term 34.772 36.024

4th & 5th Term 35.606 36.943

6th & 7th Term 37.052 38.448

8th & 9th Term 38.497 39.953

Modernization & Service/Repair

1st Term \$ 0.00 \$ 0.00

2nd & 3rd Term 34.672 35.694

4th & 5th Term 35.195 36.525

6th & 7th Term 36.571 37.948

8th & 9th Term 37.938 39.38

JOB DESCRIPTION Elevator Constructor

DISTRICT 1

ENTIRE COUNTIES

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

PARTIAL COUNTIES

Delaware: Towns of Andes, Bovina, Colchester, Davenport, Delhi, Harpersfield, Hemdon, Kortright, Meredith, Middletown, Roxbury, Hancock & Stamford

Rockland: Only the Township of Stony Point.

Westchester: Only the Townships of Bedford, Lewisboro, Cortland, Mt. Kisco, North Salem, Pound Ridge, Somers and Yorktown.

WAGES

| | | |
|----------|---------------------------|---------------------------|
| Per Hour | 07/01/2022 | 01/01/2023 |
| Mechanic | \$ 64.63 | \$ 67.35 |
| Helper | 70% of Mechanic Wage Rate | 70% of Mechanic Wage Rate |

Four (4), ten (10) hour days may be worked for New Construction and Modernization Work at straight time during a week, Monday thru Thursday or Tuesday thru Friday.

***Four (4), ten (10) hour days are not permitted for Contract Work/Repair Work

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 | 07/01/2022 | 01/01/2023 |
| Journeyman/Helper | \$ 36.885* | \$ 37.335* |

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

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY

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

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

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

REGISTERED APPRENTICES

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

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

Supplemental Benefits per hour worked:

Same as Journeyman/Helper

1-138

Glazier

08/01/2022

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: | 7/01/2022 | 11/01/2022 |
| Glazier | \$ 59.59 | Additional \$ 1.25 |
| *Scaffolding | 61.55 | |
| Glass Tinting & Window Film | 30.11 | |
| **Repair & Maintenance | 30.11 | |

*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 \$148,837. All Glass tinting, window film, regardless of material or intended use, and all affixing of decals to windows or glass.

SUPPLEMENTAL BENEFITS

| | |
|--------------------------------|-----------|
| Per hour: | 7/01/2022 |
| Journeyworker | \$ 37.55 |
| Glass tinting & Window Film | 22.01 |
| Repair & Maintenance | 22.01 |

OVERTIME PAY

See (B,H,V) on OVERTIME PAGE.
 For 'Repair & Maintenance' and 'Glass Tinting & Window Film' see (B, B2, I, S) on overtime page.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (4, 6, 16, 25) on HOLIDAY PAGE
 For 'Repair & Maintenance' and 'Glass Tinting & Window Film' Only
 Paid: See(5, 6, 16, 25)
 Overtime: See(5, 6, 16, 25)

REGISTERED APPRENTICES

| | | |
|---|-----------|------------|
| Wage per hour: | | |
| (1) year terms at the following wage rates: | 7/01/2022 | 11/01/2022 |
| 1st term | \$ 21.15 | TBD |
| 2nd term | 29.07 | |
| 3rd term | 35.20 | |
| 4th term | 47.38 | |

| | |
|------------------------|----------|
| Supplemental Benefits: | |
| (Per hour) | |
| 1st term | \$ 17.15 |
| 2nd term | 24.42 |
| 3rd term | 27.06 |
| 4th term | 32.15 |

8-1087 (DC9 NYC)

Insulator - Heat & Frost **08/01/2022**

JOB DESCRIPTION Insulator - Heat & Frost **DISTRICT 8**

ENTIRE COUNTIES
 Dutchess, Orange, Putnam, Rockland, Westchester

| | | |
|---------------------------------------|------------|------------|
| WAGES | | |
| Per hour: | 07/01/2022 | 05/31/2023 |
| Insulator | \$ 58.25 | + \$ 2.00 |
| Discomfort & Additional Training** | 61.30 | + \$ 2.00 |
| Fire Stop Work* | 31.15 | + \$ 2.00 |

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

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

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

SUPPLEMENTAL BENEFITS

| | |
|---------------|----------|
| Per hour: | |
| Journeyworker | \$ 36.10 |
| Discomfort & | |

Additional Training 38.09
 Fire Stop Work:
 Journeyworker 18.41

OVERTIME PAY

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

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Note: Last working day preceding Christmas and New Years day, workers shall work no later than 12:00 noon and shall receive 8 hrs pay.

Overtime: See (2*, 4, 6, 16, 25) on HOLIDAY PAGE.

*Note: Labor Day triple time if worked.

REGISTERED APPRENTICES

(1) year terms:

Insulator Apprentices:

| | | | |
|----------|----------|----------|----------|
| 1st | 2nd | 3rd | 4th |
| \$ 31.15 | \$ 36.56 | \$ 41.98 | \$ 47.41 |

Discomfort & Additional Training Apprentices:

| | | | |
|----------|----------|----------|----------|
| 1st | 2nd | 3rd | 4th |
| \$ 32.67 | \$ 38.39 | \$ 44.12 | \$ 49.85 |

Supplemental Benefits paid per hour:

Insulator Apprentices:

| | |
|----------|----------|
| 1st term | \$ 18.41 |
| 2nd term | 21.94 |
| 3rd term | 25.48 |
| 4th term | 29.03 |

Discomfort & Additional Training Apprentices:

| | |
|----------|----------|
| 1st term | \$ 19.41 |
| 2nd term | 23.14 |
| 3rd term | 26.88 |
| 4th term | 30.62 |

8-91

Ironworker

08/01/2022

JOB DESCRIPTION Ironworker

DISTRICT 9

ENTIRE COUNTIES

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

WAGES

| | | |
|-----------------------------|------------|------------|
| Per Hour: | 07/01/2022 | 01/01/2023 |
| | | Additional |
| Stone Derrickmen Rigger | \$ 72.26 | + \$ 1.64 |
| Stone Handset Derrickman | 70.11 | + \$ 1.11 |

SUPPLEMENTAL BENEFITS

Per hour:

| | |
|-----------------------------|----------|
| Stone Derrickmen Rigger | \$ 42.10 |
| Stone Handset Derrickman | 42.09 |

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:

Stone Derrickmen Rigger:

| | 1st | 2nd | 3rd | 4th |
|------------|----------|----------|----------|----------|
| 07/01/2022 | \$ 35.58 | \$ 50.89 | \$ 56.71 | \$ 62.48 |

Supplemental benefits:

Per hour:

| | | | | |
|------------|-------|-------|-------|-------|
| 07/01/2022 | 21.61 | 31.97 | 31.97 | 31.97 |
|------------|-------|-------|-------|-------|

Stone Handset:

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

| | 1st | 2nd | 3rd | 4th |
|------------|-------|-------|-------|-------|
| 07/01/2022 | 34.50 | 49.43 | 54.99 | 61.00 |

Supplemental benefits:

Per hour:

| | | | | |
|------------|-------|-------|-------|-------|
| 07/01/2022 | 21.60 | 31.96 | 31.96 | 31.96 |
|------------|-------|-------|-------|-------|

9-197D/R

Ironworker

08/01/2022

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

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

WAGES

| Per Hour: | 07/01/2022 | 01/01/2023 |
|------------------|------------|------------|
| Ornamental | \$ 46.65 | Additional |
| Chain Link Fence | 46.65 | \$ 1.25 |
| Guide Rail | 46.65 | |

SUPPLEMENTAL BENEFITS

Per hour:

| | |
|----------------|----------|
| Journeyworker: | \$ 62.04 |
|----------------|----------|

OVERTIME PAY

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

HOLIDAY

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

REGISTERED APPRENTICES

Apprentices Hired after 9/1/18:

1 year terms

| | |
|----------|----------|
| 1st Term | \$ 20.63 |
| 2nd Term | 24.22 |
| 3rd Term | 27.80 |
| 4th Term | 31.38 |

Supplemental Benefits per hour:

| | |
|----------|----------|
| 1st Term | \$ 17.90 |
| 2nd Term | 19.15 |
| 3rd Term | 20.41 |
| 4th Term | 21.67 |

4-580-Or

Ironworker

08/01/2022

JOB DESCRIPTION Ironworker

DISTRICT 4

ENTIRE COUNTIES

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

WAGES

PER HOUR:

| | 07/01/2022 | 01/01/2023 |
|-------------|------------|------------|
| Ironworker: | | Additional |
| Structural | \$ 55.70 | \$ 1.75 |

Bridges
 Machinery

SUPPLEMENTAL BENEFITS

PER HOUR PAID:

Journeyman \$ 85.35

OVERTIME PAY

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

*NOTE: Benefits are calculated for every hour paid

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 \$ 28.97
 2nd 29.57
 3rd - 6th 30.18

Supplemental Benefits

PER HOUR PAID:

All Terms \$ 59.18

4-40/361-Str

Ironworker

08/01/2022

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: 07/01/2022 07/01/2023

Reinforcing & Metal Lathing \$ 56.90 Additional \$ 1.50

"Base" Wage \$ 55.20 plus \$ 1.70

"Base" Wage is used to calculate overtime hours only.

SUPPLEMENTAL BENEFITS

Per hour:

Reinforcing & Metal Lathing \$ 41.18

OVERTIME PAY

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

*Only \$23.50 per Hour for non worked hours

Supplemental Benefit Premiums for Overtime Hours worked:

Time & One Half \$ 47.68
 Double Time \$ 54.18

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

*Note: Work performed after first 4 Hours.

REGISTERED APPRENTICES

(1) year terms at the following wage rates:

1st term 2nd term 3rd term 4th Term

Wage Per Hour:

| | | | |
|-------------|-------------|-------------|-------------|
| \$ 22.55 | \$ 23.60 | \$ 24.60 | \$ 37.18 |
| "Base" Wage | | | |
| \$ 21.00 | \$ 22.00 | \$ 23.00 | \$ 35.60 |
| plus \$1.55 | plus \$1.60 | plus \$1.60 | plus \$1.58 |

"Base" Wage is used to calculate overtime hours ONLY.

SUPPLEMENTAL BENEFITS

Per Hour:

| | | | |
|----------|----------|----------|----------|
| 1st term | 2nd term | 3rd term | 4th Term |
| \$ 18.17 | \$ 17.17 | \$ 16.22 | \$ 22.50 |

4-46Reinf

Laborer - Building **08/01/2022**

JOB DESCRIPTION Laborer - Building

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

Per hour 07/01/2022

Laborer \$ 39.05
plus \$5.45**

Laborer - Asbestos & Hazardous
 Materials Removal \$ 43.50*

* Abatement/Removal of:

- Lead based or lead containing paint on materials to be repainted is classified as Painter.
- Asbestos containing roofs and roofing material is classified as Roofer.

** This portion is not subject to overtime premium.

NOTE: Upgrade/Material condition work plan for work performed during non-outage under a wage formula of 90% wage/100% fringe benefits at nuclear power plants.

SUPPLEMENTAL BENEFITS

Per hour: 07/01/2022

Journeyworker \$ 29.50

OVERTIME PAY

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

*Note: For Sundays and Holidays worked benefits are at the same premium as wages.

HOLIDAY

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

REGISTERED APPRENTICES

LABORER ONLY

Hourly terms at the following wage:

| | | | |
|----------|-----------|-----------|-----------|
| Level A | Level B | Level C | Level D |
| 0-1000 | 1001-2000 | 2001-3000 | 3001-4000 |
| \$ 27.07 | \$ 30.89 | \$ 34.72 | \$ 38.54 |

Supplemental Benefits per hour:

Apprentices
 All terms \$ 22.20

8-235/B

Laborer - Heavy&Highway **08/01/2022**

JOB DESCRIPTION Laborer - Heavy&Highway

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

PUTNAM: APPLIES TO ALL HEAVY & HIGHWAY WORK EXCLUDING HIGHWAYS, STREETS, AND BRIDGES

GROUP I: Blaster, Quarry Master, Curbs/Asphalt Screedman, Pipe Jacking and Boring Operations Operator, Qualified Dead Condition Pipe Fuser (B Mechanic)

GROUP II: Burner, Drillers(jumbo, joy, wagon, air track, hydraulic), Drill Operator, Self Contained Rotary Drill, Curbs, Raker, Bar Person, Concrete Finisher.

GROUP III: Pavement Breakers, Jeeper Operator, Jack Hammer, Pneumatic Tools (all), Gas Driller, Guniting, Railroad Spike Puller, Pipelayer, Chain Saw, Deck winches on scows, Power Buggy Operator, Power Wheelbarrow Operator, Bar Person Helper, Compressed Air lance, Water Jet Lance.

GROUP IV: Concrete Laborers, Asph. Worker, Rock Scaler, Vibrator Oper., Bit Grinder, Air Tamper, Pumps, Epoxy (adhesives, fillers and troweled on), Barco Rammer, Concrete Grinder, Crack Router Operator, Guide Rail-digging holes and placing concrete and demolition when not to be replaced, distribution of materials and tightening of bolts.

GROUP V: Drillers Helpers, Common Laborer, Mason Tenders, Signal Person, Pit Person, Truck Spotter, Powder Person, Landscape/Nursery Person, Dump Person, Temp. Heat.

GROUP VIA: Asbestos/Toxic Waste Laborer-All removal (Roads, Tunnels, Landfills, etc.) Confined space laborer, Bio-remediation, Phyto-remediation, Lead or Hazardous material, Abatement Laborer.

| | |
|----------------------|------------|
| Wages:(per hour) | 07/01/2022 |
| GROUP I | \$ 47.13* |
| GROUP II | 45.78* |
| GROUP III | 45.38* |
| GROUP IV | 45.03* |
| GROUP V | 44.68* |
| GROUP VIA | 46.68* |
| Operator Qualified | |
| Gas Mechanic(A Mech) | 57.13* |
| Flagperson | 38.33* |

*NOTE: To calculate overtime premiums, deduct \$0.10 from above wages

SHIFT WORK: A shift premium will be paid on Public Work contracts for off-shift or irregular shift work when mandated by the NYS D.O.T. or other Governmental Agency contracts. Employees shall receive an additional 15% per hour above current rate for all regular and irregular shift work. Premium pay shall be calculated using the 15% per hour differential as base rate.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker:

| | |
|----------------|----------|
| First 40 Hours | |
| Per Hour | \$ 26.82 |
| Over 40 Hours | |
| Per Hour | 20.32 |

OVERTIME PAY

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

HOLIDAY

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

NOTE: For Holiday Overtime: 5, 6 - Code 'S' applies
 For Holiday Overtime: 8, 15, 25, 26 - Code 'R' applies

REGISTERED APPRENTICES

| | | | | |
|------------|-----------|--------------|--------------|--------------|
| | 1st term | 2nd term | 3rd term | 4th term |
| | 1-1000hrs | 1001-2000hrs | 2001-3000hrs | 3001-4000hrs |
| 07/01/2022 | \$ 25.37 | \$ 29.94 | \$ 34.51 | \$ 38.98 |

Supplemental Benefits per hour:

| | |
|----------|-----------------------------------|
| 1st term | \$ 4.70 - After 40 hours: \$ 4.45 |
| 2nd term | \$ 4.80 - After 40 hours: 4.45 |
| 3rd term | \$ 5.30 - After 40 hours: 4.85 |
| 4th term | \$ 5.85 - After 40 hours: 5.35 |

Laborer - Tunnel

08/01/2022

JOB DESCRIPTION Laborer - Tunnel

DISTRICT 11

ENTIRE COUNTIES

Columbia, Dutchess, Greene, Orange, Otsego, Putnam, Rockland, Sullivan, Ulster, Westchester

PARTIAL COUNTIES

Chenango: Townships of Columbus, Sherburne and New Berlin.

Delaware: Townships of Andes, Bovina, Middletown, Roxbury, Franklin, Hamden, Stamford, Delhi, Kortright, Harpersfield, Merideth and Davenport.

WAGES

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

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

Class 4: Safety Miners

Class 5: Site work related to Shaft/Tunnel

WAGES: (per hour)

| | 07/01/2022 |
|---------|------------|
| Class 1 | \$ 53.45 |
| Class 2 | 55.60 |
| Class 4 | 62.00 |
| Class 5 | 44.80 |

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

SHIFT DIFFERENTIAL...On all Government mandated irregular shift work:

- Employee shall be paid at time and one half the regular rate Monday through Friday.
- Saturday shall be paid at 1.65 times the regular rate.
- Sunday shall be paid at 2.15 times the regular rate.

SUPPLEMENTAL BENEFITS

Per hour:

| | |
|-----------|----------|
| Benefit 1 | \$ 34.45 |
| Benefit 2 | 51.60 |
| Benefit 3 | 68.75 |

Benefit 1 applies to straight time hours, paid holidays not worked.

Benefit 2 applies to over 8 hours in a day (M-F), irregular shift work hours worked, and Saturday hours worked.

Benefit 3 applies to Sunday and Holiday hours worked.

OVERTIME PAY

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

HOLIDAY

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

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

When a recognized Holidays falls on Saturday or Sunday, holidays falling on Saturday shall be recognized or observed on Friday and holidays falling on Sunday shall be recognized or observed on Monday. Employees ordered to work on the Saturday or Sunday of the holiday or on the recognized or the observed Friday or Monday for those holidays falling on Saturday or Sunday shall receive double time the established rate and benefits for the holiday.

REGISTERED APPRENTICES

FOR APPRENTICE RATES, refer to the appropriate Laborer Heavy & Highway wage rate contained in the wage schedule for the County and location where the work is to be performed.

11-17/60/235/754Tun

Lineman Electrician

08/01/2022

JOB DESCRIPTION Lineman Electrician

DISTRICT 6

ENTIRE COUNTIES

Westchester

WAGES

A Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors, assembly of all electrical materials, conduit, pipe or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

A Groundman/Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator equipment/operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

Below rates apply to electrical overhead and underground distribution and maintenance work and overhead and underground transmission line work, electrical substations, switching structures, continuous pipe-type underground fluid or gas filled transmission conduit and cable installations, maintenance jobs or projects, railroad catenary installations and maintenance, third rail installations, the bonding of rails and the installation of fiber optic cable. (Ref #14.04.01)

NOTE: Includes Teledata Work within ten (10) feet of High Voltage Transmission Lines. Also includes digging of holes for poles, anchors, footer, and foundations for electrical equipment.

| Per hour: | 07/01/2022 | 05/01/2023 | 05/06/2024 |
|-------------------------|------------|------------|------------|
| Lineman, Tech, Welder | \$ 59.01 | \$ 60.41 | \$ 61.91 |
| Crane, Crawler Backhoe | 59.01 | 60.41 | 61.91 |
| Cable Splicer-Pipe Type | 64.91 | 66.45 | 68.10 |
| Digging Mach Operator | 53.11 | 54.37 | 55.72 |
| Cert. Welder-Pipe Type | 61.96 | 63.43 | 65.01 |
| Tractor Trailer Driver | 50.16 | 51.35 | 52.62 |
| Groundman, Truck Driver | 47.21 | 48.33 | 49.53 |
| Equipment Mechanic | 47.21 | 48.33 | 49.53 |
| Flagman | 35.41 | 36.25 | 37.15 |

Additional \$1.00 per hour for entire crew when a helicopter is used.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

| | |
|-----------|---|
| 1ST SHIFT | 8:00 AM TO 4:30 PM REGULAR RATE |
| 2ND SHIFT | 4:30 PM TO 1:00 AM REGULAR RATE PLUS 17.3% |
| 3RD SHIFT | 12:30 AM TO 9:00 AM REGULAR RATE PLUS 31.4% |

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

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

| | 07/01/2022 | 05/01/2023 | 05/06/2024 |
|--|--|--|--|
| Journeyman | \$ 25.90 *plus 7% of the hourly wage paid | \$ 26.40 *plus 7% of the hourly wage paid | \$ 26.90 *plus 7% of the hourly wage paid |
| Journeyman Lineman or Equipment Operators with Crane License | \$ 27.90 *plus 7% of the hourly wage paid | \$ 29.40 *plus 7% of the hourly wage paid | \$ 30.90 *plus 7% of the hourly wage paid |

*The 7% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY

See (B, E, Q,) on OVERTIME PAGE. *Note* Double time for emergency work designated by the Dept of Jurisdiction.

NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

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

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

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

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

SUPPLEMENTAL BENEFITS per hour:

| | | |
|----------------------------------|----------------------------------|----------------------------------|
| 07/01/2022 | 05/01/2023 | 05/06/2024 |
| \$ 25.90 | \$ 26.40 | \$ 26.90 |
| *plus 7% of the hourly wage paid | *plus 7% of the hourly wage paid | *plus 7% of the hourly wage paid |

*The 7% is based on the hourly wage paid, straight time or premium time.

6-1249aWest

Lineman Electrician - Teledata

08/01/2022

JOB DESCRIPTION Lineman Electrician - Teledata

DISTRICT 6

ENTIRE COUNTIES

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

WAGES

Per hour:

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

| | | | | |
|------------------------|------------|------------|------------|------------|
| | 07/01/2022 | 01/01/2023 | 01/01/2024 | 01/01/2025 |
| Cable Splicer | \$ 36.28 | \$ 37.73 | \$ 39.24 | \$ 40.81 |
| Installer, Repairman | \$ 34.43 | \$ 35.81 | \$ 37.24 | \$ 38.73 |
| Teledata Lineman | \$ 34.43 | \$ 35.81 | \$ 37.24 | \$ 38.73 |
| Tech., Equip. Operator | \$ 34.43 | \$ 35.81 | \$ 37.24 | \$ 38.73 |
| Groundman | \$ 18.25 | \$ 18.98 | \$ 19.74 | \$ 20.53 |

NOTE: EXCLUDES Teledata work within ten (10) feet of High Voltage (600 volts and over) transmission lines. For this work please see LINEMAN.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED:

| | |
|-----------|-----------------------|
| 1ST SHIFT | REGULAR RATE |
| 2ND SHIFT | REGULAR RATE PLUS 10% |
| 3RD SHIFT | REGULAR RATE PLUS 15% |

SUPPLEMENTAL BENEFITS

| | | | | |
|------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Per hour: | 07/01/2022 | 01/01/2023 | 01/01/2024 | 01/01/2025 |
| Journeyman | \$ 5.14 | \$ 5.14 | \$ 5.14 | \$ 5.14 |
| | *plus 3% of the hourly wage paid |

*The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked. Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

6-1249LT - Teledata

Lineman Electrician - Traffic Signal, Lighting **08/01/2022**

JOB DESCRIPTION Lineman Electrician - Traffic Signal, Lighting

DISTRICT 6

ENTIRE COUNTIES
 Westchester

WAGES

Lineman/Technician shall perform all overhead aerial work. A Lineman/Technician on the ground will install all electrical panels, connect all grounds, install and connect all electrical conductors which includes, but is not limited to road loop wires; conduit and plastic or other type pipes that carry conductors, flex cables and connectors, and to oversee the encasement or burial of such conduits or pipes.

A Groundman/Groundman Truck Driver shall: Build and set concrete forms, handle steel mesh, set footer cages, transport concrete in a wheelbarrow, hand or machine concrete vibrator, finish concrete footers, mix mortar, grout pole bases, cover and maintain footers while curing in cold weather, operate jack hammer, operate hand pavement breaker, tamper, concrete and other motorized saws, as a drill helper, operate and maintain generators, water pumps, chainsaws, sand blasting, operate mulching and seeding machine, air tools, electric tools, gas tools, load and unload materials, hand shovel and/or broom, prepare and pour mastic and other fillers, assist digger operator/equipment operator in ground excavation and restoration, landscape work and painting. Only when assisting a lineman technician, a groundman/truck driver may assist in installing conduit, pipe, cables and equipment.

A flagger's duties shall consist of traffic control only.
 (Ref #14.01.03)

| Per hour: | 07/01/2022 | 05/01/2023 | 05/06/2024 |
|-------------------------|------------|------------|------------|
| Lineman, Technician | \$ 53.60 | \$ 54.73 | \$ 55.95 |
| Crane, Crawler Backhoe | 53.60 | 54.73 | 55.95 |
| Certified Welder | 56.28 | 57.47 | 58.75 |
| Digging Machine | 48.24 | 49.26 | 50.36 |
| Tractor Trailer Driver | 45.56 | 46.52 | 47.56 |
| Groundman, Truck Driver | 42.88 | 43.78 | 44.76 |
| Equipment Mechanic | 42.88 | 43.78 | 44.76 |
| Flagman | 32.16 | 32.84 | 33.57 |

Above rates are applicable for installation, testing, operation, maintenance and repair on all Traffic Control (Signal) and Illumination (Lighting) projects, Traffic Monitoring Systems, and Road Weather Information Systems. Includes digging of holes for poles, anchors, footer foundations for electrical equipment; assembly of all electrical materials or raceway; placing of fish wire; pulling of cables, wires or fiber optic cable through such raceways; splicing of conductors; dismantling of such structures, lines or equipment.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED MULTIPLE SHIFTS OF AT LEAST FIVE (5) DAYS DURATION WORKED BETWEEN THE HOURS LISTED BELOW:

| | |
|-----------|---|
| 1ST SHIFT | 8:00 AM TO 4:30 PM REGULAR RATE |
| 2ND SHIFT | 4:30 PM TO 1:00 AM REGULAR RATE PLUS 17.3% |
| 3RD SHIFT | 12:30 AM TO 9:00 AM REGULAR RATE PLUS 31.4% |

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday. Friday may be used as a make-up day. Tuesday thru Friday may be worked with no make-up day.

NOTE - In order to use the '4 Day/10 Hour Work schedule', as your normal schedule, you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30.1; and there must be a dispensation of hours in place on the project. If the PW30.1 is not submitted you may be liable for overtime payments for work over 8 hours per day.

SUPPLEMENTAL BENEFITS

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

| | 07/01/2022 | 05/01/2023 | 05/06/2024 |
|--|----------------------------------|----------------------------------|----------------------------------|
| Journeyman | \$ 25.90 | \$ 26.40 | \$ 26.90 |
| | *plus 7% of the hourly wage paid | *plus 7% of the hourly wage paid | *plus 7% of the hourly wage paid |
| Journeyman Lineman or Equipment Operators with Crane License | \$ 27.90 | \$ 29.40 | \$ 30.90 |
| | *plus 7% of the hourly wage paid | *plus 7% of the hourly wage paid | *plus 7% of the hourly wage paid |

*The 7% is based on the hourly wage paid, straight time or premium time.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE. *Note* Double time for emergency work designated by the Dept. of Jurisdiction.
 NOTE: WAGE CAP - Double the straight time hourly base wage shall be the maximum hourly wage compensation for any hour worked.
 Contractor is still responsible to pay the hourly benefit amount for each hour worked.

HOLIDAY

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

NOTE: All paid holidays falling on Saturday shall be observed on the preceding Friday. All paid holidays falling on Sunday shall be observed on the following Monday. Supplements for holidays paid at straight time.

REGISTERED APPRENTICES

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

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

SUPPLEMENTAL BENEFITS per hour:

| | | |
|----------------------------------|----------------------------------|----------------------------------|
| 07/01/2022 | 05/01/2023 | 05/06/2024 |
| \$ 25.90 | \$ 26.40 | \$ 26.90 |
| *plus 7% of the hourly wage paid | *plus 7% of the hourly wage paid | *plus 7% of the hourly wage paid |

*The 7% is based on the hourly wage paid, straight time or premium time.

6-1249aWestLT

Mason - Building

08/01/2022

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Nassau, Rockland, Suffolk, Westchester

WAGES

| | | | |
|--------------|------------|------------|------------|
| Per hour: | 07/01/2022 | 12/05/2022 | 06/05/2023 |
| | | Additional | Additional |
| Tile Setters | \$ 62.01 | \$ 0.73 | \$ 0.73 |

SUPPLEMENTAL BENEFITS

| | |
|-----------|-----------|
| Per Hour: | \$ 26.13* |
| | + \$10.02 |

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

OVERTIME PAY

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

(750 hour) term at the following wage rate:

| | | | | | | | | | | |
|-------|---------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Term: | 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 | 6001-6750 | 6501-7000 |
| | \$21.23 | \$26.11 | \$33.26 | \$38.14 | \$41.67 | \$45.04 | \$48.60 | \$53.47 | \$56.25 | \$60.33 |

Supplemental Benefits per hour:

| | | | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
| \$12.55* | \$12.55* | \$15.16* | \$15.16* | \$16.75* | \$18.30* | \$19.35* | \$19.40* | \$17.45* | \$22.80* |

+\$0.69 +\$0.74 +\$0.84 +\$0.88 +\$1.28 +\$1.33 +\$1.70 +\$1.75 +\$5.90 +\$6.42

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

9-7/52A

Mason - Building **08/01/2022**

JOB DESCRIPTION Mason - Building **DISTRICT 11**

ENTIRE COUNTIES
 Putnam, Rockland, Westchester

PARTIAL COUNTIES
 Orange: Only the Township of Tuxedo.

WAGES
 Per hour:

| | 07/01/2022 | 06/01/2023 |
|-----------------------|------------|------------|
| Bricklayer | \$ 44.79 | \$ 45.89 |
| Cement Mason | 44.79 | 45.89 |
| Plasterer/Stone Mason | 44.79 | 45.89 |
| Pointer/Caulker | 44.79 | 45.89 |

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

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

SUPPLEMENTAL BENEFITS
 Per hour:

| | | |
|------------|----------|----------|
| Journeyman | \$ 37.00 | \$ 37.95 |
|------------|----------|----------|

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

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

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

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

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
| 50% | 55% | 60% | 65% | 70% | 75% | 80% | 85% |

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
| 50% | 55% | 60% | 65% | 70% | 75% | 80% | 85% |

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

11-5wp-b

Mason - Building **08/01/2022**

JOB DESCRIPTION Mason - Building **DISTRICT 9**

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

WAGES

Building
 07/01/2022

Wages per hour:

| | |
|----------------------------|----------|
| Mosaic & Terrazzo Mechanic | \$ 59.21 |
| Mosaic & Terrazzo Finisher | 57.60 |

SUPPLEMENTAL BENEFITS

Per hour:

| | |
|----------------------------|------------------------|
| Mosaic & Terrazzo Mechanic | \$ 26.21* + \$11.73 |
| Mosaic & Terrazzo Finisher | \$ 26.21* + \$11.72 |

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

OVERTIME PAY

See (A, E, Q) on OVERTIME PAGE
 07/01/2022- Deduct \$7.00 from hourly wages before calculating overtime.

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:

| | 1st | 2nd | 3rd | 4th | 5th | 6th |
|--|------------|---------------|---------------|---------------|---------------|---------------|
| | 0- 1500 | 1501- 3000 | 3001- 3750 | 3751- 4500 | 4501- 5250 | 5251- 6000 |
| | \$ 22.82 | \$ 29.34 | \$ 31.32 | \$ 36.55 | \$ 41.77 | \$ 46.99 |

Supplemental Benefits per hour:

| | | | | | | |
|--|---------|---------|----------|----------|----------|----------|
| | \$4.62* | \$5.94* | \$15.73* | \$18.35* | \$20.97* | \$23.59* |
| | +\$6.56 | +\$8.43 | +\$11.24 | +\$13.11 | +\$14.99 | +\$16.85 |

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

9-7/3

Mason - Building

08/01/2022

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

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

WAGES

Per hour: 07/01/2022

Building-Marble Restoration:
 Marble, Stone & \$ 46.60

Terrazzo Polisher, etc

SUPPLEMENTAL BENEFITS

Per Hour:
 Journeyworker:

Building-Marble Restoration:
 Marble, Stone &
 Polisher \$ 29.77

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:

900 hour term at the following wage:

| 1st 1- 900 | 2nd 901- 1800 | 3rd 1801- 2700 | 4th 2701 |
|------------------|---------------------|----------------------|-------------|
| \$ 32.61 | \$ 37.28 | \$ 41.94 | \$ 46.60 |

Supplemental Benefits Per Hour:

| | | | |
|-------|-------|-------|-------|
| 27.07 | 27.97 | 28.87 | 29.77 |
|-------|-------|-------|-------|

9-7/24-MP

Mason - Building

08/01/2022

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: 07/01/2022

Marble Cutters & Setters \$ 62.17

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker \$ 38.27

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:

750 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 |
| \$ 24.88 | \$ 27.97 | \$ 31.08 | \$ 34.17 | \$ 37.29 | \$ 40.39 | \$ 43.51 | \$ 46.61 | \$ 52.82 | \$ 59.05 |

Supplemental Benefits per hour:

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------------------|
| \$ 20.55 | \$ 22.04 | \$ 23.52 | \$ 25.01 | \$ 26.47 | \$ 27.96 | \$ 29.42 | \$ 30.91 | \$ 33.86 | \$ 36.81 9-7/4 |

Mason - Building

08/01/2022

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

Nassau, Rockland, Suffolk, Westchester

WAGES

Per hour: 07/01/2022 12/05/2022 06/05/2023
 Additional Additional

Tile Finisher \$ 47.60 \$ 0.59 \$ 0.58

SUPPLEMENTAL BENEFITS

Per Hour:
 \$ 22.16*
 + \$9.85

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

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

08/01/2022

JOB DESCRIPTION Mason - Building

DISTRICT 9

ENTIRE COUNTIES

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

WAGES

Per hour: 07/01/2022

Marble, Stone, etc.
 Maintenance Finishers: \$ 27.01

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: \$ 14.40

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: 07/01/2022

| | |
|-----------|----------|
| 0-750 | \$ 21.67 |
| 751-1500 | 22.38 |
| 1501-2250 | 23.10 |
| 2251-3000 | 23.80 |
| 3001-3750 | 24.87 |
| 3751-4500 | 26.29 |
| 4501+ | 27.01 |

Supplemental Benefits:

Per hour:

| | |
|-----------|-------|
| 0-750 | 11.52 |
| 751-1500 | 11.90 |
| 1501-2250 | 12.29 |
| 2251-3000 | 12.67 |
| 3001-3750 | 13.25 |
| 3751-4500 | 14.01 |
| 4501+ | 14.40 |

Mason - Building / Heavy&Highway

08/01/2022

JOB DESCRIPTION Mason - Building / Heavy&Highway

DISTRICT 9

ENTIRE COUNTIES

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

WAGES

Per hour: 07/01/2022

Marble-Finisher \$ 48.97

SUPPLEMENTAL BENEFITS

Journeyworker:
per hour

Marble- Finisher \$ 35.76

OVERTIME PAY

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

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

HOLIDAY

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

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

9-7/20-MF

Mason - Heavy&Highway

08/01/2022

JOB DESCRIPTION Mason - Heavy&Highway

DISTRICT 11

ENTIRE COUNTIES

Putnam, Rockland, Westchester

PARTIAL COUNTIES

Orange: Only the Township of Tuxedo.

WAGES

Per hour: 07/01/2022 06/01/2023

Bricklayer \$ 45.29 \$ 46.39

Cement Mason 45.29 46.39

Marble/Stone Mason 45.29 46.39

Plasterer 45.29 46.39

Pointer/Caulker 45.29 46.39

Additional \$1.00 per hour for power saw work

Additional \$0.50 per hour for swing scaffold or staging work

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

Irregular work day requires 15% premium

Second shift an additional 15% of wage plus benefits to be paid

Third shift an additional 25% of wage plus benefits to be paid

SUPPLEMENTAL BENEFITS

Per hour:

Journeyman \$ 37.00 \$ 37.95

OVERTIME PAY

Cement Mason See (B, E, Q, W)

All Others See (B, E, Q,)

HOLIDAY

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

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

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

- Supplemental Benefits are not paid for paid Holiday

- If Holiday is worked, Supplemental Benefits are paid for hours worked.

- Whenever an Employee works within three (3) calendar days before a holiday, the Employee shall be paid for the Holiday.

REGISTERED APPRENTICES

Wages per hour:

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

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
| 50% | 55% | 60% | 65% | 70% | 75% | 80% | 85% |

Supplemental Benefits per hour

750 hour terms at the following percentage of journeyman supplements

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
| 50% | 55% | 60% | 65% | 70% | 75% | 80% | 85% |

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

11-5WP-H/H

Operating Engineer - Building

08/01/2022

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 9

ENTIRE COUNTIES

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

PARTIAL COUNTIES

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

WAGES

NOTE: Construction surveying

Party Chief--One who directs a survey party

Instrument Man--One who runs the instrument and assists Party Chief.

Rodman--One who holds the rod and assists the Survey Crew

Wages:(Per Hour) 07/01/2022

Building Construction:

| | |
|----------------|----------|
| Party Chief | \$ 76.64 |
| Instrument Man | 60.50 |
| Rodman | 40.64 |

Steel Erection:

| | |
|----------------|-------|
| Party Chief | 79.41 |
| Instrument Man | 62.85 |
| Rodman | 43.48 |

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

| | |
|----------------|-------|
| Party Chief | 84.60 |
| Instrument man | 63.79 |
| Rodman | 54.52 |

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2022

| | |
|-----------------------|--------------------|
| Building Construction | \$ 26.69* +\$ 7.40 |
| Steel Erection | 27.29* +\$ 7.40 |
| Heavy Construction | 25.25* +\$ 7.15 |

* This portion subject to same premium as wages

Non-Worked Holiday Supplemental Benefit:
 16.45

OVERTIME PAY

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

Code "A" applies to Building Construction and has double the rate after 7 hours on Saturdays.

Code "B" applies to Heavy Construction and Steel Erection and had double the rate after 8 hours on Saturdays.

HOLIDAY

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

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

9-15Db

Operating Engineer - Building

08/01/2022

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

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

WAGES

GROUP I:

Cranes (All Types up to 49 tons), Boom Trucks, Cherry Pickers (All Types), Clamshell Crane, Derrick (Stone and Steel), Dragline, Franki Pile Rig or similar, High Lift (Lull or similar) with crane attachment and winch used for hoisting or lifting, Hydraulic Cranes, Pile Drivers, Potain and similar.

Cranes (All types 50-99 tons), Drill Rig Casa Grande (CAT or similar), Franki Pile Rig or similar, Hydraulic Cranes (All types including Crawler Cranes- No specific boom length).

Cranes (All types 100 tons and over), All Tower Cranes, All Climbing Cranes irrespective of manufacturer and regardless of how the same is rigged, Franki Pile Rig or similar, Conventional Cranes (All types including Crawler Cranes-No specific boom length), Hydraulic Cranes.

GROUP I-A: Barber Green Loader-Euclid Loader, Bulldozer, Carrier-Trailer Horse, Concrete Cleaning Decontamination Machine Operator, Concrete-Portable Hoist, Conway or Similar Mucking Machines, Elevator & Cage, Excavators all types, Front End Loaders, Gradall, Shovel, Backhoe, etc.(Crawler or Truck), Heavy Equipment Robotics Operator/Mechanic, Hoist Engineer-Material, Hoist Portable Mobile Unit, Hoist(Single, Double or Triple Drum), Horizontal Directional Drill Locator, Horizontal Directional Drill Operator and Jersey Spreader, Letourneau or Tournapull(Scrapers over 20 yards Struck), Lift Slab Console, etc., Lull HiLift or Similar, Master Environmental Maintenance Mechanics, Mucking Machines Operator/Mechanic or Similar Type, Overhead Crane, Pavement Breaker(Air Ram), Paver(Concrete), Post Hole Digger, Power House Plant, Road Boring Machine, Road Mix Machine, Ross Carrier and Similar Machines, Rubber tire double end backhoes and similar machines, Scoopmobile Tractor-Shovel Over 1.5 yards, Shovel (Tunnels), Spreader (Asphalt) Telephie(Cableway), Tractor Type Demolition Equipment, Trenching Machines-Vermeer Concrete Saw Trencher and Similar, Ultra High Pressure Waterjet Cutting Tool System, Vacuum Blasting Machine operator/mechanic, Winch Truck A Frame.

GROUP I-B: Compressor (Steel Erection), Mechanic (Outside All Types), Negative Air Machine (Asbestos Removal), Push Button (Buzz Box) Elevator.

GROUP II: Compactor Self-Propelled, Concrete Pump, Crane Operator in Training (Over 100 Tons), Grader, Machines Pulling Sheep's Foot Roller, Roller (4 ton and over), Scrapers (20 yards Struck and Under), Vibratory Rollers, Welder.

GROUP III-A: Asphalt Plant, Concrete Mixing Plants, Forklift (All power sources), Joy Drill or similar, Tractor Drilling Machine, Loader (1 1/2 yards and under), Portable Asphalt Plant, Portable Batch Plant, Portable Crusher, Skid Steer (Bobcat or similar), Stone Crusher, Well Drilling Machine, Well Point System.

GROUP III-B: Compressor Over 125 cu. Feet, Conveyor Belt Machine regardless of size, Compressor Plant, Ladder Hoist, Stud Machine.

GROUP IV-A: Batch Plant, Concrete Breaker, Concrete Spreader, Curb Cutter Machine, Finishing Machine-Concrete, Fine Grading Machine, Hepa Vac Clean Air Machine, Material Hopper(sand, stone, cement), Mulching Grass Spreader, Pump Gypsum etc, Pump-Plaster-Grout-Fireproofing. Roller(Under 4 Ton),Spreading and Fine Grading Machine, Steel Cutting Machine, Siphon Pump, Tar Joint Machine, Television Cameras for Water, Sewer, Gas etc. Turbo Jet Burner or Similar Equipment, Vibrator (1 to 5).

GROUP IV-B: Compressor (all types), Heater (All Types), Fire Watchman, Lighting Unit (Portable & Generator) Pump, Pump Station(Water, Sewer, Portable, Temporary), Welding Machine (Steel Erection & Excavation).

GROUP V: Mechanics Helper, Motorized Roller (walk behind), Stock Attendant, Welder's Helper, Maintenance Engineer Crane(75 ton and over).

Group VI-A: Welder Certified

GROUP VI-B: Utility Man, Warehouse Man.

WAGES: (per hour)

| | 07/01/2022 | 03/06/2023 | 03/04/2024 |
|----------------------------|------------|------------|------------|
| GROUP I | | | |
| Cranes- up to 49 tons | \$ 65.03 | \$ 66.23 | \$ 67.43 |
| Cranes- 50 tons to 99 tons | 67.28 | 68.53 | 69.77 |
| Cranes- 100 tons and over | 76.77 | 78.21 | 79.64 |
| GROUP I-A | 56.97 | 58.01 | 59.04 |
| GROUP I-B | 52.52 | 53.48 | 54.41 |
| GROUP II | 54.98 | 55.98 | 56.97 |
| GROUP III-A | 52.97 | 53.94 | 54.88 |
| GROUP III-B | 50.44 | 51.35 | 52.25 |
| GROUP IV-A | 52.44 | 53.40 | 54.33 |
| GROUP IV-B | 44.38 | 45.17 | 45.94 |
| GROUP V | 47.83 | 48.69 | 49.53 |
| Group VI-A | 55.93 | 56.96 | 57.96 |
| GROUP VI-B | | | |
| Utility Man | 45.39 | 46.21 | 47.00 |
| Warehouse Man | 47.57 | 48.52 | 49.26 |

An additional 20% to wage when required to wear protective equipment on hazardous/toxic waste projects.
 Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour.
 Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour.
 Loader operators over 5 cubic yard capacity additional .50 per hour.
 Shovel operators over 4 cubic yard capacity additional \$1.00 per hour.

SUPPLEMENTAL BENEFITS

Per hour:

| | | | |
|---------------|----------|----------|----------|
| Journeyworker | \$ 29.87 | \$ 30.57 | \$ 31.32 |
|---------------|----------|----------|----------|

OVERTIME PAY

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

HOLIDAY

Paid: See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE

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

8-137B

Operating Engineer - Heavy&Highway

08/01/2022

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

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

WAGES

GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane, (Crawler, Truck),
 Dragline, Drill Rig (Casa Grande, Cat, or Similar), Floating Crane (Crane on Barges) under 100 tons, Gin Pole, Hoist Engineer-Concrete (Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A: Auger (Truck or Truck Mounted), Boat Captain, Bulldozer-All Sizes, Central Mix Plant Operator, Chipper (all types), Close Circuit T.V., Combination Loader/Backhoe, Compactor with Blade, Concrete Finishing Machine, Gradall, Grader (Motor Grader), Elevator & Cage (Materials or Passenger), Excavator (and all attachments), Front End Loaders (1 1/2 yards and over), High Lift Lull and similar, Hoist (Single, Double, Triple Drum), Hoist Portable Mobile Unit, Hoist Engineer (Material), Jack and Bore Machine, Log Skidders, Mill Machines, Mucking Machines, Overhead Crane, Paver (concrete), Post Pounder (of any type), Push Cats, Road Reclaimer, Robot Hammer (Brokk or similar), Robotic Equipment (Scope of Engineer Schedule), Ross Carrier and similar, Scrapers (20 yard struck and over), Side Boom, Slip Form Machine, Spreader (Asphalt), Trenching Machines (Telephies-Vermeer Concrete Saw), Tractor Type Demolition Equipment, Vacuum Truck. Vibratory Roller(Riding) or Roller used in mainline paving operations.

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver (Asphalt).

GROUP II-A: Ballast Regulators, Compactor Self Propelled, Fusion Machine, Rail Anchor Machines, Roller (4 ton and over), Scrapers (20 yard struck and under).

GROUP II-B: Mechanic (Outside) All Types, Shop Mechanic.

GROUP III: Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler (High Pressure), Concrete Breaker (Track or Rubber Tire), Concrete Pump, Concrete Spreader, Excavator Drill, Farm Tractor, Forklift (all types), Gas Tapping (Live), Hydroseeder, Loader (1 1/2 yards and under), Locomotive (all sizes), Machine Pulling Sheeps Foot Roller, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher (Apprentice), Powerhouse Plant, Roller (under 4 ton), Sheer Excavator, Skid Steer/Bobcat, Stone Crusher, Sweeper (with seat), Well Drilling Machine.

GROUP IV: Service Person (Grease Truck), Deckhand.

GROUP IV-B: Conveyor Belt Machine (Truck Mounted), Heater (all types), Lighting Unit (Portable), Maintenance Engineer (For Crane Only), Mechanics Helper, Pump (Fireproofing), Pumps-Pump Station/Water/Sewer/Gypsum/Plaster, etc., Pump Truck (Sewer Jet or Similar), Welders Helper, Welding Machine (Steel Erection), Well Point System.

GROUP V: All Tower Cranes-All Climbing Cranes and all cranes of 100-ton capacity or greater (3900 Manitowac or similar) irrespective of manufacturer and regardless of how the same is rigged, Hoist Engineer (Steel), Engineer-Pile Driver, Jersey Spreader, Pavement Breaker/Post Hole Digger.

| WAGES: Per hour: | 07/01/2022 | 03/06/2023 | 03/04/2024 |
|---|------------|------------|------------|
| Group I | \$ 65.97 | \$ 67.27 | \$ 68.63 |
| Group I-A | 58.16 | 59.26 | 60.42 |
| Group I-B | 61.28 | 62.46 | 63.70 |
| Group II-A | 55.70 | 56.74 | 57.84 |
| Group II-B | 57.44 | 58.52 | 59.67 |
| Group III | 54.72 | 55.74 | 56.81 |
| Group IV | 49.74 | 50.63 | 51.57 |
| Group IV-B | 42.71 | 43.43 | 44.19 |
| Group V | | | |
| Engineer All Tower, Climbing and Cranes of 100 Tons | 74.73 | 76.24 | 77.82 |
| Hoist Engineer(Steel) | 67.67 | 69.01 | 70.41 |
| Engineer(Pile Driver) | 72.16 | 73.61 | 75.13 |
| Jersey Spreader, Pavement Breaker (Air Ram)Post Hole Digger | 56.99 | 58.06 | 59.19 |

SHIFT DIFFERENTIAL:

A 15% premium on all hours paid, including overtime hours for 2nd, 3rd shifts on all government mandated off-shift work

Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour over the rate listed in the Wage Schedule. Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour over the rate listed in the Wage Schedule. Loader and Excavator Operators: over 5 cubic yards capacity \$0.50 per hour over the rate listed in the Wage Schedule. Shovel Operators: over 4 cubic yards capacity \$1.00 per hour over the rate listed in the Wage Schedule.

Four (4), ten (10) hour days may be worked at straight time during a week, Monday thru Thursday; Friday may be used as a make-up day.

NOTE - In order to use the 4 Day/10 Hour Work schedule 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:

| | | | |
|----------------|--|--|--|
| Journeyworker: | \$ 32.60 up to 40 Hours | \$ 33.75 up to 40 hours | \$ 34.85 up to 40 hours |
| | After 40 hours \$ 23.40* PLUS \$ 1.20 on all hours worked | After 40 hours \$ 24.50* PLUS \$ 1.25 on all hours worked | After 40 hours \$ 25.55* PLUS \$ 1.25 on all hours worked |

*This amount is subject to premium

OVERTIME PAY

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

HOLIDAY

Paid:..... See (5, 6, 8, 15, 25, 26) on HOLIDAY PAGE

Overtime..... See (5, 6, 8, 15, 25, 26) on OVERTIME PAGE

* For Holiday codes 8,15,25,26 code R applies

** For Holiday Codes 5 & 6 code U applies

Note: If employees are required to work on Easter Sunday they shall be paid at the rate of triple time.

REGISTERED APPRENTICES

(1)year terms at the following rate.

| | | | |
|---------------------------------|----------|----------|----------|
| 1st term | \$ 29.08 | \$ 29.63 | \$ 30.21 |
| 2nd term | 34.90 | 35.56 | 36.25 |
| 3rd term | 40.71 | 41.48 | 42.30 |
| 4th term | 46.53 | 47.41 | 48.34 |
| Supplemental Benefits per hour: | | | |
| | 24.55 | 25.70 | 26.85 |

8-137HH

Operating Engineer - Heavy&Highway

08/01/2022

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 9

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

Dutchess: South of the North city line of Poughkeepsie

WAGES

Party Chief - One who directs a survey party

Instrument Man - One who runs the instrument and assists Party Chief

Rodman - One who holds the rod and in general, assists the Survey Crew

Categories cover GPS & Underground Surveying

Per Hour: 07/01/2022

| | |
|----------------|----------|
| Party Chief | \$ 81.72 |
| Instrument Man | 61.43 |
| Rodman | 52.40 |

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2022

All Categories
 Straight Time: \$ 25.25* plus \$7.15

Premium:
 Time & 1/2 \$ 37.88* plus \$7.15

Double Time \$ 50.50* plus \$7.15

Non-Worked Holiday Supplemental Benefits:
 \$ 16.45

OVERTIME PAY

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

* Doubletime paid on all hours in excess of 8 hours on Saturday

HOLIDAY

Paid: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

Overtime: See (5, 6, 7, 11, 12) on HOLIDAY PAGE

9-15Dh

Operating Engineer - Heavy&Highway - Tunnel

08/01/2022

JOB DESCRIPTION Operating Engineer - Heavy&Highway - Tunnel

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

PARTIAL COUNTIES

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

WAGES

GROUP I: Boom Truck, Cherry Picker, Clamshell, Crane(Crawler, Truck), Dragline, Drill Rig Casa Grande(Cat or Similar), Floating Crane(Crane on Barge-Under 100 Tons), Hoist Engineer(Concrete/Crane-Derrick-Mine Hoist), Knuckle Boom Crane, Rough Terrain Crane.

GROUP I-A: Auger(Truck or Truck Mounted), Boat Captain, Bull Dozer-all sizes, Central Mix Plant Operator, Chipper-all types, Close Circuit T.V., Combination Loader/Backhoe, Compactor with Blade, Concrete Finishing Machine, Gradall, Grader(Motor Grader), Elevator & Cage(Materials or Passengers), Excavator(and all attachments), Front End Loaders(1 1/2 yards and over), High Lift Lull, Hoist(Single, Double, Triple Drum), Hoist Portable Mobile Unit, Hoist Engineer(Material), Jack and Bore Machine, Log Skidder, Milling Machine, Moveable Concrete Barrier Transfer & Transport Vehicle, Mucking Machines. Overhead Crane, Paver(Concrete), Post Pounder of any type, Push Cats, Road Reclaimer, Robot Hammer(Brokk or similar), Robotic Equipment(Scope of Engineer Schedule), Ross Carrier and similar machines, Scrapers(20 yards struck and over), Side Boom, Slip Form Machine, Spreader(Asphalt), Trenching Machines, Telephies-Vermeer Concrete Saw, Tractor type demolition equipment, Vacuum Truck, Vibratory Roller (Riding) used in mainline paving operations.

GROUP I-B: Asphalt Mobile Conveyor/Transfer Machine, Road Paver(Asphalt).

GROUP II-A: Ballast Regulators, Compactor(Self-propelled), Fusion Machine, Rail Anchor Machines, Roller(4 ton and over), Scrapers(20 yard struck and under).

GROUP II-B: Mechanic(outside)all types, Shop Mechanic.

GROUP III: Air Tractor Drill, Asphalt Plant, Batch Plant, Boiler(High Pressure), Concrete Breaker(Track or Rubber Tire), Concrete Pump, Concrete Spreader, Excavator Drill, Farm Tractor, Forklift(all types of power), Gas Tapping(Live), Hydroseeder, Loader(1 1/2 yards and under), Locomotive(all sizes), Machine Pulling Sheeps Foot Roller, Portable Asphalt Plant, Portable Batch Plant, Portable Crusher(Apprentice), Powerhouse Plant, Roller(under 4 ton), Sheer Excavator, Skidsteer/Bobcat, Stone Crusher, Sweeper(with seat), Well Drilling Machine.

GROUP IV-A: Service Person(Grease Truck), Deckhand.

GROUP IV-B: Conveyor Belt Machine(Truck Mounted), Heater(all types), Lighting Unit(Portable), Maintenance Engineer(for Crane only), Mechanics Helper, Pump(Fireproofing), Pumps-Pump Station/Water/Sewer/Gypsum/Plaster, etc., Pump Truck(Sewer Jet or similar), Welding Machine(Steel Erection), Welders Helper.

GROUP V-A: Engineer(all Tower Cranes, all Climbing Cranes & all Cranes of 100 ton capacity or greater),Hoist Engineer(Steel-Sub Structure), Engineer-Pile Driver, Jersey-Spreader, Pavement breaker, Post Hole Digger

WAGES: (per hour)

| | 07/01/2022 | 03/06/2023 | 03/04/2024 |
|----------------------------------|------------|------------|------------|
| GROUP I | \$ 65.97 | \$ 67.27 | \$ 68.63 |
| GROUP I-A | 58.16 | 59.26 | 60.42 |
| GROUP I-B | 61.28 | 62.46 | 63.70 |
| GROUP II-A | 55.70 | 56.74 | 57.84 |
| GROUP II-B | 57.44 | 58.52 | 59.67 |
| GROUP III | 54.72 | 55.74 | 56.81 |
| GROUP IV-A | 49.74 | 50.63 | 51.57 |
| GROUP IV-B | 42.71 | 43.43 | 44.19 |
| GROUP V-A | | | |
| Engineer-Cranes | 74.73 | 76.24 | 77.82 |
| Engineer-Pile Driver | 72.16 | 73.61 | 75.13 |
| Hoist Engineer | 67.67 | 69.01 | 70.41 |
| Jersey Spreader/Post Hole Digger | 56.99 | 58.06 | 59.19 |

SHIFT DIFFERENTIAL:

A 15% premium on all hours paid, including overtime hours for 2nd, 3rd shifts on all government mandated off-shift work

An additional 20% to wage when required to wear protective equipment on hazardous/toxic waste projects. Operators required to use two buckets pouring concrete on other than road pavement shall receive \$0.50 per hour over scale. Engineers operating cranes with booms 100 feet but less than 149 feet in length will be paid an additional \$2.00 per hour. Engineers operating cranes with booms 149 feet or over in length will be paid an additional \$3.00 per hour. Operators of shovels with a capacity over (4) cubic yards shall be paid an additional \$1.00 per hour. Operators of loaders with a capacity over (5) cubic yards shall be paid an additional \$0.50 per hour.

SUPPLEMENTAL BENEFITS

Per hour:
 Journeyworker:

| | | |
|---|---|---|
| \$ 32.60 up to 40 hours After 40 hours \$23.40 plus \$1.20 on all hours worked | \$ 33.75 up to 40 hours After 40 hours \$24.50 plus \$1.25 on all hours worked | \$ 34.85 up to 40 hours After 40 hours \$25.55 plus \$1.25 on all hours worked |
|---|---|---|

OVERTIME PAY

See (D, O, *U, V) on OVERTIME PAGE

HOLIDAY

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

* Note: For Holiday codes 5 & 6, code U applies. For Holiday codes 8, 15, 25, 26, code R applies.
 Note: If employees are required to work on Easter Sunday, they shall be paid at the rate of triple time.

REGISTERED APPRENTICES

(1)year terms at the following rates:

| | | | |
|----------|----------|----------|----------|
| 1st term | \$ 29.08 | \$ 29.63 | \$ 30.21 |
| 2nd term | 34.90 | 35.56 | 36.25 |
| 3rd term | 40.71 | 41.48 | 42.30 |
| 4th term | 46.53 | 47.41 | 48.34 |

Supplemental Benefits per hour:

| | | | |
|-----------|----------|----------|----------|
| All terms | \$ 24.55 | \$ 25.70 | \$ 26.85 |
|-----------|----------|----------|----------|

8-137Tun

Operating Engineer - Marine Dredging

08/01/2022

JOB DESCRIPTION Operating Engineer - Marine Dredging

DISTRICT 4

ENTIRE COUNTIES

Albany, Bronx, Cayuga, Clinton, Columbia, Dutchess, Essex, Franklin, Greene, Jefferson, Kings, Monroe, Nassau, New York, Orange, 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 all equipment and operators are only for marine dredging work in navigable waters found in the counties listed above.

| Per Hour: | 07/01/2022 | 10/01/2022 |
|---|--|------------|
| CLASS A1 Deck Captain, Leverman Mechanical Dredge Operator Licensed Tug Operator 1000HP or more. | \$ 42.66 | \$ 43.94 |
| CLASS A2 Crane Operator (360 swing) | 38.02 | 39.16 |
| CLASS B Dozer, Front Loader Operator on Land | To conform to Operating Engineer Prevailing Wage in locality where work is being performed including benefits. | |
| CLASS B1 Derrick Operator (180 swing) Spider/Spill Barge Operator Operator II, Fill Placer, Engineer, Chief Mate, Electrician, Chief Welder, Maintenance Engineer Licensed Boat, Crew Boat Operator | 36.89 | 38.00 |
| CLASS B2 Certified Welder | 34.73 | 35.77 |

| | | |
|--|-------|-------|
| CLASS C1 Drag Barge Operator, Steward, Mate, Assistant Fill Placer | 33.78 | 34.79 |
| CLASS C2 Boat Operator | 32.69 | 33.67 |
| CLASS D Shoreman, Deckhand, Oiler, Rodman, Scowman, Cook, Messman, Porter/Janitor | 27.16 | 27.97 |

SUPPLEMENTAL BENEFITS

Per Hour:
 THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

| | | |
|-------------------|---|---|
| All Classes A & B | \$ 11.40 plus 6% of straight time wage, Overtime hours add \$ 0.63 | \$ 11.85 plus 6% of straight time wage, Overtime hours add \$ 0.63 |
| All Class C | \$ 11.10 plus 6% of straight time wage, Overtime hours add \$ 0.48 | \$ 11.60 plus 6% of straight time wage, Overtime hours add \$ 0.50 |
| All Class D | \$ 10.80 plus 6% of straight time wage, Overtime hours add \$ 0.33 | \$ 11.35 plus 6% of straight time wage, Overtime hours add \$ 0.38 |

OVERTIME PAY
 See (B2, 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 **08/01/2022**

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: 07/01/2022
 Survey Classifications

| | |
|----------------|----------|
| Party Chief | \$ 46.44 |
| Instrument Man | 38.60 |
| Rodman | 33.64 |

SUPPLEMENTAL BENEFITS

Per Hour:
 All Crew Members: \$ 21.60

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

Painter

08/01/2022

JOB DESCRIPTION Painter

DISTRICT 8

ENTIRE COUNTIES

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

WAGES

Per hour: 07/01/2022

Brush \$ 51.45*

Abatement/Removal of lead based
or lead containing paint on
materials to be repainted. 51.45*

Spray & Scaffold \$ 54.45*

Fire Escape 54.45*

Decorator 54.45*

Paperhanger/Wall Coverer 53.83*

*Subtract \$ 0.10 to calculate premium rate.

SUPPLEMENTAL BENEFITS

Per hour:

Paperhanger \$ 33.15

All others 30.88

Premium 37.72**

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

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: 07/01/2022

Appr 1st term... \$ 19.95*

Appr 2nd term... 25.56*

Appr 3rd term... 31.00*

Appr 4th term... 41.52*

*Subtract \$ 0.10 to calculate premium rate.

Supplemental benefits:

Per Hour:

Appr 1st term... \$ 15.22

Appr 2nd term... 18.90

Appr 3rd term... 21.81

Appr 4th term... 27.58

8-NYDC9-B/S

Painter

08/01/2022

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: 07/01/2022
Drywall Taper \$ 51.45*

*Subtract \$ 0.10 to calculate premium rate.

SUPPLEMENTAL BENEFITS

Per hour:
Journeyman \$ 30.88

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:

1500 hour terms at the following wage rate:

1st term \$ 19.95*
2nd term 25.56*
3rd term 31.00*
4th term 41.52*

*Subtract \$ 0.10 to calculate premium rate.

Supplemental Benefits - Per hour:

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

1st year \$ 15.22
2nd year 18.90
3rd year 21.81
4th year 27.58

8-NYDCT9-DWT

Painter - Bridge & Structural Steel

08/01/2022

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: 07/01/2022 10/01/2022
\$ 53.00 Additional
+ 9.63* \$ 3.00

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.

SHIFT WORK:

When directly specified in public agency or authority contract documents for an employer to work a second shift and works the second shift with employees other than from the first shift, all employees who work the second shift will be paid 10% of the base wage shift differential in lieu of overtime for the first eight (8) hours worked after which the employees shall be paid at time and one half of the regular wage rate. When a single irregular work shift is mandated in the job specifications or by the contracting agency, wages shall be paid at time and one half for single shifts between the hours of 3pm-11pm or 11pm-7am.

SUPPLEMENTAL BENEFITS

Per Hour:

Journeyworker:

\$ 10.90
+ 30.60*

* 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 (B, 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

1st year \$ 21.20
+ 3.86

2nd year \$ 31.80
+ 5.78

3rd year \$ 42.40
+ 7.70

Supplemental Benefits - Per hour:

1st year \$.25
+ 12.24

2nd year \$ 10.90
+ 18.36

3rd year \$ 10.90
+ 24.48

NOTE: All premium wages are to be calculated on base rate per hour only.

8-DC-9/806/155-BrSS

Painter - Line Striping

08/01/2022

JOB DESCRIPTION Painter - Line Striping

DISTRICT 8

ENTIRE COUNTIES

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

WAGES

Per hour:

Painter (Striping-Highway): 07/01/2022
Striping-Machine Operator* \$ 31.53

Linerman Thermoplastic 38.34

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:

| | |
|----------------------------|----------|
| Journeyworker: | |
| Striping Machine Operator: | \$ 10.03 |
| Linerman Thermoplastic: | 10.03 |

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:

| | |
|-----------|----------|
| 1st Term: | \$ 15.00 |
| 2nd Term: | 18.92 |
| 3rd Term: | 25.22 |

Supplemental Benefits per hour:

| | |
|-----------|---------|
| 1st term: | \$ 9.16 |
| 2nd Term: | 10.03 |
| 3rd Term: | 10.03 |

8-1456-LS

Painter - Metal Polisher

08/01/2022

JOB DESCRIPTION Painter - Metal Polisher

DISTRICT 8

ENTIRE COUNTIES

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

WAGES

| | |
|------------------|------------|
| | 07/01/2022 |
| Metal Polisher | \$ 37.78 |
| Metal Polisher* | 38.80 |
| Metal Polisher** | 41.78 |

*Note: Applies on New Construction & complete renovation

** Note: Applies when working on scaffolds over 34 feet.

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2022

| | |
|--------------------|----------|
| Journeyworker: | |
| All classification | \$ 11.24 |

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:

| | |
|-----------|------------|
| | 07/01/2022 |
| 1st year | \$ 16.00 |
| 2nd year | 17.00 |
| 3rd year | 18.00 |
| 1st year* | \$ 16.39 |

| | |
|------------|----------|
| 2nd year* | 17.44 |
| 3rd year* | 18.54 |
| 1st year** | \$ 18.50 |
| 2nd year** | 19.50 |
| 3rd year** | 20.50 |

*Note: Applies on New Construction & complete renovation
 ** Note: Applies when working on scaffolds over 34 feet.

Supplemental benefits:
 Per hour:

| | |
|----------|---------|
| 1st year | \$ 7.99 |
| 2nd year | 7.99 |
| 3rd year | 7.99 |

8-8A/28A-MP

Plumber

08/01/2022

JOB DESCRIPTION Plumber

DISTRICT 8

ENTIRE COUNTIES
 Putnam, Westchester

WAGES

Per hour:

07/01/2022

| | |
|----------------------------|----------|
| Plumber and Steamfitter | \$ 60.21 |
|----------------------------|----------|

SHIFT WORK:

When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

SUPPLEMENTAL BENEFITS

Per hour:

| | |
|---------------|----------|
| Journeyworker | \$ 40.01 |
|---------------|----------|

OVERTIME PAY

See (B, E, E2, Q, V) on OVERTIME PAGE
 OVERTIME:... See on OVERTIME PAGE.

HOLIDAY

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

REGISTERED APPRENTICES

(1)year terms at the following wages:

| | |
|----------|----------|
| 1st Term | \$ 22.36 |
| 2nd Term | 25.66 |
| 3rd Term | 29.63 |
| 4th Term | 42.28 |
| 5th Term | 45.36 |

Supplemental Benefits per hour:

| | |
|----------|----------|
| 1st term | \$ 16.54 |
| 2nd term | 18.46 |
| 3rd term | 21.96 |
| 4th term | 28.95 |
| 5th term | 30.68 |

8-21.1-ST

Plumber - HVAC / Service

08/01/2022

JOB DESCRIPTION Plumber - HVAC / Service

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Putnam, Westchester

PARTIAL COUNTIES

Delaware: Only the townships of Middletown and Roxbury

Ulster: Entire County(including Wallkill and Shawangunk Prisons) except for remainder of Town of Shawangunk and Towns of Plattekill, Marlboro, and Wawarsing.

WAGES

Per hour: 07/01/2022

HVAC Service \$ 41.68
+ \$ 4.32*

*Note: This portion of wage is not subject to overtime premium.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker HVAC Service
\$ 27.79

OVERTIME PAY

See (B, F, R) on OVERTIME PAGE

HOLIDAY

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

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

REGISTERED APPRENTICES

HVAC SERVICE

(1)year terms at the following wages:

| 1st yr. | 2nd yr. | 3rd yr. | 4th yr. | 5th yr. |
|----------|----------|----------|----------|----------|
| \$ 18.87 | \$ 22.36 | \$ 27.91 | \$ 34.33 | \$ 37.25 |
| +\$2.37* | +\$2.67* | +\$3.22* | +\$3.84* | +\$4.07* |

*Note: This portion of wage is not subject to overtime premium.

Supplemental Benefits per hour:

Apprentices 07/01/2022

1st term \$ 20.30
2nd term 21.62
3rd term 23.07
4th term 25.05
5th term 26.47

8-21.1&2-SF/Re/AC

Plumber - Jobbing & Alterations

08/01/2022

JOB DESCRIPTION Plumber - Jobbing & Alterations

DISTRICT 8

ENTIRE COUNTIES

Dutchess, Putnam, Westchester

PARTIAL COUNTIES

Ulster: Entire county (including Wallkill and Shawangunk Prisons in Town of Shawangunk) EXCEPT for remainder of Town of Shawangunk, and Towns of Plattekill, Marlboro, and Wawarsing.

WAGES

Per hour: 07/01/2022

Journeyworker: \$ 46.79

Repairs, replacements and alteration work is any repair or replacement of a present plumbing system that does not change existing roughing or water supply lines.

SHIFT WORK:

When directly specified in public agency or authority contract documents, shift work outside the regular hours of work shall be comprised of eight (8) hours per shift not including Saturday, Sundays and holidays. One half (1/2) hour shall be allowed for lunch after the first four (4) hours of each shift. Wage and Fringes for shift work shall be straight time plus a shift premium of twenty-five (25%) percent. A minimum of five days Monday through Friday must be worked to establish shift work.

SUPPLEMENTAL BENEFITS

Per hour:

Journeyworker

\$ 33.56

OVERTIME PAY

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

*When used as a make-up day, hours after 8 on Saturday shall be paid at time and one half.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

REGISTERED APPRENTICES

(1) year terms at the following wages:

| | |
|----------|----------|
| 1st year | \$ 20.25 |
| 2nd year | 22.48 |
| 3rd year | 24.40 |
| 4th year | 34.25 |
| 5th year | 36.19 |

Supplemental Benefits per hour:

| | |
|----------|----------|
| 1st year | \$ 10.98 |
| 2nd year | 12.92 |
| 3rd year | 16.89 |
| 4th year | 22.82 |
| 5th year | 24.77 |

8-21.3-J&A

Roofer

08/01/2022

JOB DESCRIPTION Roofer

DISTRICT 9

ENTIRE COUNTIES

Bronx, Dutchess, Kings, New York, Orange, Putnam, Queens, Richmond, Rockland, Sullivan, Ulster, Westchester

WAGES

| | | |
|----------------------|------------|------------|
| Per Hour: | 07/01/2022 | 05/01/2023 |
| | | Additional |
| Roofer/Waterproofers | \$ 45.25 | \$ 2.00 |
| | + \$7.00* | |

* This portion is not subjected to overtime premiums.

Note: Abatement/Removal of Asbestos containing roofs and roofing material is classified as Roofer.

SUPPLEMENTAL BENEFITS

Per Hour: \$ 30.62

OVERTIME PAY

See (B, H) on OVERTIME PAGE

Note: An observed holiday that falls on a Sunday will be observed the following Monday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year term

| | | | | |
|--|----------|----------|----------|----------|
| | 1st | 2nd | 3rd | 4th |
| | \$ 15.84 | \$ 22.63 | \$ 27.15 | \$ 33.94 |
| | | + 3.50* | + 4.20* | + 5.26* |

Supplements:

| | | | | |
|--|---------|----------|----------|----------|
| | 1st | 2nd | 3rd | 4th |
| | \$ 3.88 | \$ 15.48 | \$ 18.50 | \$ 23.04 |

* This portion is not subjected to overtime premiums.

Sheetmetal Worker **08/01/2022**

JOB DESCRIPTION Sheetmetal Worker **DISTRICT 8**

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

WAGES

SheetMetal Worker 07/01/2022
\$ 45.25
+ 3.52*

*This portion is not subject to overtime premiums.

SHIFT WORK
 For all NYS D.O.T. and other Governmental mandated off-shift work:
 10% increase for additional shifts for a minimum of five (5) days

SUPPLEMENTAL BENEFITS

Journeyworker \$ 45.20

OVERTIME PAY

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

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
 Overtime: See (5, 6, 8, 15, 16, 23) on HOLIDAY PAGE

REGISTERED APPRENTICES

| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th |
|----------|----------|----------|----------|----------|----------|----------|----------|
| \$ 16.79 | \$ 18.88 | \$ 21.00 | \$ 23.08 | \$ 25.20 | \$ 27.30 | \$ 29.89 | \$ 32.43 |
| + 1.41* | + 1.58* | + 1.76* | + 1.94* | + 2.11* | + 2.29* | + 2.46* | + 2.64* |

*This portion is not subject to overtime premiums.

Supplemental Benefits per hour:

Apprentices

| | |
|----------|----------|
| 1st term | \$ 19.37 |
| 2nd term | 21.81 |
| 3rd term | 24.21 |
| 4th term | 26.65 |
| 5th term | 29.06 |
| 6th term | 31.48 |
| 7th term | 33.42 |
| 8th term | 35.40 |

Sheetmetal Worker **08/01/2022**

JOB DESCRIPTION Sheetmetal Worker **DISTRICT 4**

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

WAGES

Per Hour: 07/01/2022
 Sign Erector \$ 53.79

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

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2022
 Sign Erector \$ 53.33

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:

07/01/2022

| | | | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
| \$ 14.34 | \$ 16.26 | \$ 18.17 | \$ 20.10 | \$ 28.02 | \$ 30.47 | \$ 33.72 | \$ 36.27 | \$ 38.77 | \$ 41.29 |

4-137-SE

Sprinkler Fitter

08/01/2022

JOB DESCRIPTION Sprinkler Fitter

DISTRICT 1

ENTIRE COUNTIES

Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester

WAGES

Per hour 07/01/2022

Sprinkler Fitter \$ 48.98

SUPPLEMENTAL BENEFITS

Per hour

Journeyman \$ 29.13

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

Note: When a holiday falls on Sunday, the following Monday shall be considered a holiday and all work performed on either day shall be at the double time rate. When a holiday falls on Saturday, the preceding Friday shall be considered a holiday and all work performed on either day shall be at the double time rate.

REGISTERED APPRENTICES

Wages per hour

One Half Year terms at the following wage.

| | | | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
| \$ 23.70 | \$ 26.34 | \$ 28.72 | \$ 31.35 | \$ 33.99 | \$ 36.62 | \$ 39.25 | \$ 41.89 | \$ 44.52 | \$ 47.15 |

Supplemental Benefits per hour

| | | | | | | | | | |
|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th |
| \$ 8.37 | \$ 8.37 | \$ 19.76 | \$ 19.76 | \$ 20.01 | \$ 20.01 | \$ 20.01 | \$ 20.01 | \$ 20.01 | \$ 20.01 |

1-669.2

Teamster - Building / Heavy&Highway

08/01/2022

JOB DESCRIPTION Teamster - Building / Heavy&Highway

DISTRICT 8

ENTIRE COUNTIES

Putnam, Westchester

WAGES

GROUP A: Straight Trucks (6-wheeler and 10-wheeler), A-frame, Winch, Dynamite Seeding, Mulching, Agitator, Water, Attenuator, Light Towers, Cement (all types), Suburban, Station Wagons, Cars, Pick Ups, any vehicle carrying materials of any kind.

GROUP AA: Tack Coat

GROUP B: Tractor & Trailers (all types).

GROUP BB: Tri-Axle, 14 Wheeler

GROUP C: Low Boy (carrying equipment).

GROUP D: Fuel Trucks, Tire Trucks.

GROUP E: Off-road Equipment (over 40 tons): Athey Wagons, Belly Dumps, Articulated Dumps, Trailer Wagons.
 GROUP F: Off-road Equipment (over 40 tons) Euclid, DJB.
 GROUP G: Off-road Equipment (under 40 tons) Athey Wagons, Belly Articulated Dumps, Trailer Wagons.
 GROUP H: Off-road Equipment(under 40 tons), Euclid.
 GROUP HH: Off-road Equipment(under 40 tons) D.J.B.
 GROUP I: Off-road Equipment(under 40 tons) Darts.
 GROUP II: Off-road Equipment(under 40 tons) RXS.

WAGES:(per hour)

07/01/2022

| | |
|----------|-----------|
| GROUP A | \$ 46.07* |
| GROUP AA | 49.07* |
| GROUP B | 46.69* |
| GROUP BB | 46.19* |
| GROUP C | 48.82* |
| GROUP D | 46.52* |
| GROUP E | 47.07* |
| GROUP F | 48.07* |
| GROUP G | 46.82* |
| GROUP H | 47.44* |
| GROUP HH | 47.82* |
| GROUP I | 47.57* |
| GROUP II | 47.94* |

* To calculate premium wage, subtract \$.20 from the hourly wage.

Note: Fuel truck operators on construction sites addit. \$5.00 per day.
 For work on hazardous/toxic waste site addit. 20% of hourly rate.

Shift Differential: When mandated by the contracting agency, DOT, or any governmental agency contracts shall receive a shift differential of fifteen (15%) above the wage rate.

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:
 Journeyworker

| | |
|-----------------|----------|
| First 40 hours | \$ 33.87 |
| 41st-45th hours | 14.88 |
| Over 45 hours | 0.75 |

OVERTIME PAY

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

HOLIDAY

Paid: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE
 Overtime: See (5, 6, 8, 9, 15, 25) on HOLIDAY PAGE

8-456

Welder

08/01/2022

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 07/01/2022

Welder: To be paid the same rate of the mechanic performing the work.*

*EXCEPTION: If a specific welder certification is required, then the 'Certified Welder' rate in that trade tag will be paid.

OVERTIME PAY
HOLIDAY

1-As Per Trade

Overtime Codes

Following is an explanation of the code(s) listed in the OVERTIME section of each classification contained in the attached schedule. Additional requirements may also be listed in the HOLIDAY section.

NOTE: Supplemental Benefits are 'Per hour worked' (for each hour worked) unless otherwise noted

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

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

Holiday Codes

PAID Holidays:

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

OVERTIME Holiday Pay:

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

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

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

(29) Juneteenth



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

REQUEST FOR WAGE AND SUPPLEMENT INFORMATION

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

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

This Form Must Be Typed

Submitted By:

(Check Only One)

Contracting Agency

Architect or Engineering Firm

Public Work District Office

Date:

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

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

Telephone: ()

Fax: ()

E-Mail:

2. NY State Units (see Item 5)

01 DOT

02 OGS

03 Dormitory Authority

04 State University
Construction Fund

05 Mental Hygiene
Facilities Corp.

06 OTHER N.Y. STATE UNIT

07 City

08 Local School District

09 Special Local District, i.e.,
Fire, Sewer, Water District

10 Village

11 Town

12 County

13 Other Non-N.Y. State
(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 :

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

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

10. Name and Title of Requester

Signature



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 08/19/2022

Article 8

| AGENCY | Fiscal Officer | FEIN | EMPLOYER NAME | EMPLOYER DBA NAME | ADDRESS | DEBARMENT START DATE | DEBARMENT END DATE |
|--------|----------------|-----------|--|-------------------|--|----------------------|--------------------|
| DOL | DOL | *****5754 | 0369 CONTRACTORS, LLC | | 515 WEST AVE UNIT PH 13NORWALK CT 06850 | 05/12/2021 | 05/12/2026 |
| DOL | DOL | *****4018 | ADIRONDACK BUILDING RESTORATION INC. | | 4156 WILSON ROAD EAST TABERG NY 13471 | 03/26/2019 | 03/26/2024 |
| DOL | AG | *****1812 | ADVANCED BUILDERS & LAND DEVELOPMENT, INC. | | 400 OSER AVE #2300HAUPPAUGE NY 11788 | 09/11/2019 | 09/11/2024 |
| DOL | DOL | *****1687 | ADVANCED SAFETY SPRINKLER INC | | 261 MILL ROAD P.O BOX 296EAST AURORA NY 14052 | 05/29/2019 | 05/29/2024 |
| DOL | NYC | *****6775 | ADVENTURE MASONRY CORP. | | 1535 RICHMOND AVENUE STATEN ISLAND NY 10314 | 12/13/2017 | 12/13/2022 |
| DOL | NYC | | AGOSTINHO TOME | | 405 BARRETTO ST BRONX NY 10474 | 05/31/2018 | 05/31/2023 |
| DOL | NYC | | AMJED PARVEZ | | 401 HANOVER AVENUE STATEN ISLAND NY 10304 | 01/11/2021 | 01/11/2026 |
| DOL | DOL | | ANGELO F COKER | | 2610 SOUTH SALINA STREET SUITE 14SYRACUSE NY 13205 | 09/17/2020 | 09/17/2025 |
| DOL | DOL | | ANGELO F COKER | | 2610 SOUTH SALINA STREET SUITE 14SYRACUSE NY 13205 | 12/04/2018 | 12/04/2023 |
| DOL | DOL | | ANGELO GARCIA | | 515 WEST AVE UNIT PH 13NORWALK CT 06850 | 05/12/2021 | 05/12/2026 |
| DOL | DOL | | ANITA SALERNO | | 158 SOLAR ST SYRACUSE NY 13204 | 01/07/2019 | 01/07/2024 |
| DOL | DOL | | ANTONIO ESTIVEZ | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | NYC | | ARADCO CONSTRUCTION CORP | | 115-46 132RD ST SOUTH OZONE PARK NY 11420 | 09/17/2020 | 09/17/2025 |
| DOL | DOL | | ARNOLD A. PAOLINI | | 1250 BROADWAY ST BUFFALO NY 14212 | 02/03/2020 | 02/03/2025 |
| DOL | NYC | | ARSHAD MEHMOOD | | 168-42 88TH AVENUE JAMAICA NY 11432 | 11/20/2019 | 11/20/2024 |
| DOL | NYC | *****2591 | AVI 212 INC. | | 260 CROPEY AVENUE APT 11GBROOKLYN NY 11214 | 10/30/2018 | 10/30/2023 |
| DOL | NYC | | AVM CONSTRUCTION CORP | | 117-72 123RD ST SOUTH OZONE PARK NY 11420 | 09/17/2020 | 09/17/2025 |
| DOL | NYC | | AZIDABEGUM | | 524 MCDONALD AVENUE BROOKLYN NY 11218 | 09/17/2020 | 09/17/2025 |
| DOL | DOL | *****8421 | B & B DRYWALL, INC | | 206 WARREN AVE APT 1WHITE PLAINS NY 10603 | 12/14/2021 | 12/14/2026 |
| DOL | NYC | | BALWINDER SINGH | | 421 HUDSON ST SUITE C5NEW YORK NY 10014 | 02/20/2019 | 02/20/2024 |
| DOL | NYC | *****8416 | BEAM CONSTRUCTION, INC. | | 50 MAIN ST WHITE PLAINS NY 10606 | 01/04/2019 | 01/04/2024 |
| DOL | DOL | | BERNARD BEGLEY | | 38 LONG RIDGE ROAD BEDFORD NY 10506 | 12/18/2019 | 12/18/2024 |
| DOL | NYC | *****2113 | BHW CONTRACTING, INC. | | 401 HANOVER AVENUE STATEN ISLAND NY 10304 | 01/11/2021 | 01/11/2026 |
| DOL | DOL | | BIAGIO CANTISANI | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | *****3627 | BJB CONSTRUCTION CORP. | | 38 LONG RIDGE ROAD BEDFORD NY 10506 | 12/18/2019 | 12/18/2024 |
| DOL | DOL | *****4512 | BOB BRUNO EXCAVATING, INC | | 5 MORNINGSIDE DR AUBURN NY 13021 | 05/28/2019 | 05/28/2024 |
| DOL | DOL | | BOGDAN MARKOVSKI | | 370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601 | 02/11/2019 | 02/11/2024 |
| DOL | DOL | | BRADLEY J SCHUKA | | 4 BROTHERS ROAD WAPPINGERS FALLS NY 12590 | 10/20/2020 | 10/20/2025 |
| DOL | DOL | | BRUCE P. NASH JR. | | 5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057 | 09/12/2018 | 09/12/2023 |
| DOL | DOL | *****0225 | C&D LAFACE CONSTRUCTION, INC. | | 8531 OSWEGO RD BALDWINSVILLE NY 13027 | 02/03/2020 | 01/09/2023 |
| DOL | DOL | *****9383 | C.C. PAVING AND EXCAVATING, INC. | | 2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205 | 09/17/2020 | 09/17/2025 |
| DOL | DOL | *****9383 | C.C. PAVING AND EXCAVATING, INC. | | 2610 SOUTH SALINA ST SUITE 12SYRACUSE NY 13205 | 12/04/2018 | 12/04/2023 |
| DOL | DOL | *****4083 | C.P.D. ENTERPRISES, INC | | P.O BOX 281 WALDEN NY 12586 | 03/03/2020 | 03/03/2025 |

NYSDOL Bureau of Public Work Debarment List 08/19/2022

Article 8

| | | | | | | | |
|-----|-----|-----------|---|--|---|------------|------------|
| DOL | DOL | *****3391 | CALI ENTERPRISES, INC. | | 1223 PARK STREET PEEKSKILL NY 10566 | 05/17/2021 | 05/17/2026 |
| DOL | NYC | | CALVIN WALTERS | | 465 EAST THIRD ST MT. VERNON NY 10550 | 09/09/2019 | 09/09/2024 |
| DOL | DOL | | CANTISANI & ASSOCIATES LTD | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CANTISANI HOLDING LLC | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | CARMEN RACHETTA | | 8531 OSWEGO RD BALDWINVILLE NY 13027 | 02/03/2020 | 02/03/2025 |
| DOL | DOL | | CARMENA RACHETTA | | 8531 OSWEGO ROAD BALDWINVILLE NY 13027 | 02/03/2020 | 01/09/2023 |
| DOL | DOL | *****3812 | CARMODY "2" INC | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | *****1143 | CARMODY BUILDING CORP | CARMODY 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 | AG | *****7247 | CENTURY CONCRETE CORP | | 2375 RAYNOR ST RONKONKOMA NY 11779 | 08/04/2021 | 08/04/2026 |
| DOL | AG | | CESAR J. AGUDELO | | 81-06 34TH AVENUE APT. 6E JACSON HEIGHTS NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | *****0026 | CHANTICLEER CONSTRUCTION LLC | | 4 BROTHERS ROAD WAPPINGERS FALLS NY 12590 | 10/20/2020 | 10/20/2025 |
| DOL | NYC | | CHARLES ZAHRADKA | | 863 WASHINGTON STREET FRANKLIN SQUARE NY 11010 | 03/10/2020 | 03/10/2025 |
| DOL | DOL | | CHRISTOPHER GRECO | | 26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956 | 02/18/2021 | 02/18/2026 |
| DOL | DOL | | CHRISTOPHER J MAINI | | 19 CAITLIN AVE JAMESTOWN NY 14701 | 09/17/2018 | 09/17/2023 |
| DOL | DOL | | CHRISTOPHER PAPASTEFANOU A/K/A CHRIS PAPASTEFANOU | | 1445 COMMERCE AVE BRONX NY 10461 | 05/30/2019 | 05/30/2024 |
| DOL | DOL | *****1927 | CONSTRUCTION PARTS WAREHOUSE, INC. | CPW | 5841 BUTTERNUT ROAD EAST SYRACUSE NY 13057 | 09/12/2018 | 09/12/2023 |
| DOL | DOL | *****3228 | CROSS-COUNTY LANDSCAPING AND TREE SERVICE, INC. | ROCKLAND TREE SERVICE | 26 NORTH MYRTLE AVENUE SPRING VALLEY NY 10956 | 02/18/2021 | 02/18/2026 |
| DOL | DOL | *****2524 | CSI ELECTRICAL & MECHANICAL INC | | 42-32 235TH ST DOUGLSTON NY 11363 | 01/14/2019 | 01/14/2024 |
| DOL | NYC | | DALJIT KAUR BOPARAI | | 185-06 56TH AVE FRESH MEADOW NY 11365 | 10/17/2017 | 10/17/2022 |
| DOL | DOL | *****7619 | DANCO CONSTRUCTION UNLIMITED INC. | | 485 RAFT AVENUE HOLBROOK NY 11741 | 10/19/2021 | 10/19/2026 |
| DOL | DOL | | DARIAN L COKER | | 2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205 | 09/17/2020 | 09/17/2025 |
| DOL | DOL | | DARIAN L COKER | | 2610 SOUTH SALINA ST SUITE 2CSYRACUSE NY 13205 | 12/04/2018 | 12/04/2023 |
| DOL | NYC | | DAVID WEINER | | 14 NEW DROP LANE 2ND FLOORSTATEN ISLAND NY 10306 | 11/14/2019 | 11/14/2024 |
| DOL | AG | | DEBRA MARTINEZ | | 31 BAY ST BROOKLYN NY 11231 | 03/28/2018 | 03/28/2023 |
| DOL | DOL | | DELPHI PAINTING & DECORATING CO INC | | 1445 COMMERCE AVE BRONX NY 10461 | 05/30/2019 | 05/30/2024 |
| DOL | DOL | | DOMENICO LAFACE | | 8531 OSWEGO RD BALDWINVILLE NY 13027 | 02/03/2020 | 01/09/2023 |
| DOL | DOL | *****5175 | EAGLE MECHANICAL AND GENERAL CONSTRUCTION LLC | | 11371 RIDGE RD WOLCOTT NY 14590 | 02/03/2020 | 02/03/2025 |

NYSDOL Bureau of Public Work Debarment List 08/19/2022

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|-----|-----|-----------|--|-----------------------------|---|------------|------------|
| DOL | DOL | | EAST COAST PAVING | | 2238 BAKER RD GILLETT PA 16923 | 03/12/2018 | 03/12/2023 |
| DOL | AG | | EDWIN HUTZLER | | 23 NORTH HOWELLS RD BELLPORT NY 11713 | 08/04/2021 | 08/04/2026 |
| DOL | DA | | EDWIN HUTZLER | | 2375 RAYNOR STREET RONKONKOMA NY 11779 | 08/04/2021 | 08/04/2026 |
| DOL | DOL | *****0780 | EMES HEATING & PLUMBING CONTR | | 5 EMES LANE MONSEY NY 10952 | 01/20/2002 | 01/20/3002 |
| DOL | NYC | *****5917 | EPOCH ELECTRICAL, INC | | 97-18 50TH AVE CORONA NY 11368 | 04/19/2018 | 04/19/2024 |
| DOL | DOL | | FAIGY LOWINGER | | 11 MOUNTAIN RD 28 VAN BUREN DRMONROE NY 10950 | 03/20/2019 | 03/20/2024 |
| DOL | DOL | | FRANK BENEDETTO | | 19 CATLIN AVE JAMESTOWN NY 14701 | 09/17/2018 | 09/17/2023 |
| DOL | DOL | *****4722 | FRANK BENEDETTO AND CHRISTOPHER J MAINI | B & M CONCRETE | 19 CAITLIN AVE JAMESTOWN NY 14701 | 09/17/2018 | 09/17/2023 |
| DOL | NYC | | FRANK MAINI | | 1766 FRONT ST YORKTOWN HEIGHTS NY 10598 | 01/17/2018 | 01/17/2023 |
| DOL | DA | | FREDERICK HUTZLER | | 2375 RAYNOR STREET RONKONKOMA NY 11779 | 08/04/2021 | 08/04/2026 |
| DOL | NYC | *****6616 | G & G MECHANICAL ENTERPRISES, LLC. | | 1936 HEMPSTEAD TURNPIKE EAST MEDOW NY 11554 | 11/29/2019 | 11/29/2024 |
| DOL | DOL | | GABRIEL FRASSETTI | | | 04/10/2019 | 04/10/2024 |
| DOL | NYC | | GAYATRI MANGRU | | 21 DAREWOOD LANE VALLEY STREAM NY 11581 | 09/17/2020 | 09/17/2025 |
| DOL | DOL | | GEOFF CORLETT | | 415 FLAGGER AVE #302STUART FL 34994 | 10/31/2018 | 10/31/2023 |
| DOL | DA | | GEORGE LUCEY | | 150 KINGS STREET BROOKLYN NY 11231 | 01/19/1998 | 01/19/2998 |
| DOL | DOL | | GIGI SCHNECKENBURGER | | 261 MILL RD EAST AURORA NY 14052 | 05/29/2019 | 05/29/2024 |
| DOL | DOL | | GIOVANNI LAFACE | | 8531 OSWEGO RD BALDWINVILLE NY 13027 | 02/03/2020 | 01/09/2023 |
| DOL | NYC | *****3164 | GLOBE GATES INC | GLOBAL OVERHEAD DOORS | 405 BARRETTO ST BRONX NY 10474 | 05/31/2018 | 05/31/2023 |
| DOL | NYC | | GREAT ESTATE CONSTRUCTION, INC. | | 327 STAGG ST BROOKLYN NY 11206 | 10/10/2017 | 10/10/2022 |
| DOL | DOL | | GREGORY S. OLSON | | P.O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | DOL | | HANS RATH | | 24 ELDOR AVENUE NEW CITY NY 10956 | 02/03/2020 | 02/03/2025 |
| DOL | NYC | *****3228 | HEIGHTS ELEVATOR CORP. | | 1766 FRONT ST YORKTOWN HEIGHTS NY 10598 | 01/17/2018 | 01/17/2023 |
| DOL | DOL | *****5131 | INTEGRITY MASONRY, INC. | M&R CONCRETE | 722 8TH AVE WATERVLIET NY 12189 | 06/05/2018 | 06/05/2023 |
| DOL | DOL | | IRENE KASELIS | | 32 PENNINGTON AVE WALDWICK NJ 07463 | 05/30/2019 | 05/30/2024 |
| DOL | DOL | *****9211 | J. WASE CONSTRUCTION CORP. | | 8545 RT 9W ATHENS NY 12015 | 03/09/2021 | 03/09/2026 |
| DOL | DOL | | J.A. HIRES CADWALLADER | | P.O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | DOL | | JAMES C. DELGIACCO | | 722 8TH AVE WATERVLIET NY 12189 | 06/05/2018 | 06/05/2023 |
| DOL | DOL | | JAMES J. BAKER | | 7901 GEE ROAD CANASTOTA NY 13032 | 08/17/2021 | 08/17/2026 |
| DOL | DOL | | JAMES LIACONE | | 9365 WASHINGTON ST LOCKPORT IL 60441 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | | JAMES RACHEL | | 9365 WASHINGTON ST LOCKPORT IL 60441 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | | JASON P. RACE | | 3469 STATE RT. 69 PERISH NY 13131 | 09/29/2021 | 09/29/2026 |
| DOL | DOL | | JASON P. RACE | | 3469 STATE RT. 69 PERISH NY 13131 | 02/09/2022 | 02/09/2027 |
| DOL | DOL | | JASON P. RACE | | 3469 STATE RT. 69 PERISH NY 13131 | 03/01/2022 | 03/01/2027 |
| DOL | DOL | *****7993 | JBS DIRT, INC. | | 7901 GEE ROAD CANASTOTA NY 13032 | 08/17/2021 | 08/17/2026 |

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| DOL | NYC | | JENNIFER GUERRERO | | 1936 HEMPSTEAD TURNPIKE EAST MEADOW NY 11554 | 11/29/2019 | 11/29/2024 |
| DOL | DOL | | JIM PLAUGHER | | 17613 SANTE FE LINE ROAD WAYNEFIELD OH 45896 | 07/16/2021 | 07/16/2026 |
| DOL | AG | | JOHN ANTHONY MASSINO | | 36-49 204TH STREET BAYSIDE NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | | JOHN F. CADWALLADER | | 200 LATTA BROOK PARK HORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | DOL | ****4612 | JOHN F. CADWALLADER, INC. | THE GLASS COMPANY | P.O BOX 100 200 LATTA BROOK PARKHORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | DOL | | JOHN GOCEK | | 14B COMMERCIAL AVE ALBANY NY 12065 | 11/14/2019 | 11/14/2024 |
| DOL | DOL | | JOHN LUCIANO | | | 05/14/2018 | 05/14/2023 |
| DOL | DOL | | JOHN MARKOVIC | | 47 MANDON TERRACE HAWTHORN NJ 07506 | 03/29/2021 | 03/29/2026 |
| DOL | DOL | | JOHN WASE | | 8545 RT 9W ATHENS NY 12015 | 03/09/2021 | 03/09/2026 |
| DOL | AG | ****0600 | JOHNCO CONTRACTING, INC. | | 36-49 204TH STREET BAYSIDE NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | | JON E DEYOUNG | | 261 MILL RD P.O BOX 296EAST AURORA NY 14052 | 05/29/2019 | 05/29/2024 |
| DOL | DOL | | JORGE RAMOS | | 8970 MIKE GARCIA DR MANASSAS VA 20109 | 07/16/2021 | 07/16/2026 |
| DOL | DOL | | JORI PEDERSEN | | 415 FLAGER AVE #302STUART FL 34994 | 10/31/2018 | 10/31/2023 |
| DOL | DOL | | JOSE CHUCHUCA | | 35 CLINTON AVE OSSINING NY 10562 | 09/12/2018 | 09/12/2023 |
| DOL | NYC | | JOSEPH MARTINO | | 1535 RICHMOND AVENUE STATEN ISLAND NY 10314 | 12/13/2017 | 12/13/2022 |
| DOL | DOL | | JOY MARTIN | | 2404 DELAWARE AVE NIGARA FALLS NY 14305 | 09/12/2018 | 09/12/2023 |
| DOL | DOL | ****5116 | JP RACE PAINTING, INC. T/A RACE PAINTING | | 3469 STATE RT. 69 PERISH NY 13131 | 02/09/2022 | 02/09/2027 |
| DOL | DOL | ****5116 | JP RACE PAINTING, INC. T/A RACE PAINTING | | 3469 STATE RT. 69 PERISH NY 13131 | 09/29/2021 | 09/29/2026 |
| DOL | DOL | ****5116 | JP RACE PAINTING, INC. T/A RACE PAINTING | | 3469 STATE RT. 69 PERISH NY 13131 | 03/01/2022 | 03/01/2027 |
| DOL | DOL | ****5116 | JP RACE PAINTING, INC. T/A RACE PAINTING | | 3469 STATE RT. 69 PERISH NY 13131 | 03/01/2022 | 03/01/2027 |
| DOL | DOL | | JULIUS AND GITA BEHREND | | 5 EMES LANE MONSEY NY 10952 | 11/20/2002 | 11/20/3002 |
| DOL | DOL | | KARIN MANGIN | | 796 PHELPS ROAD FRANKLIN LAKES NJ 07417 | 12/01/2020 | 12/01/2025 |
| DOL | DOL | | KATE E. CONNOR | | 7088 INTERSTATE ISLAND RD SYRACUSE NY 13209 | 03/31/2021 | 03/31/2026 |
| DOL | DOL | | KATIE BURDICK | | 2238 BAKER RD GILLET PA 16923 | 03/12/2018 | 03/12/2023 |
| DOL | DOL | ****2959 | KELC DEVELOPMENT, INC | | 7088 INTERSTATE ISLAND RD SYRACUSE NY 13209 | 03/31/2021 | 03/31/2026 |
| DOL | DOL | | KIMBERLY F. BAKER | | 7901 GEE ROAD CANASTOTA NY 13032 | 08/17/2021 | 08/17/2026 |
| DOL | DOL | ****3490 | L & M CONSTRUCTION/DRYWALL INC. | | 1079 YONKERS AVE YONKERS NY 10704 | 08/07/2018 | 08/07/2023 |
| DOL | DA | ****8816 | LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION | | 150 KINGS STREET BROOKLYN NY 11231 | 08/19/1998 | 08/19/2998 |
| DOL | DOL | | LAVERN GLAVE | | 161 ROBYN RD MONROE NY 10950 | 01/30/2018 | 01/30/2023 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 06/24/2016 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 06/24/2016 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 01/17/2017 | 09/19/2022 |
| DOL | DOL | ****4388 | LEN.J CONSTRUCTION, LLC | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |

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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 | 08/14/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 09/19/2017 | 09/19/2022 |
| DOL | DOL | | LEROY NELSON JR | | PO BOX 10007 ALBANY NY 12201 | 01/17/2017 | 09/19/2022 |
| DOL | AG | ****3291 | LINTECH ELECTRIC, INC. | | 3006 TILDEN AVE BROOKLYN NY 11226 | 02/16/2022 | 02/16/2027 |
| DOL | DA | ****4460 | LONG ISLAND GLASS & STOREFRONTS, LLC | | 4 MANHASSET TRL RIDGE NY 11961 | 09/06/2018 | 09/06/2023 |
| DOL | AG | ****4216 | LOTUS-C CORP. | | 81-06 34TH AVENUE APT. 6EJACKSON HEIGHTS NY 11372 | 02/07/2018 | 02/07/2023 |
| DOL | DOL | | LOUIS A. CALICCHIA | | 1223 PARK ST. PEEKSKILL NY 10566 | 05/17/2021 | 05/17/2026 |
| DOL | NYC | | LUBOMIR PETER SVOBODA | | 27 HOUSMAN AVE STATEN ISLAND NY 10303 | 12/26/2019 | 12/26/2024 |
| DOL | NYC | | M & L STEEL & ORNAMENTAL IRON CORP. | | 27 HOUSMAN AVE STATEN ISLAND NY 10303 | 12/26/2019 | 12/26/2024 |
| DOL | DOL | ****2196 | MAINSTREAM SPECIALTIES, INC. | | 11 OLD TOWN RD SELKIRK NY 12158 | 02/02/2021 | 02/02/2026 |
| DOL | DA | | MANUEL P TOBIO | | 150 KINGS STREET BROOKLYN NY 14444 | 08/19/1998 | 08/19/2998 |
| DOL | DA | | MANUEL TOBIO | | 150 KINGS STREET BROOKLYN NY 11231 | 08/19/1998 | 08/19/2998 |
| DOL | NYC | | MAREK FABIJANOWSKI | | 50 MAIN ST WHITE PLAINS NY 10606 | 01/04/2019 | 01/04/2024 |
| DOL | NYC | | MARIA NUBILE | | 84-22 GRAND AVENUE ELMHURST NY 11373 | 03/10/2020 | 03/10/2025 |
| DOL | DOL | | MASONRY CONSTRUCTION, INC. | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | ****3333 | MASONRY INDUSTRIES, INC. | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | NYC | | MATINA KARAGIANNIS | | 97-18 50TH AVE CORONA NY 11368 | 04/19/2018 | 04/19/2023 |
| DOL | DOL | | MATTHEW P. KILGORE | | 4156 WILSON ROAD EAST TABERG NY 13471 | 03/26/2019 | 03/26/2024 |
| DOL | DOL | | MAURICE GAWENO | | 442 ARMONK RD MOUNT KISCO NY 10549 | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | MICHAEL LENIHAN | | 1079 YONKERS AVE UNIT 4YONKERS NY 10704 | 08/07/2018 | 08/07/2023 |
| DOL | AG | | MICHAEL RIGLIETTI | | 31 BAY ST BROOKLYN NY 11231 | 03/28/2018 | 03/28/2023 |
| DOL | DOL | ****4829 | MILESTONE ENVIRONMENTAL CORPORATION | | 704 GINESI DRIVE SUITE 29MORGANVILLE NJ 07751 | 04/10/2019 | 04/10/2024 |
| DOL | NYC | ****9926 | MILLENNIUM FIRE PROTECTION, LLC | | 325 W. 38TH STREET SUITE 204NEW YORK NY 10018 | 11/14/2019 | 11/14/2024 |
| DOL | NYC | ****0627 | MILLENNIUM FIRE SERVICES, LLC | | 14 NEW DROP LNE 2ND FLOORSTATEN ISLAND NY 10306 | 11/14/2019 | 11/14/2024 |
| DOL | AG | | MSR ELECTRICAL CONSTRUCTION CORP. | | 31 BAY ST BROOKLYN NY 11231 | 03/28/2018 | 03/28/2023 |
| DOL | NYC | | MUHAMMED A. HASHEM | | 524 MCDONALD AVENUE BROOKLYN NY 11218 | 09/17/2020 | 09/17/2025 |
| DOL | NYC | | NAMOW, INC. | | 84-22 GRAND AVENUE ELMHURST NY 11373 | 03/10/2020 | 03/10/2025 |
| DOL | DA | ****9786 | NATIONAL INSULATION & GC CORP | | 180 MILLER PLACE HICKSVILLE NY 11801 | 12/12/2018 | 12/12/2023 |
| DOL | DOL | ****3684 | NATIONAL LAWN SPRINKLERS, INC. | | 645 N BROADWAY WHITE PLAINS NY 10603 | 05/14/2018 | 05/14/2023 |
| DOL | DOL | | NICHOLE E. FRASER A/K/A NICHOLE RACE | | 3469 STATE RT. 69 PERISH NY 13131 | 03/01/2022 | 03/01/2027 |
| DOL | DOL | | NICHOLE E. FRASER A/K/A NICHOLE RACE | | 3469 STATE RT. 69 PERISH NY 13131 | 09/29/2021 | 09/29/2026 |

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| DOL | DOL | | NICHOLE E. FRASER A/K/A NICHOLE RACE | | 3469 STATE RT. 69 PERISH NY 13131 | 02/09/2022 | 02/09/2027 |
| DOL | DOL | *****7429 | NICOLAE I. BARBIR | BESTUCCO CONSTRUCTION, INC. | 444 SCHANTZ ROAD ALLENTOWN PA 18104 | 09/17/2020 | 09/17/2025 |
| 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 | DOL | | PAULINE CHAHALES | | 935 S LAKE BLVD MAHOPAC NY 10541 | 03/02/2021 | 03/02/2026 |
| DOL | DOL | | PETER STEVENS | | 11 OLD TOWN ROAD SELKIRK NY 12158 | 02/02/2021 | 02/02/2026 |
| DOL | DOL | *****0466 | PRECISION BUILT FENCES, INC. | | 1617 MAIN ST PEEKSKILL NY 10566 | 03/03/2020 | 03/03/2025 |
| DOL | NYC | | RASHEL CONSTRUCTION CORP | | 524 MCDONALD AVENUE BROOKLYN NY 11218 | 09/17/2020 | 09/17/2025 |
| DOL | DOL | *****1068 | RATH MECHANICAL CONTRACTORS, INC. | | 24 ELDOR AVENUE NEW CITY NY 10956 | 02/03/2020 | 02/03/2025 |
| DOL | DOL | *****2633 | RAW POWER ELECTRIC CORP. | | 3 PARK CIRCLE MIDDLETOWN NY 10940 | 01/30/2018 | 01/30/2023 |
| DOL | DOL | *****2633 | RAW POWER ELECTRIC CORP. | | 3 PARK CIRCLE MIDDLETOWN NY 10940 | 07/11/2022 | 07/11/2027 |
| DOL | AG | *****7015 | RCM PAINTING INC. | | 69-06 GRAND AVENUE 2ND FLOORMASPETH NY 11378 | 02/07/2018 | 02/07/2023 |
| DOL | DA | *****7559 | REGAL CONTRACTING INC. | | 24 WOODBINE AVE NORTHPORT NY 11768 | 10/01/2020 | 10/01/2025 |
| DOL | DOL | | REGINALD WARREN | | 161 ROBYN RD MONROE NY 10950 | 01/30/2018 | 01/30/2023 |
| DOL | DOL | *****9148 | RICH T CONSTRUCTION | | 107 WILLOW WOOD LANE CAMILLUS NY 13031 | 11/13/2018 | 11/13/2023 |
| DOL | DOL | | RICHARD MACONE | | 8617 THIRD AVE BROOKLYN NY 11209 | 09/17/2018 | 09/17/2023 |
| DOL | DOL | | RICHARD REGGIO | | 1617 MAIN ST PEEKSKILL NY 10566 | 03/03/2020 | 03/03/2025 |
| DOL | DOL | *****9148 | RICHARD TIMIAN | RICH T CONSTRUCTION | 108 LAMONT AVE SYRACUSE NY 13209 | 10/16/2018 | 10/16/2023 |
| DOL | DOL | | RICHARD TIMIAN JR. | | 108 LAMONT AVE SYRACUSE NY 13209 | 10/16/2018 | 10/16/2023 |
| DOL | DOL | | RICHARD TIMIAN JR. | | 108 LAMONT AVE SYRACUSE NY 13209 | 11/13/2018 | 11/13/2023 |
| DOL | DOL | | ROBBYE BISSEAR | | 89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427 | 01/11/2003 | 01/11/3003 |
| DOL | DOL | | ROBERT A. VALERINO | | 3841 LANYARD COURT NEW PORT RICHEY FL 34652 | 07/09/2019 | 07/09/2024 |
| DOL | DOL | | ROBERT BRUNO | | 5 MORNINGSIDE DRIVE AUBURN NY 13021 | 05/28/2019 | 05/28/2024 |
| DOL | DOL | | RODERICK PUGH | | 404 OAK ST SUITE 101SYRACUSE NY 13203 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | *****4880 | RODERICK PUGH CONSTRUCTION INC. | | 404 OAK ST SUITE 101SYRACUSE NY 13203 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | | ROMEO WARREN | | 161 ROBYN RD MONROE NY 10950 | 01/30/2018 | 01/30/2023 |
| DOL | DOL | | ROMEO WARREN | | 161 ROBYN RD MONROE NY 10950 | 07/11/2022 | 07/11/2027 |
| DOL | DOL | | RONALD MESSEN | | 14B COMMERCIAL AVE ALBANY NY 12065 | 11/14/2019 | 11/14/2024 |
| DOL | DOL | | ROSEANNE CANTISANI | | | 06/12/2018 | 06/12/2023 |
| DOL | DOL | *****1365 | S & L PAINTING, INC. | | 11 MOUNTAIN ROAD P.O BOX 408MONROE NY 10950 | 03/20/2019 | 03/20/2024 |
| DOL | DOL | *****7730 | S C MARTIN GROUP INC. | | 2404 DELAWARE AVE NIAGARA FALLS NY 14305 | 09/12/2018 | 09/12/2023 |
| DOL | DOL | | SAL FRESINA MASONRY CONTRACTORS, INC. | | 1935 TEALL AVENUE SYRACUSE NY 13206 | 07/16/2021 | 07/16/2026 |
| DOL | DOL | | SAL MASONRY CONTRACTORS, INC. | | (SEE COMMENTS) SYRACUSE NY 13202 | 07/16/2021 | 07/16/2026 |
| DOL | DOL | *****9874 | SALFREE ENTERPRISES INC | | P.O BOX 14 2821 GARDNER RD POMPEI NY 13138 | 07/16/2021 | 07/16/2026 |
| DOL | DOL | | SALVATORE A FRESINA A/K/A SAM FRESINA | | 107 FACTORY AVE P.O BOX 11070SYRACUSE NY | 07/16/2021 | 07/16/2026 |

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| DOL | DOL | | SAM FRESINA | | 107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13218 | 07/16/2021 | 07/16/2026 |
| DOL | NYC | *****0349 | SAM WATERPROOFING INC | | 168-42 88TH AVENUE APT.1 AJAMAICA NY 11432 | 11/20/2019 | 11/20/2024 |
| DOL | NYC | | SANDEEP BOPARAI | | 185-06 56TH AVE FRESH MEADOW NY 11365 | 10/17/2017 | 10/17/2022 |
| DOL | NYC | *****1130 | SCANA CONSTRUCTION CORP. | | 863 WASHINGTON STREET FRANKLIN SQUARE NY 11010 | 03/10/2020 | 03/10/2025 |
| DOL | DOL | *****2045 | SCOTT DUFFIE | DUFFIE'S ELECTRIC, INC. | P.O BOX 111 CORNWALL NY 12518 | 03/03/2020 | 03/03/2025 |
| DOL | DOL | | SCOTT DUFFIE | | P.O BOX 111 CORNWALL NY 12518 | 03/03/2020 | 03/03/2025 |
| DOL | NYC | *****6597 | SHAIRA CONSTRUCTION CORP. | | 421 HUDSON STREET SUITE C5NEW YORK NY 10014 | 02/20/2019 | 02/20/2024 |
| DOL | DOL | *****1961 | SHANE BURDICK | CENTRAL TRAFFIC CONTROL, LLC. | 2238 BAKER ROAD GILLETT PA 16923 | 03/12/2018 | 03/12/2023 |
| DOL | DOL | | SHANE BURDICK | | 2238 BAKER ROAD GILLETT PA 16923 | 03/12/2018 | 03/12/2023 |
| DOL | DOL | | SHANE NOLAN | | 9365 WASHINGTON ST LOCKPORT IL 60441 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | | SHULEM LOWINGER | | 11 MOUNTAIN ROAD 28 VAN BUREN DRMONROE NY 10950 | 03/20/2019 | 03/20/2024 |
| DOL | DOL | *****0816 | SOLAR ARRAY SOLUTIONS, LLC | | 9365 WASHINGTON ST LOCKPORT IL 60441 | 07/23/2018 | 07/23/2023 |
| DOL | DOL | *****0440 | SOLAR GUYS INC. | | 8970 MIKE GARCIA DR MANASSAS VA 20109 | 07/16/2021 | 07/16/2026 |
| DOL | NYC | | SOMATIE RAMSUNAHAI | | 115-46 132ND ST SOUTH OZONE PARK NY 11420 | 09/17/2020 | 09/17/2025 |
| DOL | DOL | *****2221 | SOUTH BUFFALO ELECTRIC, INC. | | 1250 BROADWAY ST BUFFALO NY 14212 | 02/03/2020 | 02/03/2025 |
| DOL | DOL | *****3661 | SPANIER BUILDING MAINTENANCE CORP | | 200 OAK DRIVE SYOSSET NY 11791 | 03/14/2022 | 03/14/2027 |
| DOL | DOL | | STANADOS KALOGELAS | | 485 RAFT AVENUE HOLBROOK NY 11741 | 10/19/2021 | 10/19/2026 |
| DOL | DOL | *****3496 | STAR INTERNATIONAL INC | | 89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427 | 08/11/2003 | 08/11/3003 |
| DOL | DOL | *****6844 | STEAM PLANT AND CHX SYSTEMS INC. | | 14B COMMERCIAL AVENUE ALBANY NY 12065 | 11/14/2019 | 11/14/2024 |
| DOL | DOL | *****9933 | STEED GENERAL CONTRACTORS, INC. | | 1445 COMMERCE AVE BRONX NY 10461 | 05/30/2019 | 05/30/2024 |
| DOL | DOL | *****9528 | STEEL-IT, LLC. | | 17613 SANTE FE LINE ROAD WAYNESFIELD OH 45896 | 07/16/2021 | 07/16/2026 |
| DOL | DOL | | STEFANOS PAPASTEFANOU, JR. A/K/A STEVE PAPASTEFANOU, JR. | | 256 WEST SADDLE RIVER RD UPPER SADDLE RIVER NJ 07458 | 05/30/2019 | 05/30/2024 |
| DOL | DOL | | STEVE TATE | | 415 FLAGER AVE #302STUART FL 34994 | 10/31/2018 | 10/31/2023 |
| DOL | DOL | | STEVEN MARTIN | | 2404 DELWARE AVE NIAGARA FALLS NY 14305 | 09/12/2018 | 09/12/2023 |
| DOL | DOL | *****3800 | SUBURBAN RESTORATION CO. INC. | | 5-10 BANTA PLACE FAIR LAWN PLACE NJ 07410 | 03/29/2021 | 03/29/2026 |
| DOL | NYC | *****5863 | SUKHMANY CONSTRUCTION, INC. | | 185-06 56TH AVE FRESH MEADOW NY 11365 | 10/17/2017 | 10/17/2022 |
| DOL | DOL | *****1060 | SUNN ENTERPRISES GROUP, LLC | | 370 W. PLEASANTVIEW AVE SUITE 2.329HACKENSACK NJ 07601 | 02/11/2019 | 02/11/2024 |
| DOL | DOL | *****8209 | SYRACUSE SCALES, INC. | | 158 SOLAR ST SYRACUSE NY 13204 | 01/07/2019 | 01/07/2024 |
| DOL | DOL | | TALAILA OCAMPA | | 1207 SW 48TH TERRACE DEERFIELD BEACH FL 33442 | 01/16/2018 | 01/16/2023 |
| DOL | DOL | | TERRY THOMPSON | | 11371 RIDGE RD WOLCOTT NY 14590 | 02/03/2020 | 02/03/2025 |
| DOL | DOL | *****9733 | TERSAL CONSTRUCTION SERVICES INC | | 107 FACTORY AVE P.O BOX 11070SYRACUSE NY 13208 | 07/16/2021 | 07/16/2026 |
| DOL | DOL | | TERSAL CONTRACTORS, INC. | | 221 GARDNER RD P.O BOX 14POMPEI NY 13138 | 07/16/2021 | 07/16/2026 |
| DOL | DOL | | TERSAL DEVELOPMENT CORP. | | 1935 TEALL AVENUE SYRACUSE NY 13206 | 07/16/2021 | 07/16/2026 |

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| DOL | DOL | | TEST | | P.O BOX 123 ALBANY NY 12204 | 05/20/2020 | 05/20/2025 |
| DOL | DOL | *****6789 | TEST1000 | | P.O BOX 123 ALBANY NY 12044 | 03/01/2021 | 03/01/2026 |
| DOL | DOL | *****5766 | THE COKER CORPORATION | COKER CORPORATIO N | 2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205 | 12/04/2018 | 12/04/2023 |
| DOL | DOL | *****5766 | THE COKER CORPORATION | COKER CORPORATIO N | 2610 SOUTH SALINA ST SUITE 14SYRACUSE NY 13205 | 09/17/2020 | 09/17/2025 |
| DOL | DA | *****4106 | TRIPLE H CONCRETE CORP | | 2375 RAYNOR STREET RONKONKOMA NY 11779 | 08/04/2021 | 08/04/2026 |
| DOL | DOL | *****6392 | V.M.K CORP. | | 8617 THIRD AVE BROOKLYN NY 11209 | 09/17/2018 | 09/17/2023 |
| DOL | DOL | *****6418 | VALHALLA CONSTRUCTION, LLC. | | 796 PHELEPS ROAD FRANKLIN LAKES NJ 07417 | 12/01/2020 | 12/01/2025 |
| DOL | NYC | *****2426 | VICKRAM MANGRU | VICK CONSTRUCTI ON | 21 DAREWOOD LANE VALLEY STREAM NY 11581 | 09/17/2020 | 09/17/2025 |
| DOL | NYC | | VICKRAM MANGRU | | 21 DAREWOOD LANE VALLEY STREAM NY 11581 | 09/17/2020 | 09/17/2025 |
| DOL | DOL | | VICTOR ALICANTI | | 42-32 235TH ST DOUGLASTON NY 11363 | 01/14/2019 | 01/14/2024 |
| DOL | NYC | | VIKTAR PATONICH | | 2630 CROPSEY AVE BROOKLYN NY 11214 | 10/30/2018 | 10/30/2023 |
| DOL | DOL | | VIKTORIA RATH | | 24 ELDOR AVENUE NEW CITY NY 10956 | 02/03/2020 | 02/03/2025 |
| DOL | NYC | | VITO GARGANO | | 1535 RICHMOND AVE STATEN ISLAND NY 10314 | 12/13/2017 | 12/13/2022 |
| DOL | NYC | *****3673 | WALTERS AND WALTERS, INC. | | 465 EAST AND THIRD ST MT. VERNON NY 10550 | 09/09/2019 | 09/09/2024 |
| DOL | DOL | *****3296 | WESTERN NEW YORK CONTRACTORS, INC. | | 3841 LAYNARD COURT NEW PORT RICHEY FL 34652 | 07/09/2019 | 07/09/2024 |
| DOL | DOL | | WHITE PLAINS CARPENTRY CORP | | 442 ARMONK RD | 06/12/2018 | 06/12/2023 |
| DOL | DOL | | WILLIAM G. PROERFRIEDT | | 85 SPRUCEWOOD ROAD WEST BABYLON NY 11704 | 01/19/2021 | 01/19/2026 |
| DOL | DOL | *****5924 | WILLIAM G. PROPHY, LLC | WGP CONTRACTIN G, INC. | 54 PENTAQUIT AVE BAYSHORE NY 11706 | 01/19/2021 | 01/19/2026 |
| DOL | DOL | *****4043 | WINDSHIELD INSTALLATION NETWORK, INC. | | 200 LATTA BROOK PARK HORSEHEADS NY 14845 | 03/08/2018 | 03/08/2023 |
| DOL | DOL | *****4730 | XGD SYSTEMS, LLC | TDI GOLF | 415 GLAGE AVE #302STUART FL 34994 | 10/31/2018 | 10/31/2023 |
| DOL | NYC | | ZAKIR NASEEM | | 30 MEADOW ST BROOKLYN NY 11206 | 10/10/2017 | 10/10/2022 |
| DOL | NYC | *****8277 | ZHN CONTRACTING CORP | | 30 MEADOW ST BROOKLYN NY 11206 | 10/10/2017 | 10/10/2022 |



George Latimer, Westchester County Executive

FEDERAL DAVIS-BACON WAGE RATES

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION

Division of Engineering

"General Decision Number: NY20220017 07/08/2022

Superseded General Decision Number: NY20210017

State: New York

Construction Types: Building, Heavy, Highway and Residential

County: Westchester County in New York.

BUILDING CONSTRUCTION PROJECTS, RESIDENTIAL CONSTRUCTION PROJECTS (consisting of single family homes and apartments up to and including 4 stories), AND HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

| | |
|---|---|
| If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022: | . Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2022. |
| If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022: | . Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022. |

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <https://www.dol.gov/agencies/whd/government-contracts>.

| Modification Number | Publication Date |
|---------------------|------------------|
| 0 | 01/07/2022 |
| 1 | 02/25/2022 |
| 2 | 03/25/2022 |
| 3 | 05/13/2022 |
| 4 | 05/20/2022 |
| 5 | 06/24/2022 |
| 6 | 07/08/2022 |

ASBE0091-003 05/31/2021

| | Rates | Fringes |
|--|----------|---------|
| HAZARDOUS MATERIAL HANDLER (Duties limited to preparation, wetting, stripping, removal, scraping, vacuuming, bagging and disposing of all insulation materials whether they contain asbestos or not from mechanical systems)..... | \$ 44.12 | 43.35 |
| Insulator/asbestos worker (Includes application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems)..... | \$ 44.12 | 43.35 |

BOIL0005-001 01/01/2021

| | Rates | Fringes |
|------------------|----------|-------------|
| BOILERMAKER..... | \$ 63.38 | 33%+47.22+a |

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Thanksgiving Day, Memorial Day, Independence Day, Labor Day and Good Friday, Friday after Thanksgiving, Christmas Eve Day and New Year's Eve

BRNY0001-003 06/01/2018

| | Rates | Fringes |
|-----------------------------------|----------|---------|
| Pointer, cleaner and caulker..... | \$ 41.96 | 33.38 |

BRNY0004-001 07/05/2021

| | Rates | Fringes |
|-------------------|----------|---------|
| MARBLE MASON..... | \$ 61.73 | 37.91 |

BRNY0005-006 06/01/2021

HEAVY & HIGHWAY CONSTRUCTION

| | Rates | Fringes |
|---|----------|---------|
| BRICKLAYER Bricklayers, Stone Masons, Cement Masons, Plasterers, Pointers, Caulkers and Cleaner..... | \$ 43.85 | 36.55 |

BRNY0005-007 06/01/2019

BUILDING/RESIDENTIAL CONSTRUCTION

| | Rates | Fringes |
|--|----------|---------|
| Bricklayer, Cement Mason, Plasterer & Stonemason..... | \$ 42.09 | 34.50 |

BRNY0007-001 07/01/2021

| | Rates | Fringes |
|-----------------------------|----------|---------|
| TERRAZZO FINISHER..... | \$ 55.21 | 36.97 |
| TERRAZZO WORKER/SETTER..... | \$ 58.46 | 38.09 |

BRNY0007-002 12/06/2021

| | Rates | Fringes |
|--------------------|----------|---------|
| TILE FINISHER..... | \$ 47.56 | 32.71 |

BRNY0020-001 01/04/2021

| | Rates | Fringes |
|----------------------|----------|---------|
| MARBLE FINISHER..... | \$ 48.27 | 35.40 |

BRNY0024-001 01/01/2021

| | Rates | Fringes |
|-------------------------------------|----------|---------|
| BRICKLAYER MARBLE POLISHERS..... | \$ 45.37 | 28.80 |

BRNY0052-001 12/06/2021

| | Rates | Fringes |
|-----------------|----------|---------|
| Tile Layer..... | \$ 61.84 | 36.04 |

* CARP0279-001 07/01/2022

| | Rates | Fringes |
|----------------------|----------|---------|
| Carpenters: | | |
| Building..... | \$ 45.60 | 32.35 |
| Heavy & Highway..... | \$ 45.60 | 32.35 |
| Residential..... | \$ 29.66 | 21.11 |

CARP0740-001 07/01/2021

| | Rates | Fringes |
|-----------------|----------|---------|
| MILLWRIGHT..... | \$ 57.00 | 54.06 |

CARP1556-007 07/01/2021

| | Rates | Fringes |
|-------------------|----------|---------|
| Diver Tender..... | \$ 51.34 | 52.79 |
| Diver..... | \$ 71.80 | 52.79 |

CARP1556-009 07/01/2021

| | Rates | Fringes |
|-----------------------------------|----------|---------|
| Dock Builder & Piledrivermen..... | \$ 56.93 | 52.79 |
| ----- | | |
| CARP1556-011 07/01/2021 | | |

| | Rates | Fringes |
|-------------------------|----------|---------|
| Carpenters: | | |
| TIMBERMEN..... | \$ 52.05 | 52.24 |
| ----- | | |
| CARP2287-001 07/01/2021 | | |

| | Rates | Fringes |
|-------------------------|----------|---------|
| Carpenters: | | |
| Soft Floor Layers..... | \$ 54.75 | 46.43 |
| ----- | | |
| ELEC0003-003 04/21/2021 | | |

| | Rates | Fringes |
|---|----------|--------------|
| ELECTRICIAN (Teledata Technician)..... | \$ 53.75 | 69.29%+14.50 |

a. \$2.00 per hour not to exceed \$14.00 per day.

ELEC1249-001 05/02/2022

| | Rates | Fringes |
|--|----------|----------|
| ELECTRICIAN (LIGHTING AND TRAFFIC SIGNAL WORK Including any and all Fiber Optic Cable necessary for Traffic Signal Systems, Traffic monitoring systems and Road Weather Information systems) | | |
| Flagman..... | \$ 28.91 | 7%+34.90 |
| Ground Digging Machine Operator..... | \$ 43.37 | 7%+34.90 |
| Ground Truck Driver..... | \$ 38.55 | 7%+34.90 |
| Tractor, Trailer Unit..... | \$ 40.96 | 7%+34.90 |
| Lineman & Technician..... | \$ 48.19 | 7%+36.90 |
| Mechanic..... | \$ 38.55 | 7%+34.90 |

FOOTNOTE:

a. PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, President's Day, Good Friday, Decoration Day, Election Day for the President of the Untied States and Election Day for the Governor of the State of New York provided the employee works two days before and two days after the holiday

ELEC1249-006 05/03/2021

| | Rates | Fringes |
|--|-------|---------|
| ELECTRICIAN (LINE CONSTRUCTION) | | |
| Substation and switching structures pipetype cable, | | |

underground fuil and gas
 filled transmission
 conduit and cable
 installation, fiber optic
 ground wire, fiber optic
 shield wire or any other
 like product having ground
 protection or fiber optic
 capabilities, maintenance
 jobs or projects; rail-
 road catenary installation
 and maintenance bonding of
 rails; Overhead &
 underground distribution
 work & Maintenance;
 Overhead and under- ground
 transmission line work:

| | | |
|---|----------|----------|
| Cable Splicer..... | \$ 63.48 | 7%+35.40 |
| Flagman..... | \$ 34.63 | 7%+34.40 |
| Groundman digging machine operator..... | \$ 51.94 | 7%+34.40 |
| Groundman truck driver (tractor trailer unit)..... | \$ 49.05 | 7%+34.40 |
| Groundman truck driver;.... | \$ 46.17 | 7%+34.40 |
| Lineman & Technician..... | \$ 57.71 | 7%+35.40 |
| Mechanic..... | \$ 46.17 | 7%+34.40 |

PAID HOLIDAYS:

a. New Year's Day, President's Day, Memorial Day, Good Friday, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, and Election Day for the President of the United States and Election Day for the Governor of New York State, provided the employee works two days before or two days after the holiday.

 ELEC1249-009 01/01/2021

| | Rates | Fringes |
|---|----------|---------|
| ELECTRICIAN (LINE CONSTRUCTION) TELEPHONE, CATV FIBEROPTICS CABLE AND EQUIPMENT | | |
| Cable Splicer..... | \$ 34.78 | 3%+5.14 |
| Groundman..... | \$ 17.50 | 3%+5.14 |
| Installer Repairman- Teledata Lineman/Technician- Equipment Operator..... | \$ 33.01 | 3%+5.14 |

 ELEV0001-002 03/17/2022

| | Rates | Fringes |
|------------------------------|----------|------------|
| ELEVATOR MECHANIC | | |
| Elevator Constructor..... | \$ 75.14 | 47.446+a+b |
| Modernization and Repair.... | \$ 59.09 | 45.564+a+b |

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day, Good Friday, President's Day, Memorial Day, Independence Day, Labor Day, Columbus

Day, Veteran's Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

b. PAID VACATION: An employee who has worked less than 5 years shall receive vacation pay credit on the basis of 4% of his hourly rate for all hours worked; an employee who has worked 5 to 15 years shall receive vacation pay credit on the basis of 6% of his hourly rate for all hours worked; an employee who has worked 15 or more years shall receive vacation pay credit on the basis of 8% of his hourly rate for all hours worked.

 ELEV0138-003 01/01/2022

WESTCHESTER COUNTY (Towns of Bedford, Cortland, Lewisboro, Mt. Kisco, North Salem, Pound Ridge, Somers, and Yorktown)

| | Rates | Fringes |
|------------------------|----------|------------|
| ELEVATOR MECHANIC..... | \$ 64.63 | 36.885+a+b |

FOOTNOTE:

- a. Vacation: 6%/under 5 years based on regular hourly rate for all hours worked. 8%/over 5 years based on regular hourly rate for all hours worked.
- b. PAID HOLIDAYS: New Year's Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

 ENGI0137-005 03/06/2017

BUILDING & RESIDENTIAL CONSTRUCTION

| | Rates | Fringes |
|----------------------------|----------|---------|
| Power equipment operators: | | |
| GROUP 1-A..... | \$ 53.95 | 28.52+a |
| GROUP 1-B..... | \$ 49.68 | 28.52+a |
| GROUP 2-A..... | \$ 52.03 | 28.52+a |
| GROUP 3-A..... | \$ 50.11 | 28.52+a |
| GROUP 3-B..... | \$ 47.67 | 28.52+a |
| GROUP 4-A..... | \$ 49.60 | 28.52+a |
| GROUP 4-B..... | \$ 41.85 | 28.52+a |
| GROUP 5..... | \$ 45.17 | 28.52+a |
| GROUP 5-A..... | \$ 56.63 | 28.52+a |
| GROUP 5-B..... | \$ 42.83 | 28.52+a |
| GROUP 6..... | \$ 44.92 | 28.52+a |

- NOTES: Hazmat: 20% above regular rate
 Pumping operation Premium .50
- Crane Operators (100-149 ft) 2.00
- Crane Operators (149 ft +) 3.00
- Loader Operators (over 5 cu y) .50
 Shovel Operators (over 4 cu yd) 1.00

FOOTNOTE:

- a. New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day, plus Lincoln's Birthday, Washington's Birthday, Good Friday, Columbus Day, November

Election Day, Veteran's Day.

POWER EQUIPMENT OPERATORS CLASSIFICATION

GROUP 1-A: Carrier- trailer horse; concret-portable hoist; crane & hoist engineer-steel (concrete, material, super structure sub- structure); derrick (stone-steel); elevator & cage; hoist- single/double or triple drum; hoist-portable mobile unit; hoist engineer-concert (crane-derrick-mine hoist); hoist engineer- material; overhead crane; power house plant; telephies (cableway); whirly; maintenance engineer; Lull hilitft or similar; hydraulic crane 25 ton and over; cherry picker 25 tons and over; backhoe Oliver 88; fordson; dynahoe; dual purpose and similar machines; Barber Green Loader-euclid loader or similar type; conway or similar mucking macking machines; dragline; gradall; shovel; backhoe etc. (crawler or truck); front end loaders; hydraulic boom; jersey spreader; lift slab console; letournequ or tounapull (scrapers over 20 yds struck); mucking machines; pavement breaker (air ram); paver (concrete); road boring machine; road mix machines; ross carrier and similar machines; post hole digger; shovel (tunnels); side boom; spreader (asphalt); scoopmobile-tractor-shovel over 1 1/2 yds. trenching machines vermeer concrete saw trencher and similar; tractor type demolition equipment; winch truck (a frame); hydraulic crane over 10 ton up to 25 ton); cherry picker over 10 ton up to 25 ton)

GROUP 1-B: Compressor (steel erection); pulse meter and push button buzz box; elevator; mechanic (outside) all types; welder; scrapers 20 yds struck and under; machine pulling sheep's foot roller; vibratory rollers; roller 4 tons and over.

GROUP 2-A: Compactor self-propelled; grader; bulldoze D7 and similar tractors with a draw bar horsepower of 100 or over; bulldozer D6 and under; welder; scraper 20 yds struck and under; machine pulling sheep's foot roller; vibratory rollers.

GROUP 3-A: Asphalt plant; boiler (high pressure); concrete mixing plants; concrete pump; firemen; forklift; forklift (electric); joy drill or similar tractor drilling machine; loader - 1 1/2 yards and under; locomotive (all sizes); mixer concrete - 21E and over; portable asphalt plant; portable batch plant; portable crusher; quarry master; stone crusher; well drilling machine and well point system; cherry picker under 10 tons; hydraulic crane under 10 tons; concert buffy; one yard an up ride on dumper (benford or similar).

GROUP 3-B: Compressor over 125 cu. feet; conveyor belt machine regardless of size; lighting unit (portable & generator); welding machine (steel erection and excavation); and compressor plant; stud machine; ladder hoist.

GROUP 4-A: Air tractor drill; batch plant; bending machine; concrete breaker; concrete spreader; curb cutter machine; farm tractor (all types); finishing machine-concrete; hepavac clean air machine (all similar types: removal of asbestos etc.); material hopper-sand-stone-cement; mixer-concrete-under 21E; mulching grass spreader; pump-gypsum, etc., pump-plaster-grout -fireproofing; shop

mechanic (not employed on job site); roller under 4 ton; spreading and fine grading machine; steel cutting machine; syphon pump-air-steam; tar joint machine; turbo jet burner or similar equipment; vibrator (1 to 5); fine grading machine; roof hoist (tugger hoist); television cameras-water- sewer-gas-etc.

GROUP 4-B: Compressor to 125 feet; dust; dust collector; heater all types; pump; pump station (water and sewer); steam jenny; sweeper; chipper; mulcher.

GROUP 5: Motorized roller (walk behind)

GROUP 5-A: Master Mechanic

GROUP 5-B: Utility Man

GROUP 6: Warehouse Man

 ENGI0137-006 03/06/2017

HEAVY & HIGHWAY

| | Rates | Fringes |
|----------------------------|----------|---------|
| Power equipment operators: | | |
| GROUP 1..... | \$ 58.54 | 28.15+a |
| GROUP 1-A..... | \$ 51.68 | 28.15+a |
| GROUP 1-B..... | \$ 54.42 | 28.15+a |
| GROUP 2-A..... | \$ 49.52 | 28.15+a |
| GROUP 2-B..... | \$ 51.05 | 28.15+a |
| GROUP 3..... | \$ 48.67 | 28.15+a |
| GROUP 4-A..... | \$ 44.29 | 28.15+a |
| GROUP 4-B..... | \$ 38.13 | 28.15+a |
| GROUP 5..... | \$ 54.69 | 28.15+a |
| GROUP 5-A-1..... | \$ 54.69 | 28.15+a |
| GROUP 5-A-2..... | \$ 66.22 | 28.15+a |
| GROUP 5-A-3..... | \$ 63.97 | 28.15+a |
| GROUP 5-A-4..... | \$ 60.03 | 28.15+a |
| GROUP 5-A-5..... | \$ 50.65 | 28.15+a |

POWER EQUIPMENT OPERATORS CLASSIFICATIONS (HEAVY & HIGHWAY)

GROUP 1: Boom Truck; Cherry Picker; Clamshell; Crane, (Crawler, Truck); Dragline; Rough Terrain Crane

GROUP 1-A: Auger; Auto Grader; Dynahoe and Dual purpose and similar machines; Boat Captain; Boring Machine (all types); Bull Dozer-all sizes; Central Mix Plant Operator; Chipper-all types; Close circuit t.v.; Compactor with Blade; Concrete Portable Hoist; C.M.I. or similar; Conway or similar mucking machines; Gradall, Shovel Backhoe, etc. Grader; Derrick, (Stone- Steel; Elevator & cage, materials or passengers; Front end loaders over 1 1/2 yds.; Hoist Single, Double, Triple Drum, Hoist Portable Mobile Unit; Hoist Engineer-Concrete (Crane-Derrick-Mine Hoist); Hoist Engineer-Material, Hydraulic Boom; Letourneau or Tournapull (Scrapers over 20 yds. struck); Log Skidder; Movable Concrete Barrier Transfer & Transport Vehicle; mucking machines; overhead crane; paver (concrete); pulsemeter; push button (buzz box) elevator; road mix machines; Robot Hammer (brock or similar), Ross carrier and similar machines; shovels (tunnels); side boom; Slip Form Machine; spreader (asphalt); scoopmobile-tractor-shovel over 1 1/2

yards; trenching machines; telephies- vermeer concrete saw
trencher and/or similar; tractor-type demolition equipment,
Whirly

GROUP 1-B: Road Paver, Asphalt

GROUP 2-A: Ballast Regulators; Compactor self-propelled; Cow
Tracks; Fusion Machine; Rail Anchor Machines; Roller 4 ton
and over; Scrapers - 20 yards struck; Switch Tamperers;
Vibratory roller, etc.

GROUP 2-B: Mechanic (outside) all types

GROUP 3-A: Air tractor drill; asphalt plant; batch plant;
boiler (high pressure; concrete breaker; concrete pump
concrete spreader; curb cutter machine; farm tractor (all
types); finishing machine (concrete); fine grading machine;
fireman; forklift; forklift (electric); joy drill or
similar tractor drilling machine; loader - 1 1/2 yards and
under; locomotive (all sizes), maintenance engineer;
machine pulling sheeps foot roller; material hopper; mixer
concrete - 21-E and over; mulching grass spreader; portable
asphalt plant, portable batch plant, portable crusher;
powerhouse plant; quarry master; roller under 4 ton;
spreading and fine grading machine; steel cutting machine;
stone crusher; sweeper; turbojet burner or similar; well
drilling machine ; winch truck ""A"" frame. John Henry Drill
or similar.

GROUP 4-A: Service men (fuel or grease truck).

GROUP 4-B: Oiler; Compressor - compressor plant; paint
compressor-steel erection; conveyor belt machine; lighting
unit (portable & generator); oiler; pumps - pump
station-water-sewer- gypsum- plaster, etc.;
roller-motorized (walk-behind); welding machine (steel
erection excavation); well point system; bending machine;
dust collector; mixer - concrete under 21-E; heater all
types; steam jenny; syphon pump-air-steam; tar joint
machine; vibrator (1 to 5); Compressor Truck Mounted (2-6)

GROUP 5: Oiler

GROUP 5-A-1: Master Mechanic

GROUP 5-A-2: Engineer - all tower cranes, all climbing
cranes and all cranes of 100 ton capacity or greater (3900
Manitowac or similar) irrespective of manufacturer and
regardless of how the same is rigged (except for pile rigs).

GROUP 5-A-3: Engineer-- Pile Driver

GROUP 5-A-4: Hoist Engineer- Steel -Sub Structure

GROUP 5-A-5: Jersey-spreader, pavement breaker (air ram);
Post Hole Digger

NOTES:

| | |
|----------------------------------|------|
| Loader Operator (over 5 cu yds) | .50 |
| Shoval Operators (over 4 cu yd) | 1.00 |
| Hazmat premium over regular rate | 20% |

CRANES:

100 ft- 149 ft: receive \$2.00 more than Group 1 rate
149 ft and over receive \$3.00 more than Group 1 rate

FOOTNOTE:

a. PAID HOLIDAYS: New Year's Day; Lincoln's Birthday; Good Friday; Memorial Day; Independence Day; Labor Day; Veterans Day; Columbus Day; November Election Day; Thanksgiving Day; and Christmas Day

 IRON0040-001 07/01/2021

WESTCHESTER COUNTY

| | Rates | Fringes |
|-----------------------------|----------|---------|
| IRONWORKER, STRUCTURAL..... | \$ 54.20 | 82.24 |

 IRON0046-003 07/01/2021

| | Rates | Fringes |
|--|----------|---------|
| IRONWORKER METALLIC LATHERS AND REINFORCING IRONWORKERS..... | \$ 56.90 | 26.30 |

 IRON0197-001 07/01/2021

| | Rates | Fringes |
|-------------------------------------|----------|---------|
| IRONWORKER STONE DERRICKMAN..... | \$ 55.63 | 55.10 |

 * IRON0580-001 07/01/2022

| | Rates | Fringes |
|-----------------------------|----------|---------|
| IRONWORKER, ORNAMENTAL..... | \$ 46.65 | 61.62 |

 LAB00060-002 03/27/2022

HEAVY/HIGHWAY

| | Rates | Fringes |
|---------------------------------|----------|---------|
| Laborers: | | |
| GROUP 1..... | \$ 47.13 | 27.22 |
| GROUP 2..... | \$ 45.78 | 27.22 |
| GROUP 3..... | \$ 45.38 | 27.22 |
| GROUP 4..... | \$ 45.03 | 27.22 |
| GROUP 5..... | \$ 44.68 | 27.22 |
| GROUP 6..... | \$ 38.33 | 27.22 |
| GROUP 7..... | \$ 46.68 | 27.22 |
| SHAFT AND TUNNEL IN FREE AIR | | |
| GROUP 1..... | \$ 52.05 | 33.10+a |
| GROUP 2..... | \$ 54.20 | 33.10+a |
| GROUP 4..... | \$ 60.60 | 33.10+a |

LABORERS CLASSIFICATIONS (HEAVY/HIGHWAY):

GROUP 1: Blasters.

GROUP 2: Burner, Jumbo Driller, Joy Driller, Wagon Driller, Air Track Driller, Hydraulic Driller, Concrete Form Aligner, Concrete Form and Curb Form Highway (Steel), Asphalt Screedman, Asphalt Raker.

GROUP 3: Asphalt Curb Machine Operator, Jeeper Operator, Pavement Breaker Operator, Power Saw Operator, Jack Hammer

Driller. All types of pneumatic tools gasoline driller, concrete saw, gunniting, railroad spike puller and sandblasting, pipe layer, deck winches on scows, power buggy operator, power wheelbarrow operator.

GROUP 4: General concrete laborers-anything pertaining to concrete, aggregate or concrete material handling, puddlers, asphalt worker, rock scalers, vibrator operator, bit grinder, concrete grinder, air tampers and all tampers not covered by any other classification, form pin puller, pumps and their operation, service of air power, epoxy and waterproofing worker, fine grade person between forms, barco rammer, guard and guide rail and link fence, steel kings.

GROUP 5: Common laborers, signal person and pit person , truck spotters, powder person, landscape and nursery person, dump person.

GROUP 6: Flagperson

GROUP 7: Asbestos and Toxic Waste laborer

SHAFT AND TUNNEL IN FREE AIR CLASSIFICATIONS

GROUP 1: Outside laborers

GROUP 2: Blaster, Concrete and form setters, drill runners, air tuggers, chippers, pneumatic tools, and source of airpower, pumps and their operations, vibrator operators, Puddlers, Chuck tenders, nippers, concrete laborers tunnel sewer and water pipeliners, boring, Laborers, Powder carriers, signalmen, and Brakemen

GROUP 4: Miners

FOOTNOTE: a. PAID HOLIDAYS: New Year's Day, Lincoln's Birthday, Washington's Birthday, Good Friday, Memorial Day, Independence Day, Labor Day, Columbus Day, November Election Day, Veterans' Day, Thanksgiving Day and Christmas Day.

LAB00235-001 05/01/2016

BUILDING

| | Rates | Fringes |
|--------------|----------|---------|
| LABORER..... | \$ 33.30 | 26.25 |

LAB00235-002 05/01/2016

RESIDENTIAL

| | Rates | Fringes |
|--------------|----------|---------|
| LABORER..... | \$ 26.80 | 19.55 |

PAIN0009-003 05/01/2022

| | Rates | Fringes |
|--|----------|---------|
| PAINTER | | |
| GLAZIERS..... | \$ 46.55 | 49.47 |
| Painters, Paperhanger, Drywall Finishers & Lead | | |
| Abatement Worker..... | \$ 43.00 | 38.11 |
| Spray, Scaffold, Sandblasting..... | \$ 46.00 | 38.11 |

PAIN0806-001 10/01/2021

| | Rates | Fringes |
|------------------------------|----------|---------|
| Painters: | | |
| Structural Steel and Bridge. | \$ 53.00 | 51.23 |
| ----- | | |
| PLUM0021-003 05/01/2021 | | |

| | Rates | Fringes |
|-------------------------|----------|---------|
| Plumber and Steamfitter | | |
| Zone 1..... | \$ 59.01 | 39.26 |
| ----- | | |
| ROOF0008-003 05/01/2022 | | |

| | Rates | Fringes |
|-------------------------|----------|---------|
| ROOFER..... | \$ 45.25 | 37.62 |
| ----- | | |
| SFNY0669-002 04/01/2022 | | |

| | Rates | Fringes |
|-------------------------|----------|---------|
| SPRINKLER FITTER..... | \$ 48.98 | 29.13 |
| ----- | | |
| SHEE0038-001 07/01/2021 | | |

| | Rates | Fringes |
|-------------------------|----------|---------|
| Sheet metal worker..... | \$ 47.52 | 44.20 |
| ----- | | |
| TEAM0456-001 07/01/2018 | | |

HEAVY & HIGHWAY CONSTRUCTION

| | Rates | Fringes |
|----------------|----------|---------|
| Truck drivers: | | |
| GROUP 1..... | \$ 43.47 | 29.17+a |
| GROUP 2..... | \$ 40.72 | 29.17+a |
| GROUP 3..... | \$ 41.17 | 29.17+a |
| GROUP 4..... | \$ 41.34 | 29.17+a |
| GROUP 5..... | \$ 40.72 | 29.17+a |
| GROUP 6..... | \$ 41.47 | 29.17+a |
| GROUP 7..... | \$ 42.22 | 29.17+a |
| GROUP 8..... | \$ 42.59 | 29.17+a |
| GROUP 9..... | \$ 42.09 | 29.17+a |
| GROUP 10..... | \$ 42.72 | 29.17+a |
| GROUP 11..... | \$ 42.47 | 29.17+a |

Hazardous/Toxic Waste - An additional 20% of the basic hourly wage rate set forth in this wage determination.

CLASSIFICATION DESCRIPTIONS

- GROUP 1: Lowboy (carrying equipment)
- GROUP 2: Straight jobs: 6-Wheeler, 10-Wheeler, A-Frame Trucks (inside cab), Winch Truck (inside cab), Dynamite Truck, Seeding Truck, Mulching Truck, Agitator Truck, Water Truck, Cement Trucks (all types), Suburbans, Station Wagons, Cars, Pickups.
- GROUP 3: Fuel and tire trucks.
- GROUP 4: Tractor trailers (all types)
- GROUP 5: 14 Wheeler
- GROUP 6: Athey wagon, Belly dumps, Articulated Dumps,

Trailer wagons.

GROUP 7: Darts.

GROUP 8: RXS

GROUP 9: Off Road Equipment (Under 40 Tons): Euclid

GROUP 10: Off Road Equipment (Over 40 Tons) Euclid, DJB

GROUP 11: Off Road Equipment (Under 40 Tons) DJB

a. PAID HOLIDAYS: New Year's Day, Lincoln's Birthday, President's Day, Decoration Day, Independence Day, Labor Day, November Election Day, Thanksgiving Day, Day after Thanksgiving and Christmas Day, provided employee works two or more days in the calendar week in which the holiday falls.

PAID VACATION: 4 weeks paid vacation after 20 years of service and 30 days of employment in current contract year; 3 weeks after 10 years of seniority service; 3 weeks after 10 years and 60 days of employment in contract year, 3 weeks and 1 day after 16 years of seniority service, 3 weeks and 2 days after 17 years of seniority service; 3 weeks and 3 days after 18 years of seniority service; 3 weeks and 4 days after 19 years of seniority service; The third week and every additional day shall be granted to employee in the calendar year in which he completes his tenth or other years of seniority service; 2 weeks after 130 days of employment in the calendar year; 2 weeks after 5 years and 90 days seniority service in calander year; 1 week and 1 additional day for each additional 18 days of employment not exceeding 10 days in any one calander year after 90 days of employment. Casual employees 1 day for every 18 days of employment. An employee who does not qualify for vacation shall be paid pro rata on a daily basis. Holiday shall be counted as days worked for vacation benefits.

LEGAL SERVICES FUND: Employer shall contribute \$.20 to the fund on the same basis for all hours paid to employees in the form of holiday pay or vacation pay. In addition to the benefits paid for Health-Welfare and Pension for up to 40 hours worked an additional \$.25 is paid for each hour worked. The employer shall grant 3 calendar days off without loss of pay to an employee who has death in his/her immediate family, inclusive of the day of the funeral.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic

violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

PROJECT LABOR AGREEMENT (PLA)

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
Division of Engineering

PROJECT LABOR AGREEMENT
(Contract No. *{Insert Contract Number}*)

COVERING

CONSTRUCTION PERFORMED

ON BEHALF OF

WESTCHESTER COUNTY, NEW YORK

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**PROJECT LABOR AGREEMENT
COVERING CONSTRUCTION WORK PERFORMED
ON BEHALF OF WESTCHESTER COUNTY, NEW YORK**

ARTICLE 1 - PREAMBLE

WHEREAS, *{Insert Name of Contractor}* (the “Contractor”) on behalf of itself, and reflecting the objectives of the owner, **Westchester County, New York** (the “County”), desires to provide for the efficient, safe, quality, and timely completion of the following construction project: *{Insert Contract Title}* (the “Project”) in a manner designed to afford the lowest reasonable costs to the County and the public it represents, and the advancement of public policy objectives;

WHEREAS, this Project Labor Agreement will foster the achievement of these goals, inter alia, by:

1. avoiding the costly delays of potential strikes, slowdowns, walkouts, picketing and other disruptions arising from work disputes and promote labor harmony and peace for the duration of the Project;
2. standardizing the terms and conditions governing the employment of labor on the Project;
3. permitting wide flexibility in work scheduling and shift hours and times;
4. receiving negotiated adjustments to work rules and staffing requirements from those which otherwise might control;
5. providing comprehensive and standardized mechanisms for the settlement of work disputes, including but not limited to, those relating to jurisdiction;
6. ensuring a reliable source of skilled and experienced labor;
7. furthering public policy objectives as to improved employment opportunities for minorities, women and the economically disadvantaged in the construction industry;
8. minimizing potential losses of revenues through timely completion of contracts;
9. expediting the construction process and otherwise minimizing the inconveniences of citizens of the County; and

WHEREAS, the parties desire to maximize Project safety conditions for both workers and the public;

NOW, THEREFORE, the parties enter into this Agreement:

SECTION 1 - PARTIES TO THE AGREEMENT

This is a Project Labor Agreement (“Agreement”) entered into by and between the Contractor, on behalf of itself and its successors, assigns and its subcontractors engaged in On-Site Project Work as defined in Article 3; and by the Building and Construction Trades Council of Westchester and Putnam Counties, New York AFL-CIO, on behalf of itself and all of its affiliated Local Unions that perform On-Site Project Work and their members.

ARTICLE 2 - GENERAL CONDITIONS

SECTION 1 - DEFINITIONS

Throughout this Agreement, “Council” shall refer to the Building and Construction Trades Council of Westchester and Putnam Counties, New York AFL-CIO. “Local Unions” shall refer to all of the Council’s affiliated Local Unions that perform On-Site Project Work and their members. “Contractor(s)” shall include the Contractor, all other contractors who sign a similar Project Labor Agreement in connection with the Project and their subcontractors of whatever tier, engaged in On-Site Project Work within the scope of this Agreement as defined in Article 3.

SECTION 2 - CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE

This Agreement shall not become effective unless each of the following conditions is met: (1) the Agreement is signed by the Council on behalf of itself and all of its affiliated Local Unions that perform On-Site Project Work; (2) the Agreement is signed by the Contractor; and (3) the Agreement is approved by the County.

SECTION 3 - ENTITIES BOUND & ADMINISTRATION OF AGREEMENT

This Agreement shall be binding on the Council, the Local Unions and the Contractors performing On-site Project Work, including site preparation and staging areas, as defined in Article 3. The Contractors shall include in any subcontract that they let, for performance during the term of this Agreement, a requirement that each and every one of their subcontractors, of whatever tier, become bound by this Agreement with respect to subcontracted work performed within the scope of Article 3. This Agreement shall be administered by the Contractor, on behalf of itself and its subcontractors. In the event a

Contractor desires to review the provisions of a Local Union's collective bargaining agreement, that Contractor shall request a copy of same from the Council and the Council shall provide same without delay.

SECTION 4 - SUPREMACY CLAUSE

This Agreement together with the applicable collective bargaining agreements of the Local Unions, copies of which can be obtained from the Council, represents the complete understanding of all signatories and supersedes any national agreement, local agreement or collective bargaining agreement of any type which would otherwise apply to this Project, in whole or in part. Where a subject covered by the provisions, explicit or implicit, of this Agreement is also covered by the collective bargaining agreements of one or more of the Local Unions, the provisions of this Agreement shall prevail. It is further understood that no Contractor or subcontractor shall be required to sign any other agreement with the Council or the Local Unions as a condition of performing work on this Project. No practice, understanding or agreement between a Contractor and a Local Union which is not set forth or referenced in this Agreement shall be binding on this Project unless endorsed in writing by the Contractor or subcontractor.

SECTION 5 - LIABILITY

The liability of any Contractor or subcontractor and the liability of any Local Union under this Agreement shall be several and not joint. The Contractor and any subcontractor shall not be liable for any violations of this Agreement by any other contractor, and the Council and Local Unions shall not be liable for any violations of this Agreement by any other Local Union.

SECTION 6 - THE COUNTY

The County requires in its bid specifications that all successful bidders become bound by and signatory to this Agreement for work within the scope of Article 3. In addition, all of their subcontracts shall provide that their subcontractors are subject to all terms and conditions set forth in this Agreement as if signatories thereto. The County is not a party to this Agreement and shall not be liable in any manner under this Agreement. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of the County in determining which Contractors shall be awarded contracts for Project work; nor as limiting any of the rights or remedies of the County as set forth in any and all of the Contract Documents that pertain in any way to the Project. It is further understood that the County has sole discretion at any time to terminate, delay or suspend the work, in whole or in part, on this Project.

SECTION 7 - AVAILABILITY & APPLICABILITY TO ALL SUCCESSFUL BIDDERS

The Local Unions agree that this Agreement will be made available to, and will fully apply to any successful bidder for Project work who becomes signatory hereto, without regard to whether that successful bidder performs work at other sites on either a union or non-union basis and without regard to whether employees of such successful bidder are, or are not, members of any union. This Agreement shall not apply to the work of any contractor or subcontractor which is performed at any location other than the Project site, as defined in Article 3, Section 1.

ARTICLE 3 - SCOPE OF THIS AGREEMENT

The Project work covered by this Agreement shall be as defined and limited by the following sections of this Article.

SECTION 1 - THE WORK

This Agreement shall only apply to On-Site Project Work performed in connection with the Project.

“On-Site Project Work” shall be defined to include Project work performed at the Project site and preparation and staging areas located within 15 miles of the Project site.

SECTION 2 - EXCLUDED EMPLOYEES

The following persons are not subject to the provisions of this Agreement, even though performing On-Site Project Work:

- a) Superintendents, supervisors (excluding field engineers/supervisors, general and forepersons specifically covered by a Local Union’s collective bargaining agreement), engineers, inspectors and testers, quality control/assurance personnel, timekeepers, mail carriers, clerks, office workers, messengers, guards, technicians, non-manual employees, and all professional, engineering, administrative and management persons;
- b) Employees of the County, or of any State agency, authority or entity or employees of any municipality or other public employer;
- c) Employees and entities engaged in off-site manufacture, modifications, repair, maintenance, assembly, painting, handling or fabrication of components, materials, equipment or machinery or involved in deliveries to and from the Project site, excepting local deliveries of all major

construction materials including fill, ready mix concrete, asphalt and sub-base stone/gravel materials which are covered by this Agreement;

- d) Employees of the Contractor, other contractors or subcontractors excepting those performing manual, on-site construction labor who will be covered by this Agreement;
- e) Employees engaged in on-site equipment maintenance/warranty work. When a Contractor has on site an employee already certified by the relevant manufacturer to make warranty repairs on that Contractor's equipment, that employee shall be used; when a Contractor has on site an employee already qualified to make warranty repairs, although not certified by the equipment manufacturer to do so, that employee shall be used to make repairs working under the direction of a manufacturer certified warranty representative. Notwithstanding the foregoing, if a Contractor, in order to satisfy the warranty requirements of a manufacturer must utilize a person or entity designated by the manufacturer, it may do so without coverage under this Agreement;
- f) Employees engaged in laboratory or specialty testing or inspections whether on or off-site.
- g) Employees engaged in geophysical testing (whether land or water) other than boring for core samples;
- h) Employees engaged in ancillary Project work performed by third parties such as electric utilities, gas utilities, telephone companies, and railroads.

SECTION 3 - NON-APPLICATION TO CERTAIN ENTITIES

This Agreement shall not apply to the parents, affiliates, subsidiaries, or other joint or sole ventures of any Contractors which do not perform work at this Project. It is agreed, for the purposes of this Agreement only, that this Agreement does not have the effect of creating any joint employment, single employer or alter ego status among the County and the Contractors. This Agreement shall further not apply to the County or any other state agency, authority, or other municipal or public entity and nothing contained herein shall be construed to prohibit or restrict the County or its employees or any other state authority, agency or entity and its employees from performing on or off-site work related to the Project.

SECTION 4 - COUNTY LIABILITY

The County shall not be liable, directly or indirectly, to any party for any act or omission of the Contractor, any other contractors or subcontractors, the Council or Local Unions, including but not limited to, any violation or breach of this Agreement by any of the aforementioned.

ARTICLE 4 - UNION RECOGNITION AND EMPLOYMENT

SECTION 1 - PRE-HIRE RECOGNITION

The Contractors recognize the Local Unions as the sole and exclusive bargaining representatives of all trade employees who are performing On-Site Project Work within the scope of this Agreement as defined in Article 3.

SECTION 2 - UNION'S REFERRAL

- A. The Contractors agree to hire trade employees covered by this Agreement through the job referral system and hiring halls (where the referrals meet the qualifications set forth in items 1, 2 and 4 of subparagraph B below) established in the collective bargaining agreements of the applicable Local Unions listed in Schedule A. Notwithstanding this, the Contractors shall have the sole right to determine the competency of all referrals; the number of employees required; the selection of employees to be laid off (except as provided in Article 5, Section 3); and to reject any applicant referred by a Local Union, subject to the show-up payments required in the applicable Local Union's collective bargaining agreement. In the event that a Local Union is unable to fill any request for qualified employees within a 48 hour period after such requisition is made by the Contractor (Saturdays, Sundays and Holidays excepted), the Contractor may employ qualified applicants from any other available source. In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the applicable Local Union of trade employees hired within its jurisdiction from any source other than referral by the Local Union.
- B. A Contractor may request by name, and the Local Union will honor, referral of persons who have applied to the Local Union for On-Site Project Work and who meet the following qualifications as determined by a committee of 3 persons (the "Committee") designated, respectively, by the applicable Local Union, the Contractor and a mutually selected third party or, in the absence of agreement, the permanent arbitrator (or designee) designated in Article 7:
1. possess licenses required by New York State law for the On-Site Project Work to be performed by that individual;
 2. have worked a total of at least 1000 hours in the applicable construction trade during the prior 3 years;

3. were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award;
 4. have demonstrated ability to safely perform the basic functions of the applicable trade.
- C. No more than 12 per centum of the employees covered by this Agreement, per Contractor by trade, shall be hired through the special provisions above (any fraction shall be rounded to the next highest whole number).
- D. The Committee may also allow a Contractor, subject to the above per centum, to employ apprentice equivalents to afford an opportunity to minority, women or economically disadvantaged persons for entry into the construction industry outside of the formal apprenticeship program.

SECTION 3 - NON-DISCRIMINATION IN REFERRALS

The Local Unions represent that their hiring halls and referral systems will be operated in a non-discriminatory manner and in full compliance with all applicable federal, state and local laws and regulations which require equal employment opportunities. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements and shall be subject to such other conditions as are established in this Article. No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

SECTION 4 - MINORITY AND FEMALE REFERRALS

In the event a Local Union either fails, or is unable, to refer qualified minority or female applicants in percentages equaling Project affirmative action goals as set forth in the County's Project specifications, the Contractor may employ qualified minority or female applicants from any other available source.

SECTION 5 - CROSS AND QUALIFIED REFERRALS

The Local Union shall not knowingly refer to a Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions will exert their utmost efforts to recruit sufficient numbers of skilled and qualified trade employees to fulfill the requirements of the Contractor.

SECTION 6 - UNION DUES

All employees covered by this Agreement shall be subject to the union security provisions contained in the applicable Local Unions' collective bargaining agreements as amended from time to time, but only for the period of time during which they are performing On-Site Project Work and only to the extent of rendering payment of the applicable monthly union dues uniformly required for union membership in the applicable Local Union which represents the trade in which the employee is performing On-Site Project Work. No employee shall be discriminated against at the Project site because of the employee's union membership or lack thereof. In the case of unaffiliated employees, the dues payment will be received by the Local Unions as an agency shop fee.

SECTION 7 - TRADE FOREPERSONS AND GENERAL FOREPERSONS

- A. The selection of trade forepersons and/or general forepersons and the number of forepersons required shall be solely the responsibility of the Contractor except where otherwise provided by specific provisions of an applicable Local Union's collective bargaining agreement. All forepersons shall take orders exclusively from the designated Contractor representatives. Trade forepersons shall be designated as working forepersons at the request of the Contractor, except when an existing Local Union's collective bargaining agreement prohibits a foreperson from working when the tradepersons he is leading exceed a specified number.
- B. There will be no non-productive employees of any title on the Project.

ARTICLE 5 - UNION REPRESENTATION

SECTION 1 - LOCAL UNION REPRESENTATIVE

Each Local Union representing employees who perform On-Site Project Work shall be entitled to designate in writing (copy to Contractor) one representative, and/or the Business Manager, who shall be afforded access to the Project. The Contractor shall provide a copy of such notification to each of its subcontractors.

SECTION 2 - STEWARDS

- A. Each Local Union shall have the right to designate a working journeyman as a Steward and an alternate, and shall notify the Contractor of the identity of the designated Steward (and alternate) prior to the assumption of such duties. Stewards shall not exercise supervisory functions and will

receive the regular rate of pay for their trade classifications. There will be no non-working Stewards on the Project.

- B. In addition to their work as employees, Stewards shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with the Contractor's appropriate supervisor. Each Steward shall be concerned with the employees of the Steward's Contractor, and, if applicable, subcontractors of the Contractor, but not with the employees of any other contractor. The Contractor will not discriminate against the Steward in the proper performance of Union duties.
- C. The Stewards shall not have the right to determine when overtime shall be worked, or who shall work overtime except pursuant to a provision in a Local Union's collective bargaining agreement providing procedures for the equitable distribution of overtime.

SECTION 3 - LAYOFF OF A STEWARD

Contractors agree to notify the appropriate Union 24 hours prior to the layoff of a Steward, except in cases of discipline or discharge for just cause. If a Steward is protected against layoff by a Local Union's collective bargaining agreement, such provisions shall be recognized to the extent the Steward possesses the necessary qualifications to perform the work required. In any case in which a Steward is discharged or disciplined for just cause, the Local Union involved shall be notified immediately by the Contractor.

ARTICLE 6 - MANAGEMENT'S RIGHTS

SECTION 1 - RESERVATION OF RIGHTS

Except as expressly limited by a specific provision of this Agreement, the Contractor retains full and exclusive authority for the management of the Project operations including, but not limited to: the right to direct the work force, including determination as to the number to be hired and the qualifications therefore; the promotion, transfer, and layoff of its employees; the discipline or discharge for just cause of its employees; the assignment and schedule of work; the promulgation of reasonable Project work rules; and, the requirement, timing and number of employees to be utilized for overtime work. No rules, customs, or practices which limit or restrict productivity or efficiency of the individual, as determined by the Contractor, and/or joint working efforts with other employees shall be permitted or observed.

SECTION 2 - MATERIALS, METHODS & EQUIPMENT

There shall be no limitation or restriction upon the Contractor's choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials, tools or other labor-saving devices. Contractors may, without restriction, install or use materials, supplies or equipment regardless of their source. The on-site installation or application of such items shall be performed by the trade having jurisdiction over such work; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, check-off or testing of specialized or unusual equipment or facilities as designated by the Contractor. There shall be no restrictions as to work which is not On-Site Project Work.

ARTICLE 7 - WORK STOPPAGES AND LOCKOUTS

SECTION 1 - NO STRIKES - NO LOCKOUTS

There shall be no strikes, sympathy strikes, picketing, work stoppages, slowdowns, hand billing, demonstrations or other disruptive activity at the Project for any reason by any Local Union or employee against any Contractors or employer while performing On-Site Project Work. There shall be no other Local Union, or concerted or employee activity which disrupts or interferes with the operation of the Contractors or the County. Failure of any Local Union or employee to cross any picket line established by any union, signatory or non-signatory to this Agreement, or the picket or demonstration line of any other organization, at or in proximity to the On-Site Project Work shall be deemed a violation of this Article. There shall be no lockout at the Project by any Contractor. Contractors and Local Unions shall take all steps necessary to ensure compliance with this Section 1 and to ensure uninterrupted construction for the duration of this Agreement.

SECTION 2 - DISCHARGE FOR VIOLATION

Contractors may discharge any employee violating Section 1, above, and any such employee will not be eligible thereafter for referral under this Agreement for a period of 100 days.

SECTION 3 - NOTIFICATION

If the Contractor contends that any Local Union has violated this Article, it will notify the President of the Council advising of such fact, with copies of the notification to the Local Union. The President of the Council shall instruct, order and otherwise use its best efforts to cause the employees and/or the Local

Unions to immediately cease and desist from any violation of this Article. The Council, in complying with these obligations, shall not be liable for the unauthorized acts of a Local Union or its members.

SECTION 4 - EXPEDITED ARBITRATION

Any Contractor or Local Union alleging a violation of Section 1 of this Article may utilize the expedited procedure set forth below in lieu of, or in addition to, any actions at law or equity that may be brought.

- A. A party invoking this procedure shall notify the American Arbitration Association to appoint an Arbitrator under this expedited arbitration procedure. Copies of such notification will be simultaneously sent to the alleged violator and, if a Local Union is alleged to be in violation, its International Union, the Council, and the Contractor.
- B. Upon appointment in accordance with the rules and regulations of the American Arbitration Association for an expedited arbitration proceeding, the Arbitrator shall thereupon, after notice as to time and place to the Contractor, the Local Union involved, and the Council hold a hearing within 48 hours of receipt of the notice invoking the procedure if it is contended that the violation still exists. The hearing will not, however, be scheduled for less than 24 hours after the notice to the Council required by Section 3, above.
- C. All notices pursuant to this Article may be by telephone, telegraph, hand delivery, or fax, confirmed by overnight delivery, to the Arbitrator, Contractor, the involved Local Union and the Council. The hearing may be held on any day including Saturdays or Sundays. The hearing shall be completed in one session, which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side to present their case, and conduct their cross examination) unless otherwise agreed. A failure of any Local Union or Contractor to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.
- D. The sole issue at the hearing shall be whether a violation of Section 1, above, occurred. If a violation is found to have occurred, the Arbitrator shall issue a Cease and Desist Award restraining such violation and serve copies on the Contractor and the Local Union involved. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages, which issue is reserved solely for court proceedings, if any. The Award shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an Opinion. If any involved party desires an Opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with, or enforcement of, the Award.

- E. An Award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of this Agreement, together with the Award. Notice of the filing of such enforcement proceedings shall be given to the Local Union or Contractor involved. In any court proceeding to obtain a temporary or preliminary order enforcing the Arbitrator's award as issued under this expedited procedure, the involved Local Union and Contractor waive their right to a hearing and agree that such proceedings may be ex parte, provided notice is given to opposing counsel. Such agreement does not waive any party's right to participate in a hearing for a final court order of enforcement or in any contempt proceeding.
- F. Any rights created by statute or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractors and Local Unions to whom they accrue.
- G. The fees and expenses of the Arbitrator shall be equally divided between the involved Contractor and Local Union.

SECTION 5 - ARBITRATION OF DISCHARGES

Procedures contained in Article 9 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation of Section 1, above, may have recourse to the procedures of Article 9 to determine only if the employee did, in fact, violate the provisions of Section 1 of this Article; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

ARTICLE 8 - LABOR MANAGEMENT COMMITTEE

SECTION 1 - SUBJECTS

The Project Labor Management Committee (the "Labor Management Committee") will meet on a regular basis to: 1) promote harmonious relations among the contractors and Unions; 2) enhance safety awareness, cost effectiveness and productivity of construction operations; 3) protect the public interests; 4) discuss matters relating to staffing and scheduling with safety and productivity as considerations; 5) review Affirmative Action and equal employment opportunity matters pertaining to the Project; and 6) discuss such other matters as may be desirable or necessary in furtherance of the expeditious completion of the Project.

SECTION 2 - COMPOSITION

The Labor Management Committee shall be composed of one designee each of the Council, the Contractors and the Local Unions involved in the issues being discussed. The Labor Management Committee may conduct business through mutually agreed sub-committees.

ARTICLE 9 - GRIEVANCE & ARBITRATION PROCEDURE

SECTION 1 - PROCEDURE FOR RESOLUTION OF GRIEVANCES

Any question, dispute or claim arising out of, or involving the interpretation or application of this Agreement (other than jurisdictional disputes or alleged violations of Article 7, Section 1) shall be considered a grievance and shall be resolved pursuant to the exclusive procedure described below; provided, in all cases, that the question, dispute or claim arose during the term of this Agreement.

Step 1:

- (a) When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall, through the Local Union business representative or job steward give notice of the claimed violation to the work site representative of the involved Contractor. To be timely, such notice of the grievance must be given within 14 calendar days after the act, occurrence or event giving rise to the grievance. The business representative of the Local Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within 14 calendar days after a timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 14 calendar days thereafter, pursue Step 2 of the grievance procedure by serving the involved Contractor with written copies of the grievance setting forth a description of the claimed violation, the date on which the grievance occurred, and the provisions of the Agreement alleged to have been violated. Grievances and disputes settled at Step 1 are non-precedential except as to the specific Local Union, employee and Contractor directly involved unless the settlement is accepted in writing by the Contractor as creating a precedent.
- (b) Should any Contractor or Local Union have a dispute (excepting jurisdictional disputes or alleged violations of Article 7, Section 1) with any other Contractor or Local Union and after conferring a settlement is not reached within 14 calendar days, the dispute shall be reduced to writing and proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

Step 2:

The Business Manager or designee of the involved Local Union, together with representatives of the Council and the involved Contractor, shall meet in Step 2 within 14 calendar days of service of the written grievance to arrive at a satisfactory settlement.

Step 3:

- (a) If the grievance shall have been submitted but not resolved in Step 2, any of the participating Step 2 entities may, within 21 calendar days after the initial Step 2 meeting, submit the grievance in writing (copies to other participants) to the American Arbitration Association. The Labor Arbitration Rules of the American Arbitration Association shall govern the appointment and conduct of the arbitration hearing, at which all Step 2 participants shall be parties. The decision of the Arbitrator shall be final and binding on the involved Contractor, Local Union and employees and the fees and expenses of such arbitration shall be borne equally by the involved Contractor and Local Union.
- (b) Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the Contractor and the involved Local Union at the particular step where the extension is agreed upon. The Arbitrator shall have authority to make decisions only on the issues presented to him and shall not have the authority to change, add to, delete or modify any provision of this Agreement.

SECTION 2 - LIMITATION AS TO RETROACTIVITY

No arbitration decision or award may provide retroactivity of any kind exceeding 60 calendar days prior to the date of service of the written grievance on the Contractor or Local Union.

ARTICLE 10 - JURISDICTIONAL DISPUTES

SECTION 1 - NO DISRUPTIONS

There will be no strikes, sympathy strikes, work stoppages, slowdowns, picketing or other disruptive activity of any kind arising out of any jurisdictional dispute. Pending the resolution of the dispute, the work shall continue uninterrupted and as assigned by the Contractor. No jurisdictional dispute shall excuse a violation of Article 7.

SECTION 2 - ASSIGNMENT

All On-Site Project Work assignments shall be made pursuant to law.

SECTION 3 - PROCEDURE FOR SETTLEMENT OF JURISDICTIONAL DISPUTES

- A. Any Local Union having a jurisdictional dispute with respect to On-Site Project Work assigned to another Local Union will submit the dispute in writing to the Administrator, Plan for the Settlement of Jurisdictional Disputes in the Construction Industry (“the Plan”) within 72 hours and send a copy of the letter to the Local Union and the International Union involved, the President of the Council, the County and the Contractor involved. Upon receipt of a dispute letter from any Local Union, the Administrator will invoke the procedures set forth in the Plan to resolve the jurisdictional dispute. The jurisdictional dispute letter shall contain the information described in Article IV of the Plan.
- B. Within 5 calendar days of receipt of the dispute letter, there shall be a meeting of the Contractor involved, the Local Unions involved and the President of the Council for the purpose of resolving the jurisdictional dispute.
- C. If the dispute remains unresolved after this meeting, the parties will proceed to final and binding arbitration in accordance with the principles and procedures set forth in the rules of the Plan.
- D. The Arbitrator will render a short-form decision within 5 days of the hearing based upon the evidence submitted at the hearing, with a full written decision to follow within 30 days of the close of the hearing.
- E. This Jurisdictional Dispute Resolution Procedure will only apply to On-Site Project Work performed by Local Unions. A representative of the County and the International Union involved may also attend the meeting.
- F. Any Local Union involved in a jurisdictional dispute on this Project shall continue working in accordance with Section 2 above and without disruption of any kind.
- G. Copies of the Plan will be provided by the Council upon request.

SECTION 4 - AWARD

Any jurisdictional award pursuant to Section 3 shall be final and binding on the disputing Local Unions and the involved Contractor on this Project only, and may be enforced in any court of competent

jurisdiction. Such award or resolution shall not establish a precedent on any other construction work not covered by this Agreement. In all disputes under this Article, the involved Contractors shall be considered parties in interest.

SECTION 5 - LIMITATIONS

The Jurisdictional Dispute Arbitrator shall have no authority to assign work to a double crew, that is, to more employees than the minimum required by the involved Contractor to perform the work involved; nor to assign the work to employees who are not qualified to perform work involved; nor to assign work being performed by non-union employees to union employees. This does not prohibit the establishment, with the agreement of the involved Contractor, of composite crews where more than one employee is needed for the job. The aforesaid determinations shall decide only to whom the disputed work belongs.

SECTION 6 - NO INTERFERENCE WITH WORK

There shall be no interference or interruption of any kind with the On-Site Project Work while any jurisdictional dispute is being resolved. The On-Site Project Work shall proceed as assigned by the involved Contractor until finally resolved under the applicable procedure of this Article. The award shall be confirmed in writing to the involved parties. There shall be no strike, work stoppage, or interruption in protest of any such award.

ARTICLE 11 - WAGES AND BENEFITS

SECTION 1 - CLASSIFICATION AND BASE HOURLY RATE

All employees covered by this Agreement shall be classified in accordance with the work performed and paid the base hourly wage rates for those classifications as specified in the applicable Local Unions' collective bargaining agreements, as they may be amended during the term of this Agreement. Recognizing, however, that special conditions may exist or occur on the Project, the parties, by mutual agreement may establish rates and/or hours for one or more classifications which may differ from the applicable collective bargaining agreements. Parties to such agreements shall be the Contractor involved, the involved Local Unions and the Council.

SECTION 2 - EMPLOYEE BENEFIT FUNDS

The Contractors agree to pay contributions on behalf of all employees covered by this Agreement to the established employee benefit funds in the amount designated in the appropriate Local Unions' collective bargaining agreements; provided, however, that the involved Contractors and the Local Unions agree that

only such bona fide employee benefits as are explicitly required under Section 220 of the New York State Labor Law shall be included in this requirement and paid by the Contractors on this Project. Bona fide jointly trustee fringe benefit plans established or negotiated through collective bargaining during the life of this Agreement may be added if similarly protected under Section 220. Contractors shall not be required to contribute to non-Section 220 benefits, trusts or plans.

The Contractors agree to be bound by the written terms of the legally-established Local Union collective bargaining agreement and/or Trust Agreements specifying the detailed basis on which payments are to be paid into, and benefits paid out of, such Trust Funds but only with regard to work done on this Project and only for those employees to whom this Agreement requires such benefit payments. Copies of such Trust Agreements will be provided by the Council upon request.

ARTICLE 12 - HOURS OF WORK, PREMIUM PAYMENTS, SHIFTS AND HOLIDAYS

SECTION 1 - WORK WEEK AND WORK DAY

- A. The standard work week shall consist of 40 hours of work at straight time rates per one of the following schedules:
 - i.) Five-Day Work Week: Monday-Friday; 5 days, 8 hours plus 1/2 hour unpaid lunch period each day.
 - ii.) Four-Day Work Week: Monday-Thursday; 4 days, 10 hours plus 1/2 hour unpaid lunch period each day.

- B. The day shift shall commence between the hours of 6:00 a.m. and 9:00 a.m. and shall end between the hours of 2:00 p.m. and 7:30 p.m. Starting and quitting times shall occur at the staging areas as may be designated by the Contractor.

- C. Scheduling – The Contractor shall have the option of scheduling either a five-day or four-day work week and the work day hours consistent with the Project requirements, the Project schedule and minimization of interference. When conditions beyond the control of the Contractor, such as severe weather, power failure, fire or natural disaster, prevent the performance of On-Site Project Work on a regularly scheduled work day, the Contractor may, with mutual agreement of the involved Local Unions on a trade-by-trade basis, schedule work on Friday (where on four 10s) or Saturday (where on five 8s) during that calendar week in which a work day was lost, at straight

time pay, provided that the employees involved work a total of 40 hours or less during that work week. When conditions on the Project cause the Contractor to stop work or be unable to commence work on the day in question, the Contractor will notify the Local Unions and the employees at that time that Friday or Saturday, as the case may be, will be a make-up day for the affected operation(s) and the Friday or Saturday work will then be at straight time for the day or any portion of the work day that work was stopped. The balance of the day on Friday or Saturday, if any, will be at time and one-half (1/2) the straight time rate of pay. If the Contractor seeks to cancel a day's work in advance of that day and to schedule the following Friday or Saturday as a make-up day, the determination of whether the Contractor is unable to perform the affected work operation(s) shall be jointly made between the Contractor and the involved Local Unions, the Local Unions' agreement not to be unreasonably withheld.

- D. Notice – Contractors shall provide not less than five (5) days prior notice to the Local Unions as to the work week and work hours scheduled to be worked or such lesser notice as may be mutually agreed upon.

SECTION 2 - OVERTIME

Overtime pay for hours outside of the standard work week and work day, described in Paragraph A above, shall be paid in accordance with the applicable Local Unions' collective bargaining agreements. There will be no restriction upon the Contractor's scheduling of overtime or the non-discriminatory designation of employees who work. There shall be no pyramiding of overtime pay under any circumstances. The Contractor shall have the right to schedule work so as to minimize overtime.

SECTION 3 - SHIFTS

- A. Flexible Schedules - Scheduling of shift work shall remain flexible in order to meet Project schedules and existing Project conditions including the minimization of interference with traffic. It is not necessary to work a day shift in order to schedule a second shift. Shifts must be worked a minimum of five consecutive work days, must have prior approval of the Contractor and/or subcontractor, and must be scheduled with not less than five work days notice to the Local Union.
- B. Second Shift - The second shift (starting between 2 p.m. and 8 p.m.) shall consist of 8 hours work (or 10 hours of work) for an equal number of hours pay at the straight time rate plus 15% in lieu of overtime and exclusive of a 1/2 hour unpaid lunch period. Where specifically required by the applicable Local Unions' collective bargaining agreements, employees on second shift, where there are no first shift employees scheduled for that trade, will be paid at time and one-half rates

for such second shift work, but without any shift differential. In all other cases, the first sentence of this paragraph B shall apply.

- C. Flexible Starting Times - Shift starting times will be adjusted by the Contractor as necessary to fulfill Project requirements subject to the notice requirements of Paragraph A.
- D. Four Tens - When working a four-day work week, the standard work day shall consist of 10 hours work for 10 hours of pay at the straight time rate exclusive of an unpaid 1/2 hour meal period and regardless of the starting time. This provision is applicable to night shifts only, and such night shifts are subject to the shift differential in paragraph B above.

SECTION 4 - HOLIDAYS

- A. Schedule - There shall be eight (8) recognized holidays on the Project:

| | |
|-----------------|------------------|
| New Year's Day | Labor Day |
| President's Day | Veterans Day |
| Memorial Day | Thanksgiving Day |
| Fourth of July | Christmas Day |

All said holidays shall be observed on the dates designated by New York State law. In the absence of such designation, they shall be observed on the calendar date except those holidays which occur on Sunday shall be observed on the following Monday.

- B. Payment - Regular holiday pay, if any, and/or premium pay for work performed on such a recognized holiday shall be in accordance with the applicable Local Unions' collective bargaining agreements.
- C. Exclusivity - No holidays other than those listed in paragraph A above shall be recognized nor observed.

SECTION 5 - REPORTING PAY

- A. Employees who report to the work location pursuant to regular schedule and who are not provided with work or whose work is terminated early by a Contractor, for whatever reason, shall receive minimum reporting pay in accordance with the applicable Local Unions' collective bargaining agreements.
- B. When an employee, who has completed his/her scheduled shift and left the Project site, is "called out" to perform special work of a casual, incidental or irregular nature, the employee shall receive

pay for actual hours worked with a minimum guarantee, as may be required by the applicable Local Union's collective bargaining agreement, at the employee's straight time rate.

- C. When an employee leaves the job or work location of his/her own volition or is discharged for cause or is not working as a result of the Contractor's invocation of Section 7 below, he/she shall be paid only for the actual time worked.
- D. Except as specifically set forth in this Article, there shall be no premiums, bonuses, hazardous duty, high time or other special payment of any kind.
- E. There shall be no pay for time not actually worked except as specifically set forth in this Article and except where an applicable Local Union's collective bargaining agreement requires a full week's pay for forepersons.

SECTION 6 - PAYMENT OF WAGES

- A. Payday - Payment shall be made by check, drawn on a New York bank with branches located within commuting distance of the job site. Paychecks shall be issued by a Contractor at the job site by 10 a.m. on Thursdays. In the event that the following Friday is a bank holiday, paychecks shall be issued on Wednesday of that week. Not more than 3 days wages shall be held back in any pay period. Paycheck stubs shall contain the name and business address of the Contractor, together with an itemization of deductions from gross wages.
- B. Termination - Employees who are laid off or discharged for cause shall be paid in full for that which is due them at the time of termination. The Contractor shall also provide the employee with a written statement setting forth the date of lay off or discharge.

SECTION 7 - EMERGENCY WORK SUSPENSION

A Contractor may, if considered necessary for the protection of life and/or safety of employees or others, suspend all or a portion of On-Site Project Work. In such instances, employees will be paid for actual time worked; provided, however, that when a Contractor requests that employees remain at the job site available for work, employees will be paid for "stand by" time at their hourly rate of pay.

SECTION 8 - INJURY-DISABILITY

An employee who, after commencing work, suffers a work-related injury or disability while performing work duties, shall receive no less than 8 hours wages for that day. Further, the employee shall be rehired

at such time as able to return to duties provided there is still work available on the Project for which the employee is qualified and able to perform.

SECTION 9 - TIME KEEPING

A Contractor may utilize brassing or other systems to check employees in and out. Each employee must check in and out. The Contractor will provide adequate facilities for checking in and out in an expeditious manner.

SECTION 10 - MEAL PERIOD

A Contractor shall schedule an unpaid period of not more than 1/2 hour duration at the work location between the 3rd and 5th hour of the scheduled shift. A Contractor may, for efficiency of operation, establish a schedule which coordinates the meal periods of two or more trades. If an employee is required to work through the meal period, the employee shall be compensated in a manner established in the applicable Local Union's collective bargaining agreement.

SECTION 11 - BREAK PERIODS

There will be no rest periods, organized coffee breaks or other non-working time established during working hours. Individual coffee containers will be permitted at the employee's work location.

ARTICLE 13 - APPRENTICES

SECTION 1 - RATIOS

Recognizing the need to maintain continuing supportive programs designed to develop adequate numbers of competent workers in the construction industry and to provide trade entry opportunities for minorities and women, Contractors will employ apprentices in their respective trades to perform such work as is within their capabilities and which is customarily performed by the trade in which they are indentured. Contractors may utilize apprentices and such other appropriate classifications as are contained in the applicable Local Union's collective bargaining agreement in a ratio not to exceed 25% of the work force by trade (without regard to whether a lesser ratio is set forth in the applicable Local Union's collective bargaining agreement), unless the applicable Local Union's collective bargaining agreement provides for a higher percentage. Apprentices and such other classifications as are appropriate shall be employed in a manner consistent with the provisions of the appropriate Local Union's collective bargaining agreement.

SECTION 2 - DEPARTMENT OF LABOR

To assist the Contractors in attaining a maximum effort on this Project, the Local Unions agree to work in close cooperation with, and accept monitoring by, the New York State Department of Labor and the County to ensure that minorities and women are afforded every opportunity to participate in apprenticeship programs which result in the placement of apprentices on this Project. To further ensure that this contractor effort is attained, up to 50% of the apprentices placed on this Project shall be first year minority or women apprentices as shall be 60% of the apprentice equivalents, placed on the Project, who do not necessarily meet all of the age or entrance requirements for the apprentice program or have not necessarily passed the entrance examination. The Local Unions will cooperate with the contractor requests for minority, women or economically disadvantaged referrals to meet this contractor effort.

ARTICLE 14 - SAFETY PROTECTION OF PERSON AND PROPERTY

SECTION 1 - SAFETY REQUIREMENTS

Each Contractor will ensure that applicable OSHA requirements are at all times maintained on the Project and the employees and the Local Unions agree to cooperate fully with these efforts. Employees must perform their work at all times in a safe manner and protect themselves and the property of the Contractors and the County from injury or harm. Failure to do so will be grounds for discipline, including discharge.

SECTION 2 - CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Contractors for this Project. Such rules will be published and posted in conspicuous places throughout the Project.

SECTION 3 - INSPECTIONS

The Contractors retain the right to inspect incoming shipments of equipment, apparatus, machinery and construction materials of every kind.

ARTICLE 15 - NO DISCRIMINATION

SECTION 1 - COOPERATIVE EFFORTS

The Contractors and the Local Unions agree that they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, national origin, age or

marital status in any manner prohibited by law or regulation. It is recognized that special procedures may be established by the Contractors, the Local Unions and the New York State Department of Labor for the training and employment of persons who have not previously qualified to be employed on construction projects of the type covered by this Agreement. The parties to this Agreement will assist in such programs and agree to use their best efforts to ensure that the goals for female and minority employment are met on this Project.

SECTION 2 - LANGUAGE OF AGREEMENT

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

ARTICLE 16 - GENERAL TERMS

SECTION 1 - PROJECT RULES

The Contractors shall establish such reasonable Project rules as are appropriate for the good order of the Project. These rules will be explained at the pre-job conference and posted at the Project site and may be amended thereafter as necessary. Failure of an employee to observe these rules and regulations shall be grounds for discipline, including discharge. The fact that no order was posted prohibiting a certain type of misconduct shall not be a defense to an employee disciplined or discharged for such misconduct when the action taken is for cause.

SECTION 2 - TOOLS OF THE TRADE

The welding/cutting torch and chain fall are tools of the trade having jurisdiction over the work performed. Employees using these tools shall perform any of the work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee or on the use of any tools or equipment for the performance of work within the employee's jurisdictions.

SECTION 3 - SUPERVISION

Employees shall work under the supervision of the trade foreperson or general foreperson.

SECTION 4 - TRAVEL ALLOWANCES

There shall be no payments for travel expenses, travel time, subsistence allowance or other such reimbursements or special pay except as expressly set forth in this Agreement.

SECTION 5 - FULL WORK DAY

Employees shall be at their staging area at the starting time established by the Contractor and shall be returned to their staging area by quitting time after performing their assigned functions under the supervision of the Contractor. The signatories reaffirm their policy of a fair day's work for a fair day's wage.

SECTION 6 - COOPERATION

The Contractor and the Local Unions will cooperate in seeking any New York State Department of Labor approvals that may be required for implementation of any terms of this Agreement.

ARTICLE 17 - SAVINGS AND SEPARABILITY

SECTION 1 - THIS AGREEMENT

In the event that the application of any provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of law, the provision involved shall be rendered, temporarily or permanently, null and void but the remainder of the Agreement shall remain in full force and effect. In such event, the Agreement shall remain in effect for contracts already bid and awarded or in construction where the Contractor voluntarily accepts the Agreement. The parties to this Agreement will enter into negotiations for a substitute provision in conformity with the law and the intent of the parties for contracts to be let in the future.

SECTION 2 - THE BID SPECIFICATIONS

In the event that the County bid specifications, or other action, requiring that a successful bidder become signatory to this Agreement is enjoined, on either an interlocutory or permanent basis, or otherwise found in violation of law such requirement shall be rendered, temporarily or permanently, null and void but the Agreement shall remain in full force and effect to the extent allowed by law. In such event, the Agreement shall remain in effect for contracts already bid and awarded or in construction where the Contractor voluntarily accepts the Agreement. The parties will enter into negotiations as to modifications to the Agreement to reflect the court action taken and the intent of the parties for contracts to be let in the future.

SECTION 3 - NON-LIABILITY

In the event of an occurrence referenced in Section 1 or Section 2 of this Article, neither the County, the Contractors, or any Local Union shall be liable, directly or indirectly, for any action taken, or not taken, to

comply with any court order, injunction or determination. Project bid specifications will be issued in conformance with court orders then in effect and no retroactive payments or other action will be required if the original court determination is ultimately reversed.

SECTION 4 - NON-WAIVER

Nothing in this Article shall be construed as waiving the prohibitions of Article 7 as to Contractors and Local Unions.

**ARTICLE 18 - FUTURE CHANGES IN SCHEDULE "A"
COLLECTIVE BARGAINING AGREEMENTS**

SECTION 1 - CHANGES TO COLLECTIVE BARGAINING AGREEMENTS

- A. The Contractors and/or Local Unions who are parties to the collective bargaining agreements which are applicable to the On-Site Project Work shall notify the Contractor in writing of any mutually agreed upon changes in provisions of such agreements and the effective dates of such changes.
- B. It is agreed that any provisions negotiated into collective bargaining agreements will not apply to On-Site Project Work if such provisions are less favorable to this Project than those uniformly required of contractors for construction work normally covered by those agreements; nor shall any provision be recognized or applied on this Project if it may be construed to apply exclusively, or predominantly, to work covered by this Agreement.
- C. Any disagreement between signatories to this Agreement over the application to On-Site Project Work of provisions agreed upon in the renegotiation of collective bargaining agreements shall be resolved in accordance with the procedure set forth in Article 9 of this Agreement.

SECTION 2 - LABOR DISPUTES DURING COLLECTIVE BARGAINING AGREEMENT NEGOTIATIONS

The Local Unions agree that there will be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 affecting the Project by any Local Union involved in the renegotiation of collective bargaining agreements nor shall there be any lock-out on this Project affecting a Local Union during the course of such renegotiations.

ARTICLE 19 – WORKERS’ COMPENSATION ADR

All Local Unions, the Contractor and its subcontractors performing On-Site Project Work agree to adopt and be bound by the Alternative Dispute Resolution Agreement entered into between the Construction Industry Council of Westchester and Hudson Valley, Inc. and the Council (herein after referred to as the “Workers’ Compensation ADR Agreement”).

The Contractor and its subcontractors may provide Workers’ Compensation insurance through an alternative insurance carrier (or through self-insurance) or may use an alternative Program Manager, other than the primary carrier or Program Manager designated in Article III, Section 2 of the Workers’ Compensation ADR Agreement. The use of an alternative carrier (or self-insurance) and/or Program Manager is subject to approval by the Workers’ Compensation ADR Agreement Oversight Committee, which approval shall not be unreasonably withheld.

The determination to utilize the Workers’ Compensation ADR Agreement will be at the exclusive option of the County.

SIGNATURES

IN WITNESS WHEREOF the parties have caused this Agreement to be executed and effective as the ____ day of _____, 20__.

**BUILDING AND CONSTRUCTION TRADES COUNCIL OF
WESTCHESTER AND PUTNAM COUNTIES, NEW YORK, AFL-CIO
on behalf of itself and its affiliated Local Unions.**

BY: _____
PRESIDENT

DATE: _____

BY: _____
VICE-PRESIDENT

DATE _____

BY: _____
SECRETARY-TREASURER

DATE _____

{INSERT NAME OF CONTRACTOR}

BY: _____
(Name & Title)

DATE _____

**APPROVED BY:
COUNTY OF WESTCHESTER**

BY: _____
Commissioner of Public Works and Transportation

DATE: _____

Approved as to form:

Sr. Assistant County Attorney
County of Westchester

SCHEDULE "A"

LOCAL COLLECTIVE BARGAINING AGREEMENTS

Below is a list of the affiliate Local Unions of the Building and Construction Trades Council of Westchester and Putnam Counties, New York, AFL-CIO ("Council"). Copies of the applicable Collective Bargaining Agreements of the Local Unions can be obtained by writing to the Building and Construction Trades Council Westchester and Putnam Counties, New York AFL-CIO at 258 Saw Mill River Road, Elmsford, New York 10523, Attn: Edward Doyle, President.

1. Asbestos Workers Local #91 (International Association of Heat and Frost Insulators and Asbestos Workers).
2. Boilermakers Local #5
3. Bricklayers and Allied Craftworkers Local #5 New York
4. Bridge Painters Local 806
5. Dockbuilders Local Union 1456
6. Empire State Regional Council of Carpenters, Reg. 2, Local 11
7. Glaziers Local 1281
8. International Association of Bridge and Structural Ironworkers Local Union 40
9. International Brotherhood of Electrical Workers Local Union 363
10. International Brotherhood of Painters & Allied Trades District Council 9 of New York
11. International Union of Operating Engineers Local 15, 15A, 15B, 15C and 15D
12. International Union of Operating Engineers Local Unions No. 137, 137A, 137B, 137C, 137R
13. Iron Workers District Council of Greater New York and Vicinity
14. IUOE Local No. 30 – Operating Engineers
15. Laborers' International Union of N.A. Local 235 of Westchester and Putnam Counties, New York AFL-CIO
16. Local One International Union of Elevator Constructors of New York and New Jersey – (AFL-CIO)
17. Local Union #3 International Brotherhood of Electrical Workers
18. Metal Polishers Local 8A-28A
19. Metallic Lathers Local No. 46
20. Millwright and Machinery Erectors Local Union No. 740
21. Operative Plasterers' and Cement Masons' International Association Local 530
22. Ornamental Ironworkers Local Union No. 580
23. Plumbers and Steamfitters Local 21
24. Resilient Floor Coverers Local No. 2287

25. Road Sprinkler Fitters Local 669
26. Sheet Metal Workers' International Association Local 137
27. Sheet Metal Workers' Local Union 38
28. Stone Derrickmen and Riggers Local Union No. 197
29. Teamsters Local 813 (Waste Removal)
30. Teamsters Local No. 814 (Moving & Storage)
31. Teamsters Local Union No. 456 (Construction)
32. Tile, Marble & Terrazzo Bricklayers & Allied Craftsmen Local Union No. 7 of New York & New Jersey
33. United Cement Masons' Union of Greater New York and Long Island Local 780
34. United Union of Roofers, Waterproofers and Allied Workers, Local No. 8, New York
35. Westchester Putnam Counties Heavy and Highway Laborers' Local No. 60 L.I.U.N.A.

Not all Local Unions will necessarily be involved in the Project. If it is determined that additional affiliates of the Council are required to be engaged in Project construction work, then the PLA will include those additional affiliates.

TECHNICAL SPECIFICATIONS

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION
Division of Engineering



architects + engineers

TECHNICAL SPECIFICATIONS

WESTCHESTER COUNTY
DEPARTMENT OF PUBLIC WORKS AND
TRANSPORTATION
DIVISION OF ENGINEERING
WESTCHESTER COUNTY, NEW YORK

SECONDARY SYSTEM REHABILITATION YONKERS JOINT WASTEWATER TREATMENT PLANT YONKERS, NEW YORK

Contract No. 16-512

MARCH 2022

Prepared by:

H2M architects + engineers
2700 Westchester Avenue, Ste 415
Purchase, NY 10577
tel 914.358.5623 fax 914.358.5624



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APPENDIX

Lead XRF Report

PART 1 - GENERAL

1.01 – SECTION INCLUDES

- A. A summary of the Prime Contract, including responsibilities for coordination and temporary facilities and controls.
- B. Specific requirements for work of each Trade are also indicated in individual Specification Sections and on Drawings.
- C. Related Sections:
 - 1. Division 01 Section "Work Restrictions" for the Work covered by the Contract Documents, restrictions on use of the Project site, phased construction, coordination with occupants, and work restrictions.
 - 2. Division 01 Section "Project Management and Coordination"
 - 3. Division 01 Section "Construction Schedule"

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - 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.
- 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 GENERAL CONSTRUCTION CONTRACTOR may be referred to as the "General Contractor," "Prime General Contractor," "Contract G Contractor" or similar wording.
- D. The terms "Contractor" and/or "Prime Contractor" where used within the body of a specific Construction Contract, 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.

1.04 - GENERAL REQUIREMENTS OF CONTRACTS

- A. Extent of Contract: Unless the Agreement contains a more specific description of the work, requirements indicated on Drawings and in Specification Sections determine which contract includes a specific element of the Project.
1. Unless otherwise indicated, the work described in this Section for this contract shall be for complete systems and assemblies, including products, components, accessories, and installation required by the Contract Documents.
- B. Temporary Facilities and Controls: In addition to specific responsibilities for temporary facilities and controls indicated in this Section and in Division 01 Section "Temporary Facilities and Controls," the contractor is responsible for the following:
1. Installation, operation, maintenance, and removal of each temporary facility necessary for its own normal construction activity, and costs and use charges associated with each facility, except as otherwise provided for in this Section.
 2. Plug-in electric power cords and extension cords, supplementary plug-in task lighting, and special lighting necessary exclusively for its own activities.
 3. Its own storage and fabrication sheds.
 4. Temporary enclosures for its own construction activities.
 5. Staging and scaffolding for its own construction activities.
 6. Waste disposal facilities, including collection and legal disposal of its own hazardous, dangerous, unsanitary, or other harmful waste materials.
 7. Progress cleaning of work areas affected by its operations on a daily basis.
 8. Secure lockup of its own tools, materials, and equipment.
 9. Construction aids and miscellaneous services and facilities necessary exclusively for its own construction activities.
- C. Temporary Heating, Cooling, and Ventilation: The General Construction Contract is responsible for temporary heating, cooling, and ventilation, including utility-use charges, temporary meters, and temporary connections.

1.05 ABBREVIATED SUMMARY OF THE PRIME CONTRACT WORK

- A. 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.
- B. The work includes, but is not limited to, the following:
1. Surface preparation and re-coating of the Secondary Aeration Header to include the twelve (12) branch feeders above and below deck.
 2. Replacement of two (2) mechanical joint couplings on the main Secondary Aeration Header. Replacement will require a coordinated shutdown with Plant Operator and rigging with a crane lift.
 3. Repair of the concrete supports for the Secondary Aeration Header as shown in the Contract Drawings.
 4. Demolition and removal of the existing Secondary Plant Water System and furnishing a new skid mounted duplex pump system in adjacent room.
 5. Replacement of the Engine and General Cooling System Pumps and isolation and check valves as shown on the Contract Drawings
 6. Replacement of the Plant Effluent (x2) automatic backwash strainers and associated backwash pumps, valves and controls
 7. Replacement of the High Pressure Washdown System and installation of a new distribution main and feed branches at yard hydrants.
 8. Replacement of the Secondary Compressed Air System
 9. Electrical power and control as shown on the Contract Drawings
 10. Selective demolition.
 11. Miscellaneous items, including concrete equipment pads.
 12. Equipment, includes, but is not limited to, the following:
 - a. Pumps; Strainers; Compressors

- b. Level Control; Pressure Control
 - c. Equipment Control Panels
 - d. Disconnect Switches
 - e. Pressure Vessels
 - f. Air Dryer
 - g. Interconnecting Instrumentation and Appurtenances
15. Special Construction, including the following:
- a. Pre-engineered mechanical skid systems.
16. Piping and Valves
17. Site Work as it pertains to the Aeration Header Rehabilitation
- C. Temporary facilities and controls in the Prime Contract include, but are not limited to, the following:
- 1. Temporary facilities and controls that are not otherwise specifically assigned to the Trades.
 - 2. Sediment and dust control.
 - 3. Stormwater control.
 - 4. Un-piped temporary toilet fixtures, wash facilities, and drinking water facilities, including disposable supplies.
 - 5. Special or unusual hoisting requirements for construction activities, including hoisting loads in excess of 2 tons, hoisting material or equipment into spaces below grade, and hoisting requirements outside building enclosures.
 - 6. General waste disposal facilities.
 - 7. Barricades, warning signs, and lights.
 - 8. Site enclosure fence.

9. Environmental protection.

D. All other work shown and specified within the Contract Documents for the Prime Contract.

1.06 - EXISTING CONDITIONS

- A. The Drawings show certain information that has been obtained by the Owner regarding various pipelines, utilities and structures that exist at the location of the project both below and at grade.
- B. The Owner and the 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 Engineer of the obstructions' existence.
- D. The 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 "Miscellaneous Additional Work (MAW)".

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 use of Owner's Monorails, Hoists and Other Equipment
- D. Contractor storage, parking and deliveries.
- E. Work hours, employee conduct and miscellaneous employee requirements.
- F. Contract requirements related to maintaining Owner's current operations and excess inspection required.
- G. Suggested construction sequence.
- H. Contractor Waste / Scrap Management

1.02 - RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 – SITE ACCESS AND CONTROL

- A. The Contractor shall use the designated entrance to the site as shown on the drawings or as indicated by Westchester County.
 - 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 Contractor 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. The Contractor shall 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. The Contractor shall not close any road for any period of time. The Contractor shall take whatever measures are necessary to not cause any inconvenience to the area's residents.
- D. The Contractor is responsible to employ methods to prevent construction materials and/or debris from leaving the site. The Contractor is 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. Employ methods to prevent the transmission of dirt from vehicles driving on exposed areas of the site from reaching the surrounding roadways. The Contractor will be responsible to immediately clean the roadway, should the measures being taken by the Contractor not satisfactorily control the transmission of any dirt to the roadway.
- F. Damage 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. 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 Contractor for all costs associated with maintaining the grounds as well as maintaining areas outside the site, which may be disturbed by the Contractor should the Contractor fail to maintain or repair the aforementioned in a condition acceptable to the Owner.

1.04 - 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. 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 for stockpiling of construction material and debris without any significant hardship, as defined by the Owner's Construction Representative, or the Owner,
 - 3. 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, or the Owner or other contractors,
 - 4. To allow utility companies to install their work,

5. To allow for the delivery of equipment and materials by independent trucking companies by leaving enough space for backing in and out of areas,
 6. To allow for the safe, unimpeded travel way of the Owner's vehicles, Owner's and Engineer/Architect's vehicles, construction vehicles and heavy construction equipment about the entire site.
- C. 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.
- D. Protect the 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.
- E. Protect all of the physical structures, property and improvements upon the site from damage by the Work and 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.
- F. Limit use of the site to the area(s) shown on the Contract Drawings. Confine operations to permit others working on the site easy access to all areas of Work.
- G. 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 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.
- H. Immediately remove excess excavated material or relocate to areas on the site requiring placement of fill. Do not stockpile excess material on the site.
- I. The construction site space is limited, and it shall be the Contractor's responsibility to manage the site during the entire construction period with input from all concerned parties.
- J. The Contractor is responsible for cleaning up their own materials and debris. Failure to maintain a clean work site daily, will result in contractor(s) being back charged for the cleaning cost plus construction administration fees.

- K. Use of the existing building facilities during construction is prohibited including but not limited to: toilet rooms, telephone and water fountains. Contractor(s) shall be fined \$250 per occurrence if their employee (or subcontractor's employee) is observed disregarding these rules.
- L. Should it become necessary to access the existing building during construction hours for measurements or other non-disruptive work, the Contractor will be escorted by an Owner's Construction Representative.
- M. Refer to Section 015000 - Temporary Facilities and Controls for minimum rubbish removal requirements.
- N. Do not discard or dispose of any waste on-site.
- O. Open fires will not be permitted on the site.
- P. The Contractor shall be responsible for managing dust as specified in Section 015719.

1.05 - CONTRACTOR USE OF OWNER'S MONORAILS, HOISTS AND OTHER EQUIPMENT

- A. The Contractor may only use the Owner's monorails and hoists located at the facility for the loading of equipment and materials or use any other Owner owned equipment at the facility, with the express written approval of the Owner and Engineer and upon execution of the Release and Waiver form attached to this Section. If authorized to use any monorails, hoists or other Owner-owned equipment, the Contractor shall be fully responsible for confirming its load capacity and/or operability. Such confirmation shall be performed by an experienced hoist and monorail service and inspection firm, who shall provide written certification for the operability and capacity of the hoist. The cost for such inspection and certification shall be borne by the Contractor. Should the inspection firm determine that repairs are required to the hoist to make it operable, the Contractor shall have such repairs made prior to utilizing the hoist. The Contractor shall bare all costs for such repairs. The Contractor shall assume full responsibility as it relates to the use of the monorails, hoists or other Owner owned equipment and any subsequent damage to materials, equipment and/or injury to personnel thereto. A Release and Waiver form found at the end of this Section must be filled out and submitted.

1.06 - CONTRACTOR STORAGE, PARKING AND DELIVERIES

- A. 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. 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 of materials will be permitted within the buildings at any time during construction.
- E. Storage of chemicals and paint 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. 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. Contractor 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.

1.07 – WORK HOURS, EMPLOYEE CONDUCT AND MISCELLANEOUS EMPLOYEE REQUIREMENTS

- A. The Contractor 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 to Friday from 7:00 am to 3:30 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.

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

- A. The Contractor shall schedule working days and hours as specified. The Contractor shall pay all excess costs for inspection services provided by the Owner/Engineer/Architect 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.

1.09 CONTRACTOR WASTE / SCRAP MANAGEMENT

- A. The Owner shall have the right to claim any materials removed during construction on this Contract as salvage, and such material shall be handed over to the County by the Contractor. All other materials not claimed by the Owner shall be removed from the site and disposed of by the Contractor at no additional cost.
- B. The Owner has stated that all metal items removed under this contract, including those with lead-based paints having been removed, shall remain the possession of Owner. Owner will, through a third-party hauling company, provide a disposal bin onsite for the collection of metal items removed as part of the work. Contractor shall separate the metal items, cut them as required to fit within a 20 cubic yard disposal bin (approximate dimensions: 8' wide x 4' high x 22' long) and deposit them into the designated disposal bin. This bin will be removed from the site by the third-party hauling company.
- C. Coordination of the dumpster replacement shall be the responsibility of the Contractor and shall be coordinated through WCDEF.
- D. Contractor shall notify Owner a minimum of 5 working days in advance of the need of a replacement dumpster.

1.10 – SUGGESTED CONSTRUCTION SEQUENCES

- A. The following is a suggested general, not all-inclusive, sequence of construction that may be used to complete all work under the Contract within the time specified. Since permit levels of treatment must be maintained during construction, certain existing process equipment and units cannot be taken offline until new facilities are placed into permanent, fault free operation.
- B. Work restrictions may be noted throughout the suggested sequence provided below. The Contractor shall comply with all noted work restrictions that appear.
- C. The following suggested sequence is provided for information only:
 - 1. Establish site utilization - set up all required field offices and temporary utilities for construction.
 - 2. Construct new systems: The listed work must be completed, tested, checked out by equipment manufacturer and acceptable to the Resident Engineer/Owner prior to starting the next phase.
 - 3. The following is meant to outline each systems individual requirements. The Contractor shall schedule these activities in such a manner to maintain project duration and not restrict plant operations. The order in which the following sections are presented is not a reflection of the anticipated overall sequence.

AERATION HEADER

- A. Coordinate the shutdown of the secondary aeration main header to replace the couplings identified on the Contract Drawings. Air header may only be shut down for a period of 4 hours.
- B. Upon completion of the coupling replacement, surface prep and apply new coating and perform concrete repairs/rehabilitation.

PLANT WATER SYSTEM

- 1. Demolish existing concrete pads and prep surface for new skid mounted duplex pump system.
- 2. Install new duplex pump system in new location including new control panel and interconnecting electric.
- 3. Remove one (1) of the existing motor starters in MCC-3 and replace with new main breaker in the MCC to facilitate startup and maintain existing operations on a single pump.

4. Prepare new piping and valves to coordinate shutdown with WWTP staff to cut in the inlet and outlet piping to the new system. Provide isolation valves in new piping such that both systems can be available during the startup/prove out period.
5. Perform manufacturer startup on new system. After fault-free operation for 2 weeks, the existing system components can be demolished.
6. Perform remaining items identified in the contract documents for the Plant Water System, including SCADA integration.

HIGH PRESSURE WASHDOWN SYSTEM

1. Demolish existing pumps, piping, concrete pads and prep surface for new skid mounted triplex pump system.
2. Install new triplex pump system in new location including new control panel and interconnecting electric and inlet/outlet piping.
3. Remove one (1) of the existing motor starters in MCC-6 and replace with new main breaker in MCC.
4. Perform manufacturer startup on new system.
5. Perform remaining items identified in the contract documents for the High Pressure Washdown System, including SCADA integration.

AIR COMPRESSORS

1. Demolish existing compressors, piping, tanks, electric as shown and associated controls.
2. Provide temporary air as necessary to facilitate the new installation. Coordinate with Owner for air requirements.
3. Install new system as shown on Contract Drawings including new control panel and interconnecting electric and inlet/outlet piping.
4. Remove/replace each of the existing motor starters in MCC-5 and replace with new main breakers in the MCC to feed new alternating control panel.
5. Perform manufacturer startup on new system.

6. Perform remaining items identified in the contract documents for the air compressor system, including SCADA integration.

COOLING WATER PUMPS/PLANT EFFLUENT STRAINERS

1. Remove existing local start/stop panel for cooling water pumps.
2. Remove and replace existing plant effluent strainers, backwash pumps, accessories, and control panels. Coordinate length of strainer bypass with WWTP staff.
3. Perform manufacturer startup on both strainers and automatic backwash systems.
 - a. Pump replacement may not be started until new strainers are operational to protect new pumps from harmful debris.
4. Install new local start/stop panel for cooling water pumps.
5. One at a time, remove/replace the pumps and motor starter buckets in MCC-5 for the General Cooling Water system (x3 each). Perform manufacturer startup for each pump as it becomes available. Each pump must be in fault-free operation for 2 weeks before the next can be removed/replaced.
6. Concurrent to the General Cooling Water pumps and one at a time, remove/replace the pumps and motor starter buckets in MCC-5 for the Engine Cooling Water system. Perform manufacturer startup for each pump as it becomes available. Each pump must be in fault-free operation for 2 weeks before the next can be removed/replaced.
7. Perform remaining items identified in the contract documents for the Cooling Water Systems, including SCADA integration.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

RELEASE AND WAIVER

In consideration of the Work as part of the Yonkers Joint Wastewater Treatment Plant (JWWTP), herein referred to as the "Project", more specifically the use of the existing monorails and hoists located at the facility for the loading and unloading of materials and equipment or any other County owned equipment used by the Contractor during the performance of the Work, the Contractor shall assume full responsibility as it relates to the use of the monorails, hoists or other Owner owned equipment and any subsequent damage to materials, equipment and/or injury to personnel thereto, and does hereby agree on behalf of themselves, their heirs, successors and assigns, subcontractors and any third parties who may have claim by, through or against the Contractor, to forever release and discharge the County of Westchester, its officials, representatives, employees, agents, successors and assigns, Lynstaar Engineering, P.C. and H2M architects + engineers from any and all claims, obligations, demands, causes of action, agreements, promises, variances, fees, costs and damages whatsoever, which the Contractor has or may have which relate in any way to the use of any of the monorails, hoists or any other County owned equipment used by the Contractor in performance of the Work located at the Yonkers JWWTP, including without limitation failure or inoperability of the equipment while in use by the Contractor during performance of the Work.

IN WITNESS WHEREOF, Contractor has executed this Release and Waiver on

WITNESS

CONTRACTOR

Date: _____

Date: _____

Date: _____

END OF SECTION

PART 1 - GENERAL

1.01 - DESCRIPTION

- A. Work under this Section specifies the procedures used to process partial and final payments. It also includes the procedure for issuance of the Certificate of Substantial Completion and the Final Payment.
- B. If there are any discrepancies between this Section of the Contract Documents and the Contract, General Conditions, then submit request for clarification to Engineer.

1.02 - RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General and Special Clauses
- D. Section 012973 - Schedule of Values
- E. Section 017800 - Closeout Submittals
- F. Section 017823 - Operating and Maintenance Data
- G. Section 017839 - Project Record Documents

1.03 - TIME FOR COMPLETION

- A. Inasmuch 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 for 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 in the Notice To Proceed. The Contractor shall prosecute the Work with diligence from day to day, and complete it at the time fixed.

- D. For the purpose of defining completion date, the Project will be considered complete when all work covered by the Contract has been performed.

1.04 - PARTIAL COMPENSATION

- A. At the Owner's discretion, the Contractor may receive compensation for materials, equipment, and products delivered to the site yet not installed provided:
 - 1. A cancelled check or paid bill from the supplier is submitted to the Engineer/Architect indicating that the Contractor has paid the supplier for the material or equipment.
 - 2. A certificate of insurance is provided specifically insuring the piece of equipment for full value in the event of loss, vandalism, fire, and act of God.
 - 3. A bill of material is delivered to the Engineer/Architect at the time of delivery itemizing the subject material or equipment.
 - 4. The Engineer/Architect has agreed to the pre-purchasing of the materials.
- B. Payment will be made for on-site material and/or equipment for 80% of the gross amount of the paid invoice, less the normal contract retainage.
- C. The Contractor will not receive compensation for materials, equipment, and products stored in the Contractor's yard or shop.
- D. The Contractor will not receive compensation for material, equipment, and products stored on site if it has not been stored in accordance with the manufacturer's requirements and the requirements specified elsewhere within these specifications.
- E. Payment(s) made under this paragraph do(es) not relieve the Contractor from his/her responsibilities under the terms of this Contract.

1.05 - PAYMENT TO CONTRACTOR

- A. Submit with each and every voucher for payment for work completed under this Contract, a statement as to the amounts due and owing by the Contractor to labor, subcontractors and materialmen and a certificate relative to payments now due.
 - 1. All statements shall be signed by the Contractor's authorized representative and witnessed by a notary public.

2. A Specimen of the required statement is attached and made a part of this Section of the Contract Documents.
- B. Every application for payment shall consist (and be in the order of) the following properly prepared and executed documents:
1. Transmittal letter or memo describing the exact contents of the payment application
 2. Signed invoice on company letterhead
 3. Owner's voucher executed by the Contractor (if required)
 4. Schedule of Values showing derivation of the invoiced amount, consistent with the proposal form(s)
 5. AIA Documents as specified in Section 012973
 6. Certified payroll records prepared in accordance with standard accounting procedures in a form acceptable to the Owner
 7. Payment affidavits (Specimen forms provided herein this Section and as specified above)
 8. Invoices and required backup information for payment to be made from cash allowance(s)
- C. The Engineer/Architect will not process partial payment applications until the required documents are submitted in the prescribed form as may be discussed at the pre-construction conference or as may be required by the Owner.
- D. Payment requests shall not be submitted more than once per month.

1.06 - SUBSTANTIAL COMPLETION AND FINAL PAYMENT REQUEST

- A. Substantial Completion:
1. Upon Substantial Completion of the Work as defined herein and acceptance thereof by the Engineer/Architect/Owner, and as soon thereafter as practicable, the Engineer/Architect will prepare a Certificate of Substantial Completion.
 - a. The Engineer/Architect will establish the date of Substantial Completion when the project is accepted and ready for operation for the intended purpose, and no large, major or important items of work are as yet outstanding; thus the Owner has gained *Beneficial Use* of the project.

- b. The Certificate of Substantial Completion will indicate the value of work performed, materials and equipment furnished, and otherwise show the exact aggregate amount equal to one hundred percent (100%) of the total compensation to which the Contractor is entitled for the performance of the Contract, less the amount of previous payments, less the sum as stipulated below for remaining Punchlist work.
 - c. All documents as specified in Sections 017800, 017823, and 017839 shall be submitted and approved prior to Substantial Completion.
 - d. The Certificate of Substantial Completion will be submitted to the Owner and a copy furnished to the Contractor.
 - e. Upon approval of the Certificate of Substantial Completion by the Owner, and as soon as practicable thereafter, the Owner will pay the Contractor.
2. Attached to the Certificate of Substantial Completion will be a Punchlist itemizing the items of work remaining.
- a. The Punchlist will include “minor” items only, as so defined solely by the Engineer/Architect.
 - b. Any prior punchlists, which include “major” or significant items, as defined by the Engineer/Architect, shall not be criteria in establishing the date of Substantial Completion.
 - c. This Punchlist shall not be considered all-inclusive and any outstanding contract requirements discovered by the Owner or the Engineer/Architect shall be installed, repaired, replaced and corrected prior to the final inspection. The Engineer/Architect will provide written notice of such additional outstanding work items.
 - d. The Engineer/Architect will calculate and itemize, in the Certificate of Substantial Completion, the value of the Punchlist work as being the larger sum of either:
 - 1) Two times the sum of money which, in the Engineer/Architect’s opinion, would be necessary to expend if the Owner were to contract with others for the final completion of the work and satisfaction of all Punchlist items,
or
 - 2) The sum of money represented in the Contractor’s bid schedule or Schedule of Values for the Punchlist items.

3. The Certificate of Substantial Completion shall fix the time for the Contractor to finish all Punchlist work.
 4. The Contractor shall prepare a Substantial Completion partial payment application as specified in paragraph 1.05 herein, which shall be made a part of the Certificate of Substantial Completion.
 5. The warranties/guarantees for all equipment, products and services required by the Contract Documents shall commence on the date that the Owner accepted/executed the Certificate of Substantial Completion.
 6. The warranties/guarantees for all equipment, products and services represented on the Substantial Completion Punchlist will begin on the date that the Owner accepted the Final Payment Request as hereinafter specified.
 7. Removal of the Contractor's plant and equipment and other inconsequential adjustments which do not prevent *Beneficial Use* of the Project, will not be a factor in establishing the date of Substantial Completion.
 8. Only the Final Payment Request will be processed after Substantial Completion has been reached.
- B. Final Completion:
1. Upon receipt of written notice that the work of the Contract is ready for final inspection and upon receipt of a Final Payment Request, the Engineer/Architect will make a *formal inspection*.
 2. An amount of **\$1,000.00 (ONE THOUSAND DOLLARS AND ZERO CENTS)** will be deducted from the Contractor's Final Payment for each *formal inspection* where uncompleted work of the Contract was found by the Engineer.
 3. All spare parts shall have been delivered prior to a final inspection.
 4. Upon Final Completion of the Work in accordance with the Contract and acceptance thereof by the Owner, and as soon thereafter as practicable, the Engineer/Architect will process the Contractor's Final Payment Request.
 - a. The Final Payment Request will indicate the value of the work performed, materials and equipment furnished, and otherwise the exact aggregate amount of

compensation to which the Contractor will become entitled under the terms of the Contract.

- b. Upon approval of the Final Payment Request by the Owner, and as soon as practicable thereafter, the Owner will pay the Contractor an amount equal to one hundred percent (100%) of the total compensation to which the Contractor is entitled for the performance of the Contract, less the amount of all previous payments.
5. The issuance of the Final Payment Request and payment in full to the Contractor shall be contingent and conditioned upon submission by the Contractor of a *Maintenance Bond*.
- a. The Bond shall be in a form approved by the Owner and issued by a surety acceptable to the Owner in its sole and absolute discretion.
 - b. The Bond shall remain in effect as specified elsewhere in the Contract Documents.

1.07 - 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/her, the Contractor shall return such copy to the Owner together with a statement of his/her objections to such payment request and of any claim for damages or compensation in excess of the amounts shown on the Final Payment Request.
- B. The acceptance by the Contractor of the Final Payment Request as approved by the Owner shall constitute a release and shall discharge the Owner and Engineer/Architect 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.

1.08 - RELEASE OF RETAINAGE & REINSPECTION OF WORK

- A. Retainage will be released as specified in the Contract Documents.
- B. During the last month of the *Maintenance Bond* period, the Owner may make, or cause to be made, a reinspection of the Work. If the Work is found satisfactory and in accordance with the Contract Documents, the Owner will approve the termination of the Contract.

- C. In the event the inspection discloses the existence of defects in the materials, equipment or workmanship or other noncompliance with the Contract Documents, the Contractor shall be required to immediately make good and rectify all defects.
1. Any item of equipment that has failed to maintain the performance or other salient requirements of these specifications, shows undue wear, or other deleterious defects, will be considered defective.
 2. If the Contractor shall fail or neglect to satisfy the requirements of the Owner with respect to making the necessary corrections, then the Owner may proceed to have the work executed by others and the cost and expense thereof will be borne by the Contractor and his Sureties.
 3. Correction of defects and noncompliance and payment for such by the Contractor or his Sureties shall terminate the Contract and release all parties hereunder.

1.09 - 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.
- B. 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 Engineer/Architect shall be the sole judge, and the Contractor shall be liable to the Owner for failure to do so.

1.10 - RIGHT TO WITHHOLD PAYMENTS

- A. The Owner may withhold from the Contractor the amount of any payments due him as may in the judgment of the Owner be necessary:

1. To assure the payment of any lien, stop notice or claim filed with the Owner for work, labor or materials, done, performed, or delivered and used in the prosecution of the Work herein provided for (whether in strictly legal form or otherwise); or
 2. To protect the Owner from loss due to defective work not remedied or through any improper or defective machinery, implements or appliances used by the Contractor or for failure of the Contractor to fully comply with all requirements of the Contract; or
 3. To protect the Owner from loss due to injury to persons or damage to the work or property of other contractors, subcontractors, or others, caused by the act or neglect of the Contractor or any of his subcontractors.
- B. The Owner shall have the right as agent for the Contractor to apply any amounts so withheld in such manner as it may deem proper to satisfy such claims or secure such protection. Such application of such money shall be deemed payments for the account of the Contractor.
- C. Before release to the Contractor of any funds retained under this provision, the Contractor shall furnish satisfactory written evidence to the Owner that the claim or claims have been fully paid or satisfied.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used

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SPECIMEN

STATEMENTS AS TO AMOUNTS DUE AND OWING BY CONTRACTOR TO LABORERS, SUBCONTRACTORS AND MATERIALMEN. THIS DOCUMENT SHALL BE SUBMITTED WITH EACH AND EVERY VOUCHER.

STATE OF _____)

) ss.:

COUNTY OF _____)

_____, being duly sworn, deposes and say that he is an Officer of _____ furnishing labor and materials in connection with a public improvement for **Yonkers JWWTP Secondary System Rehabilitation** project for _____ work and that to his knowledge all laborers for daily or weekly wages employed by _____ have been paid in full and to the best of his knowledge all laborers with daily or weekly wages employed by subcontractors of _____ on such employment have been paid in full, except as follows:

And, that to his knowledge, all subcontractors for labor and/or materials engaged by _____ and material dealers engaged by it have been paid by it in the amount of money due them or not less than the amount paid by the Owner to the Contractor on account of their labor and/or materials in accordance with previous requisitions.

This statement is made pursuant to all applicable provisions of the Labor Law of the State of New York.

By: _____

Note: The Contractor shall retype this document on company letterhead or use the form provided by the Owner.

STATE OF)

) ss.:

COUNTY OF)

_____, being duly sworn, deposes and says that deponent is an Officer of _____ the corporation named in this action; that deponent has read the foregoing Statement and knows the contents thereof; and that the same is true to deponent's own knowledge, except as to the matters therein stated to be alleged upon information and belief and to those matters deponent believes it to be true. This verification is made by deponent because _____ is a corporation. Deponent is an officer of the company.

By: _____

Officer

Sworn to before me this _____

day of _____, 20____

Notary Public

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Allowance pricing for the following items:
 - 1. Computer System Account.
- 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 Contractor shall include the cash allowances stipulated in this Section in the amount bid (Base 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 the lump sum base bid.

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 Engineer/Architect 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 COMPUTER SYSTEM ACCOUNT

- A. Include the cash allowance of **\$7,500 (SEVEN THOUSAND FIVE HUNDRED DOLLARS AND ZERO CENTS)** in the amount bid for use upon the Owner's instructions.
- B. Funds will be drawn from this account to pay for a computer system to be used by the Owner/Engineer/Architect as specified in **Section 015213**.
- C. Funds remaining at project closeout shall be credited to the Owner.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - GENERAL

- A. This Section specifies the requirements for measurements and records made for payment purposes and describes the item(s) under which payment(s) will be made for the Work performed under this Contract.
- B. All work shown or specified in the Contract Documents will be performed.
- C. Items not specified to be measured or paid for (for which no specific pay item exists in the Price Schedule) will be included in an appropriate unit price item or in a lump-sum item.
- D. Comply with the requirements contained in Section 030130.71 for the requirements pertaining to the restoration of all surfaces, which may or may not be paid for under a separate unit price item, and which will be restored to a condition equal to or better than that existed prior to work starting under this contract.

1.02 - MEASUREMENT REQUIREMENTS

- A. All required measurements will be made by the Contractor with the Engineer.
- B. Any measurements not witnessed by Engineer and which cannot be verified or substantiated by Engineer will not be approved and payment under the item(s) requiring such measurements will not be made.
- C. Coordinate measurements monthly, for the preparation of periodic pay estimates.
- D. Where payments will be made for removing existing materials, or materials generated by work, Contractor shall be required to notify Engineer so that he may witness the measurements.
 - 1. All materials removed without conforming to the above procedures, which Engineer cannot verify or substantiate, will not be paid for.
 - 2. Maintain complete, neat, clean, and legible field notes for all measured items.
 - 3. Notes will contain spaces for Contractor's and Engineer's signatures plus additional space for comments.
 - 4. An original and a carbon copy will be made for all notes and one copy will be turned over to Engineer daily.

5. The Engineer's signature will not be constituted as an acceptance of the work, or the measurements made, but will mean that he was present when the measurements were made.

1.03 - SUBMITTALS

- A. See Section 013300.
- B. Field notes of all measurements for payment purposes delivered to Engineer daily.
- C. Copies of all invoices required for payments out of cash allowance(s).
- D. Monthly Applications for Payment.
- E. Record Drawings showing the locations and quantities of all items measured for payment purposes.

1.04 - SCHEDULING

- A. Notify Engineer, as far in advance as possible, of the recording of measurements so that Engineer may observe existing conditions, work being performed, and measurements being made.
- B. Allow for and afford Engineer ample time, space, and equipment to observe measurements and to verify measurements and elevations.

PART 2 - PRODUCTS

2.01 - GENERAL

- A. Provide all labor, materials, facilities, levels, measuring devices and all other equipment and items necessary to properly and accurately perform all measurements for payment purposes.
- B. Payment for certain items not specifically listed in the bid forms but otherwise required by the technical specifications will be deemed included as part of the General Conditions and the individual unit price and lump sum bid items provided for in the proposal.

PART 3 - EXECUTION

- A. Perform all measuring required under this Section.
- B. Record all measurements and calculated quantities on the Record Drawings.

- C. No measurement will be made for work performed within the limits of Lump Sum Items.

| <u>ITEM NO.</u> | <u>QTY</u> | <u>ITEM DESCRIPTION AND MEASUREMENTS</u> |
|-----------------|------------|--|
| B | 144 EA. | <u>Air Header Concrete Support Installation</u> - Measure the actual number of supports installed as directed by Engineer in the field. Measurement will be based on completed supports, after forms are removed and support is accepted by the Engineer. |

PART 4 - PAYMENTS

4.01 - GENERAL REQUIREMENTS AND STIPULATIONS

- A. No separate payments will be made for the Work under this Contract except for the pay items stipulated in this Part 4.
- B. All costs in connection with the Work will be included in one or more of the pay items, as appropriated.
- C. Each pay item will be full compensation for all costs in connection with the item including, but not limited to:
1. the furnishing of all materials, labor, equipment, tools, and all incidentals,
 2. the installation of all materials, equipment, facilities, accessories and appurtenant items,
 3. proper share of overhead and profit,
 4. mobilization/demobilization,
 5. submittals,
 6. General and Supplemental Conditions,
 7. all temporary facilities and controls
 8. restoration of surfaces not scheduled to be paid for by bid items
 9. all related and incidental work and items necessary or required to complete the Work and to provide completely connected, operational and approved systems capable of performing as required.

- D. In addition to those items described above, Paragraph 4.02 lists specific items of work under each pay item to assist Contractor in appropriating the costs to the proper pay item.

4.02 - PAY ITEMS

- A. The name, as shown below or on the bid Proposal form, will not be construed to represent a complete description of all or the Work included under such time as is provided only as a means of identification and for ease of conversation.

| <u>ITEM NO.</u> | <u>QTY</u> | <u>PAYMENT</u> |
|-----------------|----------------|---|
| B | 144 EA. | <u>Air Header Concrete Support Installation</u> - Payment will be made at the unit price bid per installed support, accepted by the Engineer. Include costs for placing/removing formwork, reinforcement, bonding agent, concrete placement, and all work incidental thereto and necessary therefore. |

END OF SECTION

PART 1 – GENERAL

1.01 DESCRIPTION

- A. General: The Alternates described in the contract documents shall be included in the Contractor's total bid. Addition of Alternates shall be in the order that they are listed, and all Alternates added to the Contract prior to completion of the Project shall be added to the final payment made to the Contractor.
- B. Documentation of changes to Contract Sum/Price and Contract Time.

1.02 RELATED PROVISIONS SPECIFIED ELSEWHERE

- A. Proposal Form.
- B. Other sections referencing this section.
- C. All contractual requirements outlined in the documents.

1.03 SUBMISSION REQUIREMENTS

- A. Bid alternates will be provided on the Proposal Form that will identify the effect on adjacent or related components.
- B. Alternates will be reviewed and added to the Contract scope at the Owner's option in the order that they are listed.
- C. For alternates added to the Contract scope, the Contractor will coordinate related work and modify surrounding work to add the Work of each Alternate Bid Item.

1.04 SELECTION AND AWARD OF ALTERNATES

- A. On the Proposal Form, the Contractor will indicate the variation of Bid Price for Alternate Bid Items as listed. The Proposal Form requests a "difference" in Bid Price by deducting from the Base Bid Price.
- B. Alternates quoted on the Proposal Form will be reviewed and accepted at the Owner's option in the order they are listed.
- C. Accepted alternates will be identified in the Owner-Contractor Agreement.
- D. Bids will be evaluated on the Base Bid Price, less alternate items.

1.05 WORK FOR ALTERNATES

- A. Each Alternate shall include all related materials, supplies, labor, equipment and operations necessary to conduct and complete the alternate work and all other affected work or adjacent areas.
- B. There shall be no change in time or completion date for selected alternates, unless specified herein or approved in writing by the Architect/Engineer and Owner.
- C. Alternates and associated work shall meet all standards and specifications delineated in the Contract Documents.

- D. Contractor shall coordinate pertinent related Work and modify surrounding Work as required to complete the project under each alternate selected by the Owner.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION

- A. Work for each alternate, related items and collateral work shall be completed in their entirety.
- B. If alternate items are not deducted from the Contract scope, then all work for the Base Bid and collateral work shall be completed in their entirety.

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 Engineer/Architect 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/Engineer/Architect for those products named in the bid.

1.02 - RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - 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 Engineer/Architect.
- 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.
 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 5. Shall reimburse the Owner and the Engineer/Architect for review or redesign services associated with re-approval by authorities.
 6. Shall reimburse the Owner for all additional engineering and/or architectural services claimed by the Engineer/Architect for extra services associated with the review of the Contractor's substituted item since it could not have been originally included in the Engineer/Architect's professional 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 three (3) copies of 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 Engineer/Architect 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 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: _____ Substitution Request
Number: _____

Contractor: _____

Address: _____

To: _____ Date: _____

H2M Project Number: _____ Owner: _____

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. The undersigned will pay for changes to building design, including Architectural and Engineering design, detailing, and construction costs caused by requested Substitution.
4. Proposed Substitution will have no adverse affect on the construction schedule, or specified warranty requirements.
5. Maintenance and service parts will be locally available for proposed substitution.
6. 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 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.

4. Waives claims for additional costs or time extension that may subsequently become apparent.
5. Shall reimburse the Owner and the Engineer/Architect for review or redesign services associated with re-approval by authorities.
6. Shall reimburse the Owner for all additional engineering/architectural services claimed by the Engineer/Architect for extra services associated with the review of the Contractor's substituted item since it could not have been originally included in the Engineer/Architect's professional 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 - SECTION INCLUDES

- A. Schedule of Values

1.02 - RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses
- D. Section 013100 – Project Management and Coordination
- E. Section 013216 – Construction Schedule
- F. Section 013233 – Construction Photographs
- G. Section 015000 -Temporary Facilities and Controls
- H. Section 017839 – Project Record Documents

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 Engineer reserves the right to revise the form or provide a form prepared by the 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 01-48 as sections apply to work. Not all Sections need be assigned a breakout price as determined by the Engineer.
- C. Identify each line item with number and title as listed in Table of Contents. For unit price items, identify each line with item number and description as indicated in Bid Form.
- 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 Engineer.
- E. List quantities of materials specified under unit price allowances.

- F. The Schedule of Values, after approval by the 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. In addition to the above, provide a separate line item cost for each of the following items which shall be supported by proof where specified below:
 - 1. Performance and payment bonds. (Submit proof of this amount.)
 - 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. All Cash Allowances as contained in Section 012100.
 - 7. Preparation of the Project Construction Schedule, and updates, as specified in Section 013216.
 - 8. Preparation of Weekly Schedules as specified in Section 013100.
 - 9. Rubbish removal and daily cleaning up. (Provide a total dollar amount and a daily rate for each calendar day during the contract period.)
 - 10. Construction photographs as specified in Section 013233. (Submit proof of this amount.)
 - 11. Miscellaneous Additional Work (MAW) as specified in the Contract.
 - 12. For the Manufacturer's Field Services item, provide the total amount of days specified throughout the specifications at a daily rate of \$950. Provide a listing by Section number.
 - 13. 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.
 - 14. Engineer's Field Office.

15. Surveyor used for layout. (Submit proof of this amount.)
 16. A total dollar amount for furnishing all the Operations and Maintenance Manuals specified throughout the specifications.
 17. Record drawings retainage amount as specified in Section 017839.
 18. 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 Engineer.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Requests for Interpretation or for information.
- B. Administration of subcontracts.
- C. Coordination of work with utility companies, Owner and the Engineer/Architect.
- D. Communication and coordination requirements.
- E. Site staffing requirements for the Contractor's superintendent.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - REQUEST FOR INTERPRETATION OR INFORMATION

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

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. Sequence and schedule the work of subcontractors. Coordinate construction and administration activities of subcontractors. The Engineer/Architect 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 Engineer/Architect by the Contractor.
- E. The Contractor's on-site project superintendent shall inspect all the work of all of his/her subcontractors, as it is being constructed. The Contractor's subcontractor shall not be permitted to do any work on the site without the 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 mark-out 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 the Contractor, the Owner/Engineer/Architect'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. Construction Schedule: 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, email a typed memo addressed to the Engineer/Architect's/Owner's designated office project manager summarizing the work for the following week. The memo shall also be 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: 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: 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. Up to two (2) project coordination meetings will be held at the Engineer/Architect's or Owner's office as specified herein and in Section 013216.
 2. The meetings will be held when so called for by the Engineer/Architect.
 3. Each meeting may last up to two (2) hours.
 4. The time associated with attendance at the meetings shall be included in the lump sum bid.

1.08 - CONTRACTOR'S JOB SITE SUPERINTENDENT

- A. Employ an on-site superintendent as specified herein below. The superintendent shall be a full-time employee of the Contractor. The costs for the superintendent shall be included in the Contract price.
- B. Name the job site superintendent within five (5) days of the Notice to Proceed. A letter to the Engineer/Architect shall be provided that names the superintendent.
- C. The superintendent 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. The 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 and shall be qualified and experienced person who shall act to schedule and sequence the work on a daily basis.
- F. The superintendent shall be qualified to perform the duties so required to successfully complete the work in accordance with the Contract Documents.
- G. The superintendent shall be on the site for each work day, full time, through the date of Final Completion, including all punch list items.
- H. The superintendent shall speak English. If required by the Engineer/Architect, provide a resume for the proposed superintendent that shall be typed and shall list the qualifications of the superintendent. Prior to the Contractor assigning a superintendent to the project, he may wish to arrange an interview with the Engineer/Architect to determine the proposed superintendent's ability to properly coordinate the work through the Owner/Engineer/Architect. The Contractor shall employ a superintendent acceptable to the Owner.

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REQUEST FOR INTERPRETATION/INFORMATION (RFI)

**COUNTY OF WESTCHESTER
YONKERS JWWTP SECONDARY SYSTEM REHABILITATION
COUNTY CONTRACT 16-512**

| | | | |
|--|--|--|--|
| Product, Item, or System: | | | |
| Request Date: | | RFI No.: | |
| Specification Section: | | Paragraph Reference: | |
| Contract Drawing Reference(s): | | | |
| Describe Request: | | | |
| | | | |
| | | | |
| | | | |
| Signed: | <input type="checkbox"/> See Contractor's Attachments for Additional Description for Information | | |
| Owner/Engineer/Architect Response: | | | |
| | | | |
| | | | |
| | | | |
| Engineer/Architect (Printed): | <input type="checkbox"/> See Engineer/Architect's Attachments for Additional Information | | |
| <i>Engineer/Architect's Signature & Date</i> | | <i>Response Accepted By Contractor Contractor's Signature & Date</i> | |
| <p>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 Engineer/Architect.</p> | | | |



PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Requirements for progress meetings.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - PRE-CONSTRUCTION CONFERENCE

- A. The 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 the Contractor shall attend the conference. The job site superintendent and office project manager for the Contractor shall also attend.
- C. The Engineer/Architect will prepare an agenda for the conference.

1.04 - PROGRESS MEETINGS

- A. Progress meetings will be held approximately once every month 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 Engineer/Architect 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 \$5,000 shall be deducted from the Contract Amount for each announced meeting not attended by the Contractor.
- D. Subcontractors shall attend when requested by the Owner or Engineer/Architect at no cost to the Owner.
- E. Meetings will be conducted by Engineer/Architect at a location selected by the Owner, normally at or adjacent to the project site.
- F. 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.

1.05 - OTHER MEETINGS

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

1.06 - CONDUCTING MEETINGS

- A. General - This paragraph covers Owner and/or Engineer/Architect meetings with Contractor and/or his subcontractors. Neither Owner nor Engineer/Architect 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 Engineer/Architect in advance.
- B. Chairman - When Engineer/Architect/Owner attend meetings, Engineer/Architect, or his duly authorized representative, will act as chairman. Should Owner-Contractor meetings be necessary, Owner will chair such meetings.
- C. Notices - Engineer/Architect 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 Contractor desires a formal meeting, make a request through Engineer/Architect. Except when Engineer/Architect 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 Engineer/Architect of items desired to be discussed and Engineer/Architect 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. Requirements to prepare construction schedule and to keep the schedule up to date.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - CONSTRUCTION SCHEDULE

- 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. The schedule shall be plotted out in color and shall be 24-inch by 36-inch. A copy of the schedule in .pdf format shall also be submitted. The schedule shall contain as many sheets necessary to show all rolled down tasks.
- C. The schedule shall use the following convention:
 - 1. Tasks for the General Contractor in blue ink.
 - 2. Task links/task dependency in blue ink.
 - 3. Electrical tasks in red 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.
- D. Identify risks or threats to on-time completion.
- E. Keep the construction schedule current. Revise and resubmit as often as necessary to accurately reflect the conditions of the work, past progress and anticipated future progress.

- F. The construction schedule shall be completed, submitted, and deemed received by the Engineer/Architect prior to the first payment application.
- G. The schedule, when approved by the Engineer/Architect 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.
- H. Coordinate letting of subcontracts, material purchases, shop drawing submissions, delivery of materials, and sequence of operations, to conform to the schedule.
- I. Coordinate the construction schedule with the proposed schedules of the equipment suppliers and subcontractors.
- J. The schedule shall show the critical sequence items where new units must come on-line before existing facilities go off-line, 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.
- K. Prepare the schedule in a manner so that the actual progress of the work can be recorded and compared with the expected progress.

1.04 - REVISION OF PROJECT PROGRESS SCHEDULE

- A. Evaluate and provide updated construction schedules monthly in accordance with job requirements. Each update shall be submitted to the Engineer/Architect for information purposes and be provided by the last Friday of every month.
- B. Modify the construction schedule to accommodate coordination of the construction contracts by the Owner/Engineer/Architect without claims for additional compensation or delay.
- C. From time to time, and at stages deemed appropriate by the Engineer/Architect, the Engineer/Architect may issue updated schedules to reflect the project's status. The percent complete for each task may be shown, as determined by the Engineer/Architect.
- D. When periodic updates indicate the Work is fifteen (15) or more calendar-days behind the approved final schedule Substantial or Physical Completion dates, present recovery options to the Engineer and Owner to be incorporated into an updated Project Schedule; these include, but are not limited to, allocating additional resources for activity duration reduction, modifying network logic, or revising activity sequences.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Construction photography.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses
- D. Section 013300 - Submittals

1.03 - PHOTOGRAPHY

- A. Provide color photographs of the site (pre and post-construction)
- B. Preconstruction Photographs: Provide photographs, taken within the limits of the work, to document existing conditions. Engineer/Architect will designate the date and location of the exposures that will generally be taken just prior to the construction operations. The minimum number of photographs required is allotted by individual mechanical system/work location below:
 - 1. Secondary Aeration Header and Branches - 100
 - 2. High Pressure Washdown System - 25
 - 3. Plant Water System – 25
 - 4. Cooling Water System (Effluent) – 25
 - 5. Air Compressor System – 25Two (2) duplicate sets of a total of 200 photos shall be provided.
- C. The Engineer/Architect will take progress photographs for the Owner's record. The Contractor shall secure his/her own progress photographs.
- D. Final Photographs: Provide post-construction photographs, taken within the limits of the work, to document the final project and the conditions at final payment and issuance of the Final Certificate. The Final Payment will not be processed until such time as the photographs are provided. Engineer/Architect will designate the date and location of the exposures that will be

taken. The minimum number of photographs required shall be one hundred (100) for the entire Secondary Aeration Header and Branches, and twenty-five (25) for each individual mechanical system. Each system with the corresponding number of photos required is summarized in Section 1.03B. Two (2) duplicate sets of 200 photos shall be provided.

- E. Annotate the following on the back side of each print:
1. Project name and number.
 2. Photographer's identification, address, and telephone number.
 3. Date and time picture was taken.
 4. Location of picture relative to a specific location on the site, (for example, "10 ft. southeast of Operations Building").
 5. Direction in which camera was aimed.

1.04 - PRINTS

- A. Paper Surface (Color): Smooth, glossy.
- B. Contrast (Color): High.
- C. Size for hand photographs: 4-inch x 6-inch.
- D. Commercially purchased album pages suitable for a 3 ring binder shall protect the prints. Deliver to the Engineer/Architect prints placed in the protector page. One (1) print per slot.
- E. Bind each set of photographs in a binder with plastic cover front and back as manufactured by National or equal. Each binder shall be sequentially numbered and show the name of the project on the binder and front cover using white on black ½ inch laminated lettering tape by Brother or equal. Provide an index with each set of photographs in a form acceptable to the Owner.

1.05 - MEDIA

- A. Deliver electronic media with digital files to Engineer/Architect with prints. Provide typed table of contents for each set of prints for each submission.

1.06 – PHOTO FILES

- B. Minimum 5 mega pixel resolution, JPEG format.
- C. Landscape frame position.

- D. JPEG files shall be turned over to the Owner with all rights for use and reproduction of the photos files for the Owner's own use.
- E. Provide factual presentation. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.

1.07 - SUBMITTALS

- A. Deliver prints within seven (7) working days after exposure with transmittal letter in accordance with the requirements of Section 013300.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Requirements for making submissions for the project.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses
- D. Section 012500 - Product Substitution Procedures
- E. Section 013100 - Project Management and Coordination

1.03 - IDENTIFICATION OF SUBMITTALS

- A. Each and every submission shall be provided by the Contractor and shall be accompanied by a SUBMISSION TRANSMITTAL FORM. Use the specimen form made a part of this Section. Submittals not containing the form will be returned to the Contractor un-reviewed. The Engineer/Architect 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 Engineer/Architect 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 Engineer/Architect.
- E. Every submittal shall also be accompanied by a Transmittal Letter (or "Speed Form") addressed to the Engineer/Architect's Project Manager as hereinafter defined.

1.04 - COORDINATION OF SUBMITTALS

- A. Prior to submitting to the Engineer/Architect, 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 Engineer/Architect 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.

1.05 - 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 resubmittals, and for placing orders and securing delivery. The Engineer/Architect will review submittals in a manner as expedient as possible, and will generally send a written response to the Contractor within ten (10) 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 Engineer/Architect's review (except operations manuals) as required under the technical specifications of these documents shall be submitted within thirty (30) 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 Engineer/Architect's review.
- E. Operation and maintenance manuals shall be submitted at least thirty (30) 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 Engineer/Architect, the Contractor shall be liable for its removal and replacement at no extra charge and without an increase in contract time.

1.06 - DESTINATION OF SUBMITTALS

- A. The front of the envelope or package containing the submittals shall include the name of the project and the Engineer/Architect's project manager.
- B. A photocopy of each SUBMISSION TRANSMITTAL FORM shall also be mailed to the Engineer/Architect's resident engineer at the job site, if the Engineer/Architect requires.
- C. Electronic submittals shall be transmitted through the Newforma® Project Center website or by email, pending instruction by the Engineer. The Engineer 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 Engineer/Newforma Info Exchange website for information related to the project, including file transfers, RFI, Submittals, Action Items, and project Calendar information. Access to this website is through use of any internet-capable computer running Internet Explorer or Firefox. Data transmitted through the Engineer/Newforma Info Exchange website is encrypted and logged. Further instructions will be provided to the Contractor after the contract is awarded

- E. Submissions shall be sent to the Engineer/Architect's office as follows:

H2M architects + engineers

538 Broadhollow Road, 4th Floor East

Melville, NY 11747

Attention: H2M Project Manager (Named at Pre-Construction Conference or in the Notice to Proceed)

1.07 - 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 or blueprinting machines.
- 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 Engineer/Architect's review.

1.08 - 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 Engineer/Architect will not review submittals that have not yet been reviewed and approved by the Contractor.

1.09 - ENGINEER/ARCHITECT'S REVIEW

- A. Engineer/Architect will review and comment on each submission conforming to the requirements of this Section.
1. Engineer/Architect'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 Engineer/Architect'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 Engineer/Architect will mark submittals as follows:

1. NO EXCEPTION TAKEN - No corrections, no marks. The content of this submittal has been reviewed by the Engineer/Architect 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 - Minor amount of corrections. The content of this submittal has been reviewed by the Engineer/Architect and has been found in general to be in compliance with the Contract Documents. The notations made on the submittal by the Engineer/Architect 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. REVISE AND RESUBMIT - The content of this submittal has been reviewed by the Engineer/Architect 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 Engineer/Architect's comments and resubmitted to the Engineer/Architect 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 – SEE REMARKS - The content of this submittal has been reviewed by the Engineer/Architect 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 - The content of this submittal has been reviewed by the Engineer/Architect 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. NO ACTION TAKEN – Review for this item is the responsibility of another party, therefore, no action will be taken by the Engineer accordingly. Submission will be returned without review to the Contractor.
 7. NO ACTION TAKEN – This submittal is not required by the Contract Documents, therefore, no action will be taken by the Engineer. Submission will be returned without review to the Contractor.
 8. RECEIVED FOR RECORD - 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 Engineer/Architect,
 3. has been made and stamped “Make Corrections Noted”, but contractor has not complied with Engineer/Architect’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. Provide a 4-inch by 6-inch space for the Engineer/Architects review stamp.

1.10 - 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, resubmittals, clearly describe revisions and changes made, other than the corrections requested by Engineer/Architect, which did not appear on the previous submissions.

1.11 - CONTRACTOR'S RESPONSIBILITIES

- A. Engineer/Architect'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 Engineer/Architect has found the submission in general compliance with the Contract Documents.
- C. Provide written notification of any specification or drawing deviation.
- D. It is the Contractor's responsibility to provide submittals in PDF. The Contractor will be required to own a PDF reviewing, creating and editing software, such as Adobe Acrobat, Bluebeam PDF Revu®, or other similar PDF reviewing, creating and editing software for applying electronic stamps and comments.

1.12 - 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 Engineer/Architect 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.

1.13 - MISCELLANEOUS SUBMITTALS

- A. Provide a Submittal Schedule within fifteen (15) 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 Engineer/Architect for review.
- B. Within fifteen (15) calendar days from the date of the Notice to Proceed, 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.

1.14 - SUBCONTRACTOR LIST

- A. Submit on AIA Form G805, 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.

1.15 - SAFETY DATA SHEETS (SDS)

- 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/Engineer/Architect by the Contractor’s submission of a standard Safety Data Sheet (SDS) in accordance with “Right to Know” requirements.
- C. Products will not be permitted to be kept on site without a SDS.

1.16 - SHOP DRAWINGS

- A. Submit shop drawings for all fabricated work, for all manufactured items and for items specifically required by the specifications.
- B. 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 Engineer/Architect. The Engineer/Architect will return an electronic copy of each submittal once reviewed.
- C. 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 Engineer/Architect until all corrections have been made.
- D. 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.
- E. Make all measurements, confirm existing conditions, and include the information on the shop drawings before making a submission to the Engineer/Architect.
- F. Submissions for a single item or group of related items shall be complete.
- G. When submitting manufacturers' catalogs, pamphlets or other data sheets, in lieu of prepared shop drawings, clearly mark the items being submitted for review.
- H. 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.
- I. Submit for project record one paper copy in a size format equal to the original document of each shop and layout drawing marked by the Engineer/Architect with an A (No Exceptions Taken) or a B (Make Corrections Noted) within seven (7) days of receipt.

1.17 - SAMPLES

- A. Where required, or where requested by the Engineer/Architect, 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 Engineer/Architect, 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 Engineer/Architect has completed his review.

1.18 - MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer/Architect.
- 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.

1.19 - CERTIFICATIONS

- A. Submit certifications of compliance indicated in the Contract Documents. 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.

1.20 - 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 Engineer/Architect's and Owner's review and selection.

1.21 - 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 Engineer/Architect 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.

1.22 - 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.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

This space left intentionally blank.

CONTRACTOR'S COMPANY NAME
ADDRESS

SUBMISSION TRANSMITTAL FORM
WESTCHESTER COUNTY
YONKERS JWWTP SECONDARY SYSTEM REHABILITATION
COUNTY CONTRACT NO. 16-512

| | |
|---|--|
| Contractor Submittal No.: | |
| Name of Item Submitted: | |
| General Location Point of Use: | |
| Date of Submission: | |
| Number of Times Submitted (incl. this one): | |
| Date of Previous Submission: | |
| Name of Subcontractor: | |
| Supplier Name and Number: | |
| Manufacturer Name and Number: | |
| This Item is a Substitution (Y/N): | |
| Specification Section No.: | |
| Drawing Sheet No.: | |
| Remarks/Deviations: | |

CONTRACTOR'S CERTIFICATION STATEMENT:

By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers, and similar data and I have reviewed and approved this submittal and checked and coordinated each item with the other applicable approved Shop Drawings and all Contract requirements.

| Contractor's Approval Stamp | H2M Shop Drawing Review Stamp |
|-----------------------------|-------------------------------|
| | |

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Codes
- B. Governing agencies
- C. Permits

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - 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.

1.04 - 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. State Energy Code
9. County Department of Health
10. Town Codes, Rules, Laws and Ordinances
11. County Codes, Rules, Laws and Ordinances
12. Sewer District Sewer Use Code
13. Local Water District
14. Electric utility
15. Gas utility
16. Telephone utility.

1.05 – PERMITS AND INSPECTIONS

- A. Representatives of the Owner shall have access to the work for inspection purposes. 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

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.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 – SECTION INCLUDES

- A. Explanation of specification format.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - SPECIFICATION FORMAT

- A. The Specifications are generally arranged according to the Construction Specifications Institute (CSI) format. Most of the technical requirements are specified in the technical specifications of the document, which are grouped into forty-eight (48) major divisions. Most of the legal and administrative requirements are included in Division 01, General Conditions, Information for Bidders, and the Contract (agreement).
- B. Technical sections are arranged in numerical order, however section numbers may not be consecutive from section to section.
- C. Page numbering is subordinate to each section.
- D. Most sections are generally broken down into three (3) parts:
 - 1. PART 1 - GENERAL
 - 2. PART 2 - PRODUCTS
 - 3. PART 3 - EXECUTION
- E. Not all these parts may be used and in some cases, the title of some of the parts may be different than listed above. Paragraph numbers are subordinate to each part.
- F. The Contractor is advised that the format described here is flexible in nature.
 - 1. There is some overlapping of specified information between various portions of the Specifications.

2. In all cases, the entire requirements of the Contract Documents for the project shall apply.

G. Explanations:

1. Many technical sections begin with a paragraph titled "SECTION INCLUDES", "DESCRIPTION", or similar wording.
 - a. In these paragraphs, a brief listing of the specified products may appear or a brief description of the work generally specified in that section is presented.
 - b. These descriptions or listings are not all inclusive, but merely are provided as an aid in locating subject matter.
 - c. In some cases special cost related items of work are called to the attention of the Contractor in these opening paragraphs.
2. "RELATED SECTIONS" or "RELATED WORK" or similar wording paragraphs list or reference related work specified elsewhere in the Contract Documents. Such listing is not all inclusive, rather, they are merely an aid to the Contractor in locating some of the other Specification Sections wherein work is specified which has a particularly close interrelationship with the work specified in that section.
 - a. It shall be understood that all of the Work, and all of the Specifications and other portions of the Contract Documents, are interrelated, and that the total of all requirements set forth in all of the Contract Documents shall be met.
 - b. Equipment suppliers and manufacturers shall be advised of the requirements for making submittals and delivering products, as specified in Division 01 sections, even if said sections are not referenced therein that section.
3. "REGULATORY REQUIREMENTS" or "REFERENCES" or similar wording paragraphs describe standards, laws, guidelines, regulations, and standards related to workmanship and installation of the products specified which shall be followed by the Contractor in completing the work specified therein that section as if it was written there in that section. All such requirements and references shall be latest issue in effect at the time of the bid opening.
4. When a "GUARANTEE" or "WARRANTY" paragraph appears in the section it is calling attention to a guarantee which extends beyond the period of the Contractor's Guarantee

called for in the administrative portion of the Contract Documents or it states special requirements specific to the equipment, systems or products specified in that section.

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 pre-installation meetings for the various process systems in the Secondary Rehabilitation scope.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 – PRE-INSTALLATION MEETINGS

- A. As required in individual specification sections, the Contractor shall convene a pre-installation meeting at the site prior to commencing work of the section.
- B. Pre-installation meetings are to be convened at least one week prior to commencing work on the section. The contractor shall arrange and require attendance of Owner/Engineer and parties directly affecting, or affected by, work of the specific section.
 - 1. At least seven (7) calendar days advance notice is to be given.
 - 2. The contractor shall prepare agenda and preside at meeting. At a minimum the following items are to be discussed:
 - a. Review conditions of installation, preparation and installation procedures.
 - b. Review coordination with related work.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

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 shall be included by the Contractor in the lump sum price as bid.

1.02 - RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - REFERENCES

- A. ASTM C1077 – Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation.
- B. ASTM D3740 – Standard Practice for Minimum Requirement for Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- C. ASTM D4561 – Standard Practice for Quality Control Systems for Organization Producing and Applying Bituminous Paving Materials.
- D. ASTM E699 – Standard Practice for Evaluation of Agencies Involved in Testing, Quality Assurance, and Evaluating Building Components.

1.04 - 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.

1.05 - 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, 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. 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 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, 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 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 proposed testing laboratories that clearly indicates experience, location, qualifications of staff, and descriptions of any limitations or restrictions of the firm.
- B. Certified copies of each test report shall be mailed directly to the 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. Mail reports directly to 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 Engineer. This does not eliminate nor replace the requirements for a written report.

1.08 - SCHEDULING - LABORATORY SERVICES

- A. Except where otherwise specified, the 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. 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 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 Engineer request, uncover any work, which has been buried or covered, and perform special tests designated by Engineer. If the work cannot be tested by other means, 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 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. 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, concrete temperature, and air entrainment.

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 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 Engineer.
- B. Concrete Testing: Make six (6) concrete test cylinders for each 50 cubic yards 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 Engineer. This requirement shall be subject to change as required by the Engineer.

1.11 - FIELD OBSERVATION OF CONTRACTOR'S WORK

- A. The Engineer will provide periodic observation of the Contractor's work in accordance with the General Conditions of the Contract.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 - 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.

3.02 - 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.

3.03 - 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 Engineer. Conduct field sampling and testing in the presence of 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. Temporary facilities, utilities, and controls.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses
- D. Section 011400 - Work Restrictions
- E. Section 016500 - Product Delivery, Storage and Handling

1.03 - 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. Comply with all requirements of the Act.
- B. Take precautions and provide such equipment and facilities as necessary or required for the safety of 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.

1.04 - 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.

1.05 - SUBMITTALS

- A. Submit 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.

- B. Submit the following:
 - 1. Name and qualifications of person or persons who shall be available to render first aid.
 - 2. 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.

1.06 - CONTRACTOR'S RESPONSIBILITY

- A. The 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 the Contractor. Amounts in excess shall be paid by the 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 the 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 Engineer/Architect, 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. 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. Exercise measures to conserve water.
- D. Provide insulation and heat tracing to prevent freezing of temporary piping. Drain hoses at the end of each use.
- E. All personnel involved in the project shall be permitted to use water for construction purposes as provided under this paragraph.

2.03 - SANITARY FACILITIES

- A. Provide and maintain temporary toilet facilities and enclosures.
- B. These facilities shall be maintained in a strictly sanitary manner and be screened from the general public.
- C. All facilities shall be in accordance with the Occupational Safety and Health Act (OSHA) standards and all other applicable local codes.
- D. 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.
- E. The Owner's designated sanitary facilities will be available for use by Contractor. The Contractor shall be required to keep the facilities clean during the period of use. If the Contractor fails to

keep the facilities clean, the Contractor will no longer be allowed to use the Owner's sanitary facilities and shall provide temporary facilities as described in this section.

2.04 - VENTILATION

- A. Ventilate enclosed areas to assist in the curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors or gases.

2.05 - BARRIERS AND PROTECTION

- A. 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 Owner personnel and to adequately direct traffic around the work. Illuminate barricades, obstructions, and warning signs from sunset to sunrise.

2.06 - RUBBISH REMOVAL

- A. The General Contractor shall be responsible for overall rubbish removal.
- B. Burning of rubbish and trash will not be permitted.
- C. 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 Engineer/Architect.
- D. Dispose of rubbish and waste materials in accordance with state regulations and local ordinances.
- E. Place rubbish containers at locations selected by the Engineer/Architect.
 - 1. Furnish adequately sized rubbish containers from the date of initial mobilization to the date of final payment.
 - 2. Secure the container itself so that it does not get blown about the site.

- F. The General Contractor shall be responsible for maintaining the site free of trash.

2.07 – SNOW REMOVAL

- A. The General Contractor maintain work area free of snow.
- B. Damage resulting from the Contractor's snow clearing operations shall be immediately repaired at no additional cost to the Owner.

2.08 - ENCLOSURES

- A. 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.

2.09 - SECURITY

- A. Provide security and facilities to protect work from unauthorized entry, vandalism and theft.
- B. Coordinate with Owner's security program, if applicable.
- C. The Contractor has full responsibility for the working area until final acceptance and payment.
- D. 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. The 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, Engineer/Architect, and a background search firm, hired by either the Owner or Engineer/Architect, to conduct background checks in accordance with the Fair Credit Reporting Act and applicable state law.

2.10 - PARKING

- A. Do not allow heavy construction vehicle parking on existing pavement, if existing pavement is not scheduled for replacement or restoration.
- B. Provide and maintain access to fire hydrants, building entrances, process tanks, doors and the work in general.
- C. The Contractor shall have his or her employees and subcontractors park in areas designated by the Owner/Engineer/Architect.
- D. If designated on the Contract Drawings, then only use those areas for parking.

2.11 - DAMAGES

- A. The Contractor, with the prior approval of the Owner/Engineer/Architect, 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.

2.12 - FIRST AID FACILITIES & EMERGENCY TELEPHONE NUMBERS

- A. Provide and maintain adequately equipped first aid facilities in a location or at locations that are readily accessible to workers, Engineer/Architect 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 Engineer/Architect.

2.13 - 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 no case shall the classification for the surface water be violated, unless otherwise permitted by the State.

2.14 - 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 Engineer/Architect.
- 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/Engineer/Architect.

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. The Prime Contractor through his Electrical Trade shall install and maintain temporary light and electricity for use by others.
- B. Temporary electricity shall be installed within fifteen (15) calendar days from the date of the pre-construction conference to all areas of the site where new work is planned or where temporary electric facilities are shown on the Contract Drawings, except as specified herein below.
 - 1. Temporary electric shall be installed to the Engineer/Architect's office within two (2) weeks from the date of the Notice to Proceed.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - SERVICE

- A. Furnish means for connection of small power tools.
- B. Furnish five (5) 100 foot high capacity, heavy-duty power extension cords for use throughout the site by others.
- C. Applications for electrical service shall be completed by the Contractor.
- D. The cost for installations, including labor, material, tools, removals, and supplies shall not be eligible for payment under any cash allowance and shall be included in the price as bid.
- E. Provide 100-amp temporary power to the Engineer's office.

1.04 - TEMPORARY LIGHT AND ELECTRICITY

- A. The Prime Contractor shall make all necessary arrangements for temporary electric service at the site of the Work.
- B. Install and maintain temporary light and power in accordance with the National Electrical Code.

- C. At the Contractor's option, a properly sized generator may be provided during this period with all costs associated with its operation and maintenance being paid for by the Contractor.
- D. Provide wiring and other equipment for temporary light and power in accordance with recognized industry standards.
 - 1. Wiring for temporary light and single-phase power shall, in general, consist of 3 wire, 120/240 volt with branch circuits of #12 conductors minimum.
 - 2. Provide branch circuits with weatherproof medium base type lamp holders for temporary lighting as required to maintain a minimum of 10 foot candles in the work areas of all buildings being constructed or renovated as work of this project.
 - 3. Provide branch circuits with fused ground type receptacle outlet for single-phase power.
 - 4. Provide lamps and fuses, including replacements.
 - 5. Provide new materials for temporary light and power, except that transformers need not be new if they are in satisfactory operating condition.
 - 6. Provide ground fault protection (such as portable plug-in type ground fault circuit interrupters) on single-phase 15 and 20 amp receptacle outlets.
 - 7. Provide receptacle outlets, portable cord connectors and attachment plugs with standard NEMA configurations.
- E. Upon completion of the project, remove all temporary electric light and power work and restore all affected finishes and connections.
- F. Include the costs in the bid price to relocate the temporary electric service at least four (4) time during the course of construction. The electric service shall be relocated within two (2) days notice by the Engineer/Architect.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. The Work of this Section includes the furnishing of the Engineer/Architect's Field Office (Trailer).
 - 1. The Engineer/Architect's Field Office shall be furnished by the Prime Contractor.
 - 2. Field office shall be provided within two (2) weeks of the Notice to Proceed.
- B. The Prime Contractor shall also furnish the following to the Owner/Engineer all in accordance with the specifications contained herein as follows:
 - 1. Miscellaneous equipment and supplies
 - 2. Materials
 - 3. Computer system with associated peripheral computer related equipment
 - 4. Services as may be specified herein.
- C. This Section also specifies the requirements for Field Offices to be established by the Prime Contractor for the exclusive use of the respective Prime Contractor.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - CARE AND PLACEMENT

- A. Field offices shall be placed where directed by the Engineer/Architect in accordance with site utilization requirements as provided by the County.
- B. All field offices shall be installed to meet all standards of the Occupational Safety and Health Act of 1970 and subsequent revisions.
- C. In the event of damage to existing facilities, including but not limited to: tanks, driveways, walks, pavement, buildings, pipes, conduits, valves, and electrical facilities then immediately make all repairs and replacements to an equal condition prior to the event.

1.04 - QUALITY PERFORMANCE

- A. Comply with and perform all work in accordance with the requirements of local authorities and utility companies having jurisdiction.

1.05 - SUBMITTALS

- A. The Prime Contractor shall submit the following:
 - 1. Computer system quotation for Engineer/Architect's approval prior to placing order.
 - a. The Engineer will provide the specifications for all components of the computer system, including model number and manufacturer, prior to the submission of this item.
 - b. Submit two quotations if so required by the Engineer/Architect.
 - 2. Catalog cuts of miscellaneous equipment and supplies if they are different from that specified.
- B. The Contractor shall also provide a listing of the companies providing specified services with telephone number and contact name. Provide references for each company when requested.

PART 2 - PRODUCTS

2.01 – ENGINEER'S FIELD OFFICE

- A. Field office shall be a minimum of 8'x36' with 2 rooms (1 private), heating and cooling capabilities and a private bathroom. Lighting shall be sufficient for office work and doors must have locking mechanisms.
- B. Stairs shall be provided for each door of the field office.
- C. Furnishings for field office are specified within this Section.

2.02 – SANITARY CONNECTION

- A. Contractor shall install a sewage ejector station with force main piping for each trailer of this section, or sewer connection, if available.
- B. The ejector system shall have a minimum capacity of 300 gallons per day.

- C. The restroom facilities provided, as part of the trailer, or the connection identified by the County, shall be connected by a NY State licensed plumber to the sewage disposal system.

2.03 - OFFICE OF PRIME CONTRACTORS

- A. The Contractor shall provide and maintain during the life of this contract a suitable office(s) at the site that shall be used as the Contractor's superintendent(s) office(s).
- B. Provide adequate facilities for maintaining record documents, for holding small meetings and a telephone upon which calls may be received from Owner, Engineer/Architect and others. The telephone shall be equipped with a fax machine and an answering machine.
- C. Contractor shall install, maintain, and repair if necessary, temporary electric and telephone to their field office(s).

2.04 – MATERIALS, EQUIPMENT AND SERVICES FURNISHED TO THE OWNER BY THE GENERAL CONTRACTOR

- A. The Contractor shall provide the following computer system, to be paid for out of the cash allowance stipulated herein, consisting of the following:
 - 1. Computer
 - 2. Printer
 - 3. Scanner
 - 4. Digital camera
 - 5. Tablet Computer
- B. The Engineer/Architect will provide specifications for each component of the computer system that shall then be ordered by the Prime Contractor after the various quotations have been submitted for Engineer's review.
- C. The computer shall be furnished to the Owner within 30 days from the date the Engineer provided the computer system specifications.
- D. The Prime Contractor shall include the cash allowance as specified in Section 012100 in the lump sum bid for the computer and computer accessories to be provided under this paragraph.
 - 1. The initial equipment purchase shall be paid for out of this cash allowance.

2. Paper for the printer shall not be eligible under this cash allowance.
 3. Printer replenishable supplies shall not be eligible under this cash allowance.
- E. The Prime Contractor shall also furnish the following equipment and services that shall not be eligible under any cash allowance. All items specified herein shall be new and remain the property of the Owner unless otherwise stated. The following shall be furnished:
1. Two (2) Texas Instruments advanced scientific calculators equal to TI-30XIIS or equal.
 2. Three (3) 23-gallon plastic wastepaper basket.
 3. Two (2) each of engineer's scale and architect's scale.
 4. New 50-person industrial first aid station, OSHA approved, by Acme United or equal, order no. ACM-1403 (Huntington Business Products) or equal.
 5. Thermometer, with indoor and outdoor sensing bulbs, and high, low instantaneous reading, with magnetic reset function
 6. Four (4) outdoor thermometers for recording curing temperatures of placed cold weather concrete (TAYLOR Model No. 6076-35)
 7. One (1) infrared temperature thermometer (EXTECH Model #42509)
 8. Two U.L. and F.M. approved fire extinguishers with a minimum rating of 4A-60B:C.
 9. Dry type color photocopier with all necessary equipment and supplies.
 - a. Model shall be capable of reproducing 8½" x 11", 8½" x 14" and 11" x 17" size papers.
 - b. Two sided copy feeder and printer.
 - c. Automatic original feeder
 - d. Photocopier shall remain the property of the Contractor.
 - e. Manufacturer support through project completion.
 10. Standard manufacturer operating manuals for all equipment supplied.
 11. Two (2) 30" x 60" desks with 4 side drawers and a locking center drawer.

12. Two (2) new ergonomic swivel task chairs for use with desk equal to Quantum 9000 Series by WorkPro.
13. One (1) drafting style stool for use with the drafting table.
14. One (1) new rolling stand with top, Model No. 76MR/76TP from Plan Hold, catalog #27, or equal.
15. Two (2) 30" x 72" folding tables.
16. Eight (8) folding chairs.
17. One (1) drafting table constructed in the trailer office.
18. One (1) new electronic professional labeler, model PT-2100 with AC adapter by Brother.
 - a. Supply ½ inch laminated, adhesive back TZ Series tape cartridges.
 - b. Eight (8) each of the following shall be furnished:
 - 1) black on white,
 - 2) red on white,
 - 3) white on black.
19. One (1) adjustable, electric heavy-duty three hole punch, by Swingline or equal.
20. Two (2) electric (AC) pencil sharpeners.
21. Three (3) rechargeable flashlights, Maglight® Magcharger model.
22. Three (3) extension arm drafting table lamps. Provide one for each drafting table and desk provided. Provide replacement for each lamp as needed throughout the construction period.
23. Bottled water cooler with hot water that shall remain the property of the Contractor.
24. Refrigerator that shall remain the property of the Owner. Provide 10 cu.ft. unit with separate freezer section..
25. K-cup style coffee maker that shall remain the property of the Owner.

26. One 1200-watt microwave with turntable that shall remain the property of the Owner.
 27. One (1) 3'x 5' cork bulletin board with wall mounting hardware.
 28. One (1) 3'x 5' white board with wall mounting hardware and dry erase marker set, minimum four (4) colors.
 29. One (1) 8-port switch wireless N router by Linksys or equal and necessary cables for connection to office equipment.
 30. Two (2) 3 foot x 6 foot metal book shelves
 31. Filing Cabinets - Provide three - four (4) drawer, legal size, fireproof filing cabinets with lock and keys.
 - a. Cabinets shall be Global Business Furniture., or equal.
 - b. Provide with legal size folders and with 60 legal size-hanging folders all the same color.
 32. Two (2) Boot brushes, mounted at exterior entrance staircases
 33. One (1) Mud Mats, one at each office doorway
 34. Three (3) clipboards
 35. One (1) coat rack, minimum four (4) hooks
 36. Five (5) Surge protection power strips, five receptacles minimum each
 37. Two (2) chair mats, one for each desk area
 38. One (1) 12 inch diameter wall clock, battery operated
 39. Two (2) battery back-up units for desk top computer system: CyberPower Intelligent LCD Battery Backup, 825VA/450 Watts
 40. Five (5) extension cords, minimum three plug each, three prong type, minimum 25'
- F. Janitorial Services - Provide janitorial services one (1) time each week. Thoroughly clean and dust entire office and leave in a condition satisfactory to Engineer. Provide this service through final completion.

- G. Bottled Water Service – Provide bottled water service on a continuous basis through final completion.
- H. Coffee Service – Provide coffee service including cups, stirrers, sugar, sugar substitute and non-dairy creamer on a continuous basis through final completion.
- I. Supplies - Provide on a continual basis through substantial completion and release of retainage, as required: Paper for computer printer and copier, staples, large and small paper clips, two (2) tape dispensers and tape rolls, two (2) desk scissors pairs and necessary replacement batteries for all equipment supplied, minimum 20 of each AA and AAA sizes.
- J. Ownership of Furnishings - All items to be provided by Contractor under this paragraph shall remain the property of the Owner unless otherwise stated.
- K. Internet Access Service - The Prime Contractor shall also pay for monthly Internet access fees for the length of the contract up to the date of final completion.
1. This cost shall be included in the price as bid and shall be billed directly to the Prime Contractor.
 2. The service provider shall be selected by the Engineer. The Prime Contractor shall arrange for the service.
 3. Internet access will be used by the Engineer and the Owner to send email to manufacturers, vendors, Engineer's home office, the Contractor's home office, other prime Contractors, regulatory agencies and the like.
 4. Cable high speed internet service (min. 50 mbps) shall be provided if available, the monthly service charge will be paid by the Contractor.
 5. The Contractor may use this service at the discretion of the Engineer. Only project related transmissions will be allowed.
 6. The Contractor may elect to combine the cable internet service with telephone service.
- L. All items specified herein are subject to the approval of the Engineer.
- M. Equipment shall be delivered to the site and turned over to the Engineer via a type written transmittal form.
- N. All equipment that is to remain the property of the Contractor shall be new.

1. Equipment that is to remain the property of the Owner shall also be new and be provided in its factory packaging, unopened until delivered to the Owner (Engineer).
 2. Maintenance of all supplied equipment shall be the Contractor's responsibility up to substantial completion.
- O. All items shall be delivered prior to the first application for payment, but no later than the day the Engineer's Trailer is delivered.

2.05 - TELEPHONE SERVICE

- A. Provide on-site telephone line and service, answering machine, and fax machine in Contractor's field office.

2.06 - REMOVALS

- A. Remove all items provided under this Section except as otherwise specified.

PART 3 - EXECUTION

3.01 - REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities and materials.
- B. Remove underground installations to a minimum depth of 2 feet or as specified elsewhere.
- C. Regrade area to existing slope and elevation and restore the surface to its existing condition or to the condition shown on the Contract Drawings.
- D. The Prime Contractor shall inventory all equipment that has been turned back to the Contractor prior to agreeing to final payment.
- E. All equipment and furnishings that require assembly shall be assembled for the Owner's/Engineer's use by the Contractor.

END OF SECTION

PART 1 - GENERAL**1.01 - SECTION INCLUDES**

- A. Control of environmental pollution and damage that the Contractor must consider for air, water, and land resources while constructing the project. This Section includes management of site aesthetics, noise, solid and liquid waste and wastewater, and other pollutants that may be generated by the Contractor.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 – DEFINITIONS

- A. Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which:
 - 1. Adversely effect human health or welfare,
 - 2. Unfavorably alter ecological balances of importance to human life,
 - 3. Impact wetlands,
 - 4. Effect other species of importance to man, or;
 - 5. Degrade the utility of the environment for aesthetic, cultural, and historical purposes.
- B. Definitions of Pollutants:
 - 1. Sediment: Soil and other debris that has been eroded and transported by runoff water.
 - 2. Solid Waste: Rubbish, debris, garbage, and other discarded solid materials resulting from industrial, commercial, and agricultural operations and from community activities.
 - 3. Rubbish: Combustible and noncombustible wastes such as paper, boxes, glass and crockery, metal and lumber scrap, tin cans, and bones.
 - 4. Debris: Combustible and noncombustible wastes, such as leaves, tree trimmings, ashes, and waste materials resulting from construction or maintenance and repair work.

5. Chemical Waste: Petroleum products, bituminous materials, salts, acids, alkalies, herbicides, pesticides, organic chemicals, and inorganic wastes.

C. Sanitary Wastes:

1. Sewage: Domestic sanitary sewage and human and animal waste.
2. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

PART 2 – PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 - PROTECTION OF ENVIRONMENTAL RESOURCES

- A. Protect environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire period of this Contract. Confine activities to areas defined by the Contract Documents.
- B. Protection of Land Resources: Prior to construction, identify all land resources to be preserved within the work area. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, top soil, and land forms without permission from the Engineer/Architect. Do not fasten or attach ropes, cables, or guys to trees for anchorage unless specifically authorized, or where special emergency use is permitted.
- C. Work Area Limits: Prior to any construction, mark the areas that require work to be performed under this Contract. Mark or fence isolated areas within the general work area that are to be saved and protected. Protect monuments, works of art, and markers before construction operations begin. Convey to all personnel the purpose of marking and protecting all necessary objects.
- D. Protection of Landscape: Protect trees, shrubs, vines, grasses, land forms, and other landscape features shown on the drawings to be preserved by marking, fencing, or using any other approved techniques.
 1. Box and protect from damage existing trees and shrubs to remain on the construction site.

2. Immediately repair all damage to existing trees and shrubs by trimming, cleaning, and painting with antiseptic tree paint.
 3. Do not store building materials or perform construction activities closer to existing trees or shrubs than the farthest extension of their limbs.
- E. Reduction of Exposure of Unprotected Erodible Soils: Plan and conduct earthwork to minimize the duration of exposure of unprotected soils. Clear areas in reasonably sized increments only as needed to use. Form earthwork to final grade as shown. Immediately protect side slopes and back slopes upon completion of rough grading.
1. Temporary Protection of Disturbed Areas: Construct diversion ditches and berms to retard and divert runoff from the construction site to protected wetlands areas as defined in the Clean Water Act and federal, state and local regulations
 2. Erosion and Sedimentation Control Devices:
 - a. Construct or install all temporary and permanent erosion and sedimentation control features as shown or specified in the Contract Documents and as required by the Owner pursuant to direction of the regulatory authority.
 - b. Maintain temporary erosion and sediment control measures such as berms, dikes, drains, hay bales, erosion control fencing, sedimentation basins, grassing, and mulching, until permanent drainage and erosion control facilities are completed and operative.
 3. Manage borrow areas on and off Owner property to minimize erosion and to prevent sediment from entering nearby property, watercourses and local streets.
 4. Manage and control spoil areas on and off Owner property to limit spoil to areas shown on the Environmental Protection Plan and prevent erosion of soil or sediment from entering nearby property, watercourses or streets.
 5. Protect adjacent areas from degradation by temporary excavations and embankments.
- F. Handle and dispose of solid wastes in such a manner that will prevent contamination of the environment.
1. Place solid wastes (excluding clearing debris) in containers that are emptied on a regular schedule.

2. Transport all solid waste off Owners' property and dispose of waste in compliance with Federal, State, and local requirements.
 3. Store chemical waste away from the work areas in corrosion resistant containers and dispose of waste in accordance with Federal, State, and local regulations.
 4. Handle discarded materials other than those included in the solid waste category as directed by the Engineer/Architect.
- G. Protection of Water Resources: Keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters and sewer systems. Implement management techniques to control water pollution by the listed construction activities that are included in this Contract.
- H. Washing and Curing Water: Do not allow wastewater directly derived from construction activities to enter water areas. Collect and place wastewater in retention ponds allowing the suspended material to settle, the pollutants to separate, or the water to evaporate.
- I. Control movement of materials and equipment during construction to prevent violation of water pollution control standards of the Federal, State, or local government.
- J. Monitor water areas affected by construction.
- K. Protection of Fish and Wildlife Resources:
1. Keep construction activities under surveillance, management, and control to minimize interference with, disturbance of, or damage to fish and wildlife.
 2. Prior to beginning construction operations, list species that require specific attention along with measures for their protection.
- L. Protection of Air Resources: Keep construction activities under surveillance, management, and control to minimize pollution of air resources.
1. Burning is not permitted on the job site. Keep activities, equipment, processes, and work operated or performed, in strict accordance with the State and Federal emission and performance laws and standards.
 2. Maintain ambient air quality standards set by the Environmental Protection Agency and State, for those construction operations and activities specified.

- M. Particulates: Control dust particles, aerosols, and gaseous by-products from all construction activities, processing, and preparation of materials (such as from asphaltic batch plants) at all times, including weekends, holidays, and hours when work is not in progress.
- N. Particulates Control: Maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and all other work areas within or outside the project boundaries free from particulates which would cause a hazard or a nuisance. Sprinkle, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators, or other methods are permitted to control particulates in the work area.
- O. Hydrocarbons and Carbon Monoxide: Control monoxide emissions from equipment to Federal and State allowable limits.
- P. Odors: Control odors of construction activities and prevent obnoxious odors from occurring.
- Q. Reduction of Noise: Minimize noise using every action possible. Perform noise-producing work in less sensitive hours of the day or week as directed by the Engineer/Architect. Maintain noise-produced work at or below the decibel levels and within the time periods specified in accordance with OSHA and local ordinances, whichever is more restrictive.
1. Perform construction activities involving repetitive, high-level impact noise only between 7:00 a.m. and 3:30 p.m unless otherwise permitted by local ordinance or by the Engineer/Owner.
 2. Repetitive impact noise on the property shall not exceed the following dB limitations:
 3. Provide sound-deadening devices on equipment and take noise abatement measures that are necessary to comply with the requirements of this Contract, consisting of, but not limited to, the following:
 - a. Use shields or other physical barriers to restrict noise transmission.
 - b. Provide soundproof housings or enclosures for noise-producing machinery.
 - c. Use efficient silencers on equipment air intakes.
 - d. Use and maintain efficient intake and exhaust mufflers on internal combustion engines.
 - e. Line hoppers and storage bins with sound deadening material.

- f. Conduct truck loading, unloading, and hauling operations so that noise is kept to a minimum.

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. 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 Engineer/Architect may check all or any portion of the work and the Contractor shall afford all necessary assistance to the Engineer/Architect in carrying out such checks.
 - 1. Such checking by the Engineer/Architect 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 Engineer/Architect 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 Engineer/Architect, 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/Engineer/Architect 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 Engineer/Architect 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 Engineer/Architect.

2.02 - 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.

2.03 - 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 Engineer/Architect.
- 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 Engineer/Architect 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 Engineer/Architect 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, disfigurements and damages shall be repaired and touched-up so as to provide a neat, clean finish that is uniform in color.

3.05 - UNCOVERING WORK

- A. Unless otherwise specified or directed by Engineer/Architect, no work shall be covered until it has been observed, tested, photographed, measured, and authorized to be covered by Engineer/Architect.
- 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 Engineer/Architect's direction to uncover the work if tie distances were not obtained.
- C. If any work has been covered with Engineer/Architect's consent and Engineer/Architect considers it necessary or advisable that covered work be observed or tested, the Contractor, at Engineer/Architect's request, shall uncover, expose or otherwise make available for observation, or testing as Engineer/Architect 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 and architectural 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. Transportation, handling, storage and protection of products that are to be incorporated into the work.

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.

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/Architect 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. Delicate instruments and devices, reagents, chemicals, and glassware shall be shipped in packaging normally provided by the manufacturer.
- G. 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 - PROTECTION OF WORK

- A. 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 Engineer/Architect 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/Architect at no additional costs.



PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

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 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - SCHEDULING

- A. Sequence, schedule, and coordinate final cleaning work.

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 - PROGRESS CLEANING

- A. Keep areas where work is being performed under the Contract free from unattended combustible materials.
- B. Remove rust spots as they develop.

3.02 – 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. Dismantle and remove all temporary structures, scaffolding, fencing, and equipment. Remove waste materials, rubbish, lumber, block, tools, machinery, and surplus materials.

- C. Perform the following prior to final payment:
1. Broom clean all exterior concrete surfaces.
 2. Repair, patch, and touch-up marred surfaces to specified finish and to match adjacent surfaces.
 3. Clean equipment in accordance with manufacturer's instructions.
 4. Remove all rust spots and stains from new and pre-existing concrete, painted surfaces, and all other surfaces.
 5. Clean and disinfect all pre-existing toilet facilities that were entered upon and used by the Contractor during the project.
 6. Rake clean landscaped surfaces. Final mow all areas grassed and sodded during the work.
 7. Inspect 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. Starting systems
- B. Testing, adjusting, and balancing
- C. Updating of manufacturer's operations and maintenance manuals and wiring diagrams

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses
- D. Section 013300 - Submittals
- E. Section 014500 - Quality Control

1.03 - STARTING SYSTEMS

- A. 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 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 Contractor.
- D. 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. conditions that 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 Engineer may, at his/her sole discretion, postpone start-up until such time as the corrections have been made without any extra costs.
 - a. The Owner may deduct from money due the Contractor the excess cost of engineering associated with having the Engineer present during delayed start-up.
 - b. The deduction shall be equal to the 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.

PART 2 - PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - SUMMARY

- A. Testing of pressure piping.
- B. Pipe leakage testing shall comply with the conditions noted in the Schedule of this Section.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. General Clauses

1.03 - DEFINITIONS

- A. Leakage (or exfiltration) - The quantity of water to be supplied into the newly laid pipe, any valved section thereof, manhole, or other appurtenance, necessary to maintain the specified leakage test pressure after the pipe has been filled with water and the air expelled.
- B. Infiltration - The quantity of water that enters into any pipe, manhole, or other appurtenance when the static groundwater elevation is at the maximum elevation above the pipe or appurtenance as specified hereinafter.

1.04 - QUALITY ASSURANCE

- A. Prior to Substantial Completion, pipes shall meet specific leakage requirements. These leakage requirements shall be satisfied by the basic materials alone. Where joint fillers and the like have been specified, primarily to protect jointing materials, and secondarily to provide a factor of safety, they shall not be applied until after leakage tests have been completed and have been accepted by Engineer.
- B. Engineer will witness tests. Tests not witnessed will be considered as not having been performed.
- C. Do not close or cover up work until it has been observed for proper and satisfactory construction and installation in compliance with the Contract Documents. Should incomplete or unacceptable work be covered, the Contractor shall, at his/her own expense, uncover all work so that it may be properly observed. After such observations, repair and replace the work that was found defective, unsatisfactory, and not in accordance with the Contract Documents. After such repair and replacement, bring all work to completeness and status as it was before it was closed and covered, all at the Contractor's own expense. Submit for review and approval proposed corrective action to correct failed systems.

- D. Successful completion of required tests shall be in no way interpreted as relieving the Contractor of responsibility for defects that become apparent subsequent to the time of testing. It shall be the sole right of the Engineer to determine whether defects exist. Retest all portions of the work deemed necessary by the Engineer prior to Substantial Completion.

1.05 - SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Provide details and specifications on testing apparatus.
- C. Provide certified test results on forms approved by the Engineer.

1.06 - SEQUENCING AND SCHEDULING

- A. Notify Engineer and governing agencies, if necessary, at least 48 weekday hours in advance of a scheduled test so that the test may be witnessed.
- B. At Engineer's discretion, additional sections of pipelines may be required to be tested as soon as pipe is laid and prior to backfilling when working conditions or the standard of workmanship have been altered.

PART 2 - PRODUCTS

2.01 - TESTING APPARATUS

- A. Provide labor, plugs, measuring equipment, and other apparatus, complete, to perform testing.
- B. Provide clean water, air, nitrogen, and other materials as required to accomplish testing.
- C. Provide plugs and caps capable of withstanding test pressures.
- D. Provide temporary flanges, plugs, bulkheads, thrust blocks, weighing, bracing and other items necessary to prevent joints from separating, and to prevent injuries or damage.

PART 3 - EXECUTION

3.01 - PREPARATION

- A. Plug open ends, adequately block bends, tees, ends, and other fittings, and do whatever is necessary to brace piping system so that it will safely withstand the pressures developed under the tests and so that no damage or injury shall occur to the pipeline, people or property.
- B. Before tests are conducted, isolate, or remove any regulator, gauge, trap, or other apparatus or equipment that may be damaged by test pressures.

3.02 - GENERAL

- A. Trapped Air: Trapped air may cause a false indication of the rate of leakage. Points of concern include ends of lines, stubs, house connections and high points in pipelines. No credit will be made for this condition and no adjustment will be made to the allowable leakage. When trapped air is suspected of causing a test failure, do whatever is necessary to evacuate the air and repeat tests until the actual leakage is equal to or less than allowable rate of leakage.
- B. Water Absorption: No credit will be given for absorption of water in pipe and manhole walls. If necessary, fill pipes and manholes with water well in advance of testing and allow them to soak in order to eliminate or minimize the effects of absorption.

3.03 - TESTS FOR NON-PRESSURE PIPING

- A. General:
 - 1. Leakage shall be determined by exfiltration testing. The Engineer reserves the right to also require infiltration testing.
 - 2. Air testing is not permitted.
 - 3. Leakage testing shall include the main non-pressure pipe, house connections, and appurtenances on the section of pipeline being tested.
 - 4. Limit pipeline test sections to runs between adjacent structures. Manholes may be tested simultaneously with pipes.
 - 5. Adequately plug ends of house connections, stubs, and openings from which water may escape.
 - 6. Use clean water for exfiltration tests.
 - 7. Determine groundwater levels by installing piezometers, test holes or test pits at intervals not to exceed 1,000 feet.
- B. Pipe Exfiltration Test:
 - 1. The minimum water level required for testing is 4 feet above the crown of the upstream (highest) end of the pipe being tested or 2 feet above the maximum groundwater level along the test section, whichever is greater.
 - 2. Install a watertight plug in the downstream end of the manhole pipe.

3. Fill upstream manhole with water and conduct test for six (6) hours.
4. Upon satisfactorily completing the test, remove the downstream plug in the presence of Engineer. Do not touch nor remove anything until approved by Engineer.
5. Maximum allowable exfiltration is one hundred (100) gallons per inch diameter per mile per day.

C. Pipe Infiltration Test:

1. The minimum head of groundwater required for infiltration testing is 2 feet above the crown of the pipe at the upstream end but must in all cases reach its normal level.
2. Infiltration may be measured with an approved graduated container capable of intercepting all inflow, by a pipeline V-notch weir, or by other approved methods. When using instream type measuring devices, do not measure flows until steady state conditions are established.
3. Maximum allowable infiltration is one hundred (100) gallons per inch diameter per day per mile of pipe.
4. Where groundwater level is at least 2 feet above the highest manhole joint, manholes may be included in the test. No visible leakage will be permitted in manholes.

3.04 - TESTS FOR PRESSURE PIPES

- A. Leakage testing shall include the main exiting pipe, service connections, and other appurtenances on the section of pipeline being tested.
- B. Test pipes prior to applying insulation and before they are concealed or furred-in.
- C. Provide all necessary gauges. Gauges shall be standard pressure type with a minimum 6-inch diameter dial and a pressure range not in excess of 150% of the maximum required test pressure.
- D. Provide and maintain at the site a gauge stand with an approved laboratory calibrated test gauge. Periodically check test gauge used for testing against the test gauge, and whenever requested by Engineer.
- E. Where it is necessary for testing, tap pipes and insert approved plugs after testing is completed.
- F. Provide a hand or motor driven compressor to maintain the required test pressure constant throughout the duration of the test. If a water pump is used, pump water from a container with a

known volume of water. If an air or inert gas pump is used, leakage shall be determined and calculated by the cycling of the pump.

- G. Provide test gauges at each end of the line being tested.
- H. Conduct leakage test in accordance with the requirements contained in the Schedule.

3.05 - ALLOWABLE LEAKAGE

- A. The maximum allowable leakage for the various piping systems is presented in the schedule.
- B. It is the intent of this Contract to secure piping systems without leakage.
 - 1. Each section of pipe and within each structure shall not exceed the allowable leakage.
 - 2. It is also the intent to secure a piping system free from visible drips, streams and leaks. Therefore, even if a portion of the system meets the requirements for allowable leakage, visible leaks are not permitted and shall be repaired.
- C. Leakage tests will be considered satisfactorily passed when the rate of leakage is equal to or less than the stipulated allowances, there is no evidence of visible leaks, and there is no evidence of other system defects.

3.06 - RETESTING

- A. Pipes and manholes not passing the tests shall have all defects corrected with methods approved by the Engineer to the inspection and satisfaction of Engineer, and shall be retested and re-corrected as often as is necessary until the test requirements have been met.
- B. It is the intent of this Contract to obtain work meeting test requirements on their own and solely through the use of the normal integral sealing components.
 - 1. Joint leaks shall not be stopped using concrete, caulking, mortar, or other patching materials.
 - 2. Leaking pipe joints shall be re-jointed and leaking manhole joints shall have joints reset, or replaced if necessary.
- C. Methods other than rejoining, resetting or replacing joint seals shall require the written approval of Engineer.

3.07 - SCHEDULE

LEAKAGE TESTING REQUIREMENTS

| SERVICE | FLUID | PRESSURE | DURATION (Hrs.) | ALLOWABLE LEAKAGE (Note 1) | | |
|---------------------|-------|-----------------|--------------------|-------------------------------|--------|-------------|
| | | | | UNDERGROUND | | EXPOSED |
| | | | | Infil. | Exfil. | |
| Non-Pressure Piping | Water | 4ft. | 6 | 100 | 100 | None |
| Pressure Piping | Water | (Note 2) | (Note 2) | 0 | 0 | 0 |

Schedule Notes:

1. Maximum allowable leakage in gallons per day per inch diameter per mile of pipe, or gallons per day per inch diameter per mile for manholes. Where a percentage is shown, the loss shall not exceed the percentage of the starting test pressure.
2. Maintain 100 psi or two times operating pressure, whichever is greater, for 2 hours.

END OF SECTION

PART 1 - GENERAL

1.01 – SECTION INCLUDES

- A. Documents to submit before Substantial Completion:

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses
- D. Section 017839 - Project Record Documents

1.03 - SUBMITTALS

- A. Submit the following documents to the Engineer/Architect before Substantial Completion:

- 1. Project Record Documents as specified in Section 017839.
- 2. 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.
- 3. 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.
- 4. Spare parts checklist itemizing all spare parts furnished under the Contract summarized by Section.

- B. Submit the following items to the Engineer/Architect with the final application for payment:

- 1. Final Payment approved by the Engineer/Architect 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 Engineer/Architect's acknowledgment of receipt or approval.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Requirements for Operations and Maintenance Manuals required to be prepared by system suppliers and equipment manufacturers.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses
- D. Section 017500 - Starting and Adjusting

1.03 - MANUAL CONTENTS AND FORMAT

- A. The binder shall be sized for 8 1/2" x 11" pages, 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.
- B. A cover shall be provided showing the names of the Owner, Engineer/Architect, Contractor, and Manufacturer, the Contractor's order number, manufacturer's project number, address of the manufacturer, service station telephone number, project title, contract number, and month and year.
- C. 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.
- D. An index shall be provided in the back of the binder, with a separate tab, providing a quick way for the user to find key and important topics contained in the manual.
- E. A separate list of all charts, graphs, tables, figures and shop drawings shall be provided directly following the table of contents.
- F. Each manual shall contain one (1) copy of all shop drawings deemed in compliance with the Contract Documents by the Engineer submitted for the equipment or system for which the manual is prepared. 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 drawing showing; one (1) drawing per protector page.

- G. 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.
- H. Where operator interfaces are provided, provide step-by-step instructions for changing a process control variable such as set points.
 - 1. The instructions shall be numbered and written such as “press”, “hold” “scroll”, etc.
 - 2. Each operator interface instruction sheet shall be laminated and placed in the binder.
 - 3. Another laminated sheet shall be provided and placed inside the control panel.
- I. Each manual shall contain the following as a minimum:
 - 1. Table of contents
 - 2. Final version of the warranty statement approved by the Engineer/Architect
 - 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.
- J. Submit two (2) copies of a preliminary draft manual at least fourteen (14) calendar days prior to the date set for start-up.
1. The Engineer/Architect 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. One (1) manual will be used at start-up, to record changes that should be made to the final manual.
 4. This copy of the manual will be retained on the site until such time as the final, updated manual is provided.
- K. Two (2) weeks after the date the unit was placed into service and the Owner has gained beneficial use, submit three (3) copies of the final updated Operations and Maintenance Manual. Refer to Section 017500 - Starting and Adjusting for requirements related to updating the manual(s).
- L. Submit one copy with the contents by each section in the final Operation and Maintenance manual in.pdf format provided on electronic media (thumb drive, etc). The PDF files shall be created at a minimum resolution of 300 dots per inch utilizing the original document size. Increase the resolution of the scanned file or images being submitted as required to adequately

present the information. PDF file shall be suitable for inclusion into the Yonkers JWWTP Online O&M Manual.

- M. 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.

1.04 - RETAINAGE

- A. The 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.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

3.01 - PREPARATION

- A. Submit Operations and Maintenance Manuals for all equipment.

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Maintenance of documents
- B. Recording of record information
- C. Submission of record documents

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. General Clauses

1.03 - PLANS AND SPECIFICATIONS FURNISHED TO THE CONTRACTOR

- A. Two (2) complete printed sets of Contract Documents (plans, specifications and addenda) and one digital media drive with a copy of the Contract Documents in .pdf format will be furnished to the Contractor.
- B. Additional printed sets will be furnished to the Contractor at \$250 per set.

1.04 - MAINTENANCE OF DOCUMENTS

- A. Maintain at the site one (1) printed set of the following: drawings, specifications, addenda, change orders, approved shop drawings, test reports, operations and maintenance manuals, and shop drawing log.
- B. Make these documents available for use by the Owner, Engineer/Architect, 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.

1.05 - 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.
- B. Keep the record documents current as the work progresses. Record information concurrent with construction progress.

1. Stipulated amount will be released when the record drawings have been accepted by the Engineer/Architect.
 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 Engineer/Architect.
- C. Do not permanently conceal any work until required information has been recorded.
- D. 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.
- E. Shop Drawings: Maintain as record documents. Legibly mark-up to show changes made due to field conditions encountered during construction.

1.06 - PROJECT RECORD DOCUMENTS

- A. Maintain a complete and accurate log of control and survey work as it progresses.
- B. The Contractor shall include a lump sum amount in the bid amount for preparation of record drawings of \$15,000.
1. Stipulated amount will be released when the record drawings have been accepted by the 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 Engineer/Architect.

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 Engineer.

1.07 - SUBMITTAL OF RECORD DOCUMENTS

- A. At Substantial Completion, deliver one (1) preliminary record set of record documents to the Engineer/Architect with all changes conspicuously ballooned or otherwise emphasized.
- B. The work will not be considered substantially complete until such time as the preliminary record documents are delivered and acceptable to the Engineer/Architect. Mark this set "Preliminary Record Drawings".
- C. Prior to Final Completion, conform the preliminary record drawings to the comments made by the Engineer/Architect and then provide the Owner a complete electronic set of CAD record drawings and one set of prints.
- D. Record 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.
- E. Each drawing shall bear in the title box the words "FINAL RECORD DRAWINGS" and the name of the Contractor in heavy black lettering 1/2 inch high and be certified as complete and accurate.
- F. Engineer/Architect will make available to the Contractor electronic media of the CAD Contract Drawings for the sole purpose of the Contractor preparing record drawings.
- G. Electronic media made available is without guarantee of compatibility with the Contractor's software or hardware.
 1. The Contractor will be required to execute an indemnification and hold harmless agreement with the Engineer/Architect.
 2. Electronic media will be provided free of charge on disc in a zipped format.
 3. Electronic media shall be returned to the Engineer/Architect upon acceptance of the record drawings by the Owner.

1.08 - RELATED DOCUMENTS

- A. Provide certificate of release of liens if requested by the Engineer/Architect.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Requirements for delivering spare parts.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses
- D. Section 016500 – Product Delivery, Storage and Handling

1.03 - QUALITY ASSURANCE

- A. Deliver spare parts as complete assemblies direct from the manufacturer such that the part is fully functional and ready to be installed.

1.04 - DELIVERY, STORAGE AND HANDLING OF SPARE PARTS

- A. Comply with the requirements of Section 016500 for packing, delivery, storage and handling requirements for all parts delivered to the site of the work.
- B. All spare parts required to be furnished under a Section of the Specifications shall be packaged in one separate box, crate or container with the words “SPARE PARTS” lettered on all sides of the container.
- C. The equipment name or system name for which the spare parts are being provided shall also be lettered on the container.
- D. A separate packing list for the spare parts shall be included in the container.
- E. Store all spare parts indoors immediately upon delivery to the site. Spare parts will not be accepted by the Owner/Engineer/Architect if the spare parts have been stored outdoors for more than 8 hours upon delivery to the site.
- F. The storage location shall be secure.

1.05 - TURN OVER OF SPARE PARTS

- A. Turn over spare parts to the Owner/Engineer approximately two (2) weeks prior to the Engineer/Architect's preparation of the Final Punch List.
1. Spare parts will not be accepted until this time.
 2. The Certificate of Substantial Completion will not be issued until all spare parts are delivered.
- B. The following procedure shall be followed:
1. Provide a formal letter of transmittal listing the name or description of the part, part number, model number, manufacturer (or supplier), and system component name and the Section where it was specified to be provided.
 2. Two (2) counterparts of the letter shall be provided.
 3. Turn each part individually over to the Owner/Engineer/Architect.
 4. The Owner/Engineer/Architect will initial next to the part description on each counterpart of the transmittal letter.
 5. The initials represent that the part was received.
 6. One transmittal counterpart will be returned to the Contractor.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Requirements for demonstrating and training of installed systems, equipment, and products.
- B. Manufacturer field services and the credit for unused service time.

1.02 – RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses
- D. Section 013300 - Submittals

1.03 - MANUFACTURER'S FIELD SERVICES

- A. When specified in individual specification sections require field services to be provided, said services shall be provided by qualified, authorized and factory trained representative(s) of the manufacturer (supplier).
- B. Field services shall generally consist of:
 - 1. installation supervision,
 - 2. verify terms of the manufacturer's warranty,
 - 3. equipment and system calibration,
 - 4. startup supervision, and
 - 5. operation and maintenance instructions to the Owner's employees.
- C. Such services do not include service time to correct a factory fault, correct problems resulting from a factory wiring or control logic error, or errors caused by poor or improper installation by the Contractor.
- D. Sale representatives are not acceptable.

- E. The time specified to be provided under the specification sections shall be exclusive of travel time to and from the facility or site. For the purposes of this Contract, one (1) day shall be defined as eight (8) hours exclusive of breaks and mealtime.
- F. The times specified to be provided by the manufacturer does not relieve the manufacturer from providing sufficient service time to place the equipment or systems into satisfactory operation and to obtain the specified performance. The manufacturer shall provide, as a minimum, the times specified in the Specification Sections.
- G. Where manufacturer services are specified for control panel or control center startup, the representative shall be experienced and trained to work on and field rewire such devices.
 - 1. Field representatives for control panel startup shall understand the control sequence specified and, in the case of programmable logic controllers, are able to make revisions to the factory program using handheld programming devices or laptop computers.
 - 2. The time spent by the representative to correct a PLC program shall not be included in the time specified for startup.
 - 3. The Owner will not pay for time spent in the field to correct a PLC programming problem.
- H. If for any reason, the specified service days are not used, then the Owner shall receive a credit equal to \$950.00 (NINE HUNDRED FIFTY DOLLARS AND ZERO CENTS) for each unused field service day specified. A change order to reduce the Contract Price by the dollar amount equivalent to the unused field service days will be issued.
- I. Submit manufacturers' startup reports (MSR's) in accordance with the requirements contained in Section 013300 - Submittals.

1.04 - SUBMITTALS

- A. Prepare a list of all manufacturer specified field time required by the technical specifications. Compile this summary listing and submit it to the Engineer for review in accordance with the requirements contained in Section 013300.
- B. Provide manufacturer's field training outline to Engineer for approval.
- C. Manufacturer's Startup Reports shall be provided prior to receiving full payment for installation.

1.05 - QUALITY CONTROL

- A. Adhere to all instructions provided by the manufacturer's authorized representative.

- B. All verbal instructions necessary to satisfy performance of the equipment or the system shall be immediately provided by the Contractor. The manufacturer shall document all verbal orders in writing at a time suitable to the Contractor.
- C. All written instructions provided in operation, maintenance, and installation guides and manuals, provided by the manufacturer of such equipment and or system, shall be complied with by the Contractor.
- D. Comply with all manufacturer requirements such that written or implied warranties remain in full force during the time period so specified elsewhere in the technical specifications.
- E. Should manufacturer's instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- F. Actions and/or non performance by the Contractor that may void manufacturer warranties shall not constitute a release of the specified warranty, and all warranty claims made by the Owner shall be paid for by the Contractor as if the manufacturer's warranty was still in effect.

1.06 - SCHEDULING - FIELD SERVICES

- A. Arrange field service on dates acceptable to the Owner and Engineer.
- B. The service visits shall be scheduled at least 14 calendar days in advance so that the Owner and Engineer can adequately staff the date.
- C. Operator training will not be allowed until such time as the Manufacturer's Operation and Maintenance Manuals have been supplied and approved by the Engineer.
 - 1. The field service technician shall review the contents of the manual with designated employees of the Owner.
 - 2. Field services will not be deemed provided until the MSR is provided.

1.07 - DEMONSTRATION AND INSTRUCTIONS

- A. Demonstrate operation and maintenance of products to Owner's personnel prior to date of Substantial Completion.
- B. Utilize manufacturers and vendor's Operation and Maintenance Manuals as basis for instruction. Review contents of the manual with the Owner's personnel in detail to explain all aspects of operation and maintenance.

- C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of the equipment or of the system.
- D. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.
- E. Arrange to have the manufacturer's Operation and Maintenance Manuals updated with information that has been added during start-up activities.
- F. The final manual shall contain the most recent information and reflect all operational and maintenance aspects of the final installed and functioning system or equipment component of the system.
- G. Any changes to control panel wiring diagrams or interconnection wiring schematics shall be made and new prints provided as an update to previously approved manuals.
- H. Manufacturer field time shall be as specified in individual Sections of the Technical Specifications.
- I. For control panels, explain the control sequence, timing structure, and safety precautions when working inside the panel, terminal wiring system, PLC program, if applicable, operator interface(s) and control logic.
- J. Explain PLC LED input and output numbering system, if applicable. If control relays are used, explain technique for their replacement.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Asbestos and lead-based paint certification.
- B. Moisture control.

1.02 - RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses
- D. Section 014100 – Regulatory Requirements
- E. Section 015719 – Environmental Protection

1.03 – ASBESTOS AND LEAD-BASED PAINT CERTIFICATION

- A. Contractor shall submit the enclosed “Asbestos and Lead-Based Paint Certification” upon completion of all work.

1.04 – MOISTURE CONTROL

- A. The Contractor shall maintain a strict policy and protocol for the control of water infiltration and moisture build-up during the course of the project. The plans and specifications are not intended to depict each and every condition or detail of construction. As the knowledgeable party in the field, the Contractor is in the best position to verify that all construction is completed in a manner which will provide a watertight structure. The Contractor has the sole responsibility for ensuring the watertight integrity of the structure. The Contractor’s contractual obligations include, but are not limited, to the following:
- B. Water Infiltration: If the Contractor observes water infiltration (unintended) into a completed building or an ongoing construction site, he must immediately report the condition to the Owner and Engineer/Architect, and shall immediately take steps to investigate the source of the water infiltration, identify the responsible party (person who performed work that resulted in water infiltration) and devise a procedure to promptly eliminate water infiltration into the building.
- C. Handling of Water-Damaged Building Materials and Construction:

1. Contractor shall inspect all building materials delivered to the site for pre-existing water damage, as well as existing mold growth.
2. If in-place construction becomes wet, notify the Owner and Engineer/Architect immediately. The Owner and Engineer/Architect will determine whether or not the work shall be removed and replaced, or if the type of material can be permitted to dry.
3. Under no circumstances may new or additional construction be placed over, or otherwise enclose, wet building materials.

D. Visible Mold/Mildew:

1. If the Contractor observes any substance that appears to be mold or other fungal growth and/or an unidentified substance within a completed building or the ongoing construction site, he shall immediately suspend construction operations in the area, and report the condition to the Owner and Engineer/Architect.
2. No person shall be allowed back into the affected area without permission of the Owner.

1.05 – SUBMITTALS

- A. Contractor shall submit completed and notarized "Certification of Asbestos and Lead-Based Paint" form.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

CERTIFICATE OF ASBESTOS AND LEAD-BASED PAINT

(New Work)

Client's Name: _____

Project Location: _____

Project Address: _____

Project Name: _____

Project Number: _____

Contract: _____ GC _____ Mechanical _____ Electrical
_____ Plumbing _____ Other (specify) _____

Certification:

This Contractor hereby certifies that no asbestos-containing material and lead-based paint, as defined by applicable federal and state regulations, has been furnished or installed at the referenced project:

Contractor Name: _____

Signature: _____

Address: _____

Telephone: _____ Date Executed: _____

THIS FORM SHALL BE NOTARIZED

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. General requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.

1.02 - RELATED SECTIONS

- A. General Requirements and Proposals
- B. Information for Bidders
- C. General Clauses

1.03 - DEFINITIONS

- A. **BoD: Basis of Design.** A document that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
- B. **Commissioning Plan:** A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
- C. **CxA: Commissioning Authority.**
- D. **OPR: Owner's Project Requirements.** A document that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
- E. **Systems, Subsystems, Equipment, and Components:** Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.

1.04 - COMMISSIONING TEAM

- A. **Members Appointed by Contractor(s):** Individuals, each having the authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated action. The commissioning team shall consist of, but not be limited to, representatives of each Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CxA.

B. Members Appointed by Owner:

Representatives of the facility user and operation and maintenance personnel.

Architect and engineering design professionals.

1.05 - OWNER'S RESPONSIBILITIES

- A. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities.

1.06 - CONTRACTOR'S RESPONSIBILITIES

- A. Assign representatives with expertise and authority to act on its behalf and shall schedule them to participate in and perform commissioning process activities including, but not limited to, the following:

Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.

Attend commissioning team meetings held on a variable basis.

Integrate and coordinate commissioning process activities with construction schedule.

Complete commissioning process test procedures.

In each purchase order or subcontract written, include requirements for submittal data, O&M data, commissioning tasks and training.

Ensure that all subcontractors execute their commissioning responsibilities according to the Contract Documents and approved progress schedule.

PART 2 - PRODUCTS

2.01 - TEST EQUIPMENT

- A. Provide standard testing equipment required to perform start-up and initial checkout and required functional performance testing.
- B. Specified special equipment, tools and instruments (only available from vendor, specific to a piece of equipment) required for testing equipment shall be provided by the Contractor, and turned over to the facility at the completion of the Work.

- C. Datalogging equipment and software required to test equipment shall be provided by the Contractor, but shall not become the property of the Owner.
- D. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified in the Specifications. Calibrate equipment in accordance with the manufacturer's recommended intervals. Calibration tags shall be affixed or certificates readily available.

PART 3 - EXECUTION

3.01 - FUNCTIONAL PERFORMANCE TESTING

- A. Functional performance testing shall document that each system is operating in accordance with the Contract Documents. During the testing process, identify areas of deficient performance. Correct deficiencies and conduct again functional testing. The Contractor shall be responsible for all costs associated with re-testing for functional performance.
- B. Operate each system through all modes of operation. Proper responses to such modes and conditions as power failure, freeze condition, low oil pressure, no flow, equipment failure, etc. shall also be noted.
- C. Test Methods: Perform each function and test under conditions that simulate actual conditions as closely as possible. Execute the test and provide all necessary materials, system modifications, etc. to produce the necessary flows, pressures, temperatures, etc. necessary to execute the test according to the specified conditions. At the completion of the test, return all building equipment and systems affected by these temporary modifications to their pre-test condition.

END OF SECTION

PART 1 - GENERAL

1.01 - DESCRIPTION

- A. This Section covers the requirements for supplying all labor, materials, and equipment necessary to demolish, and/or remove existing facilities.
- B. Sequence and schedule demolitions and removals as specified in Section 011400 – Work Restrictions.
- C. All materials and equipment shall remain the property of the Contractor except as listed herein in Part 3 or noted on the Contract Drawings.
- D. Scope Notes:
 - 1. Perform all electrical disconnections at the circuit breaker(s) or branch protection device(s) and the de-powering of electrical circuits. The actual device shall also be removed by the Contractor.
 - 2. Electrical conduits that require removal to install new work or are designated for removal shall be work of the Contract.
 - 3. The removal of exposed conduit and wire shall be work of the Contract as shown or noted on the Contract Drawings.

1.02 – RELATED SECTIONS

- A. Section 011400 – Work Restrictions
- B. Section 013100 - Project Management and Coordination
- C. Section 013300 - Submittals
- D. Section 014500 - Quality Control

1.03 - QUALITY ASSURANCE

- A. Demolition work shall proceed in an orderly and planned sequence, taking care not to disrupt the operation of the existing facility. Selected equipment removals and restrictions as noted on the plans or as specified in Section 011400 will require careful coordination that shall be conducted in phases with new equipment installations. The Contractor shall make no claim for extra compensation for failure to successfully coordinate all work with the other Contracts.

- B. Employ labor on a continuous basis and complete each phase of the demolition work until it has been readied to receive the new work or until it has been demolished. Once work has been started on any one phase, it shall be completed.
- C. Demolition shall be performed by persons experienced in this type of work and be directed by a foreman who shall be present during all phases of this operation.
- D. Dismantling of equipment shall be performed by mechanics qualified to install equipment of the type being removed. All equipment shall be removed in accordance with the best practice of the trade.
- E. All equipment shall be removed with care whether it shall be retained by the Owner or become the property of the Contractor.
- F. Obtain the services of cranes and professional riggers as may be required to remove portions of the work, deliver equipment to the Owner, or otherwise comply with the requirements of these specifications.
- G. Do not stockpile debris. Promptly load debris into a roll off container or dump truck and dispose of it in accordance with all applicable rules and regulations. Haul off site for disposal upon reaching full capacity. All containers shall be properly tarped or covered to prevent spill.
- H. Performance Criteria:
 - 1. Requirements of Structural Work: Do not cut structural work in a manner resulting in a reduction of load-carrying capacity of load/deflection ratio until interior removals and salvage has been completed and the area made safe.
 - 2. Operational and Safety Limitations: Do not cut operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in a manner intended or resulting in decreased safety until ready for demolition.
 - 3. Loading: Do not superimpose loads at any point upon existing structure beyond design capacity including loads attributable to materials, construction equipment, demolition operations and shoring and bracing.
 - 4. Vibration: Do not use means, methods, techniques or procedures which would induce vibration into any element of the structure to remain.
 - 5. Fire: Do not use means, methods, techniques or procedures which would produce any fire hazard unless otherwise approved by the Engineer.

6. Water: Do not use means, methods, techniques or procedures which would produce excessive water run-off, and water pollution.
7. Air Pollution: Do not use means, methods, techniques or procedures which would produce uncontrolled dust, fumes or other damaging air pollution.

1.03 – SUBMITTALS

- A. Comply with the requirements contained in Section 013300 - Submittals. Submit the following documents:
 1. Demolition plan including demolition schedule, removal sequence, and a detailed outline of dismantling, demolition, and disposal procedures.
 2. Project record documents in accordance with Section 017839. Project record documents shall include accurately recorded locations of capped utilities, plugged pipes, and subsurface conditions left in place.

1.04 – PROTECTION OF EXISTING CONSTRUCTION TO REMAIN

- A. Provide all labor and materials necessary for the temporary protection of existing construction (floors, roof, and walls) to remain when adjoining new work.
- B. Provide temporary construction, constructed of framing and plywood and/or heavy weight poly to protect existing construction and surrounding surfaces from dust, damage by movement of materials and personnel.
- C. The Contractor is responsible to replace or repair damage to existing structures due to work activities.
- D. Repair, replace, or rebuild existing construction as required or as directed which has been removed, altered or disrupted to allow for new construction. Existing construction shall be corrected to match adjacent construction, new or existing.
- E. Perform cutting of existing concrete and masonry construction with saws and core drills. Do not use jack-hammers or explosives.
- F. Provide temporary shoring and bracing of existing construction to allow removal of existing structural elements. Maintain shoring until new structural elements are in place and accepted.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

3.01 – GENERAL

- A. Ready the site and adjacent structures and surfaces before beginning any one phase of the demolition work. Inspect the surrounding buildings, tanks, pipes and confirm, with the Engineer, the extent of the work at least five (5) working days prior to starting each phase of the work. Do not remove, dismantle, or take off line any existing pipe, structure or process component without first giving five (5) working days of written notice. Notice may be given verbally at progress meetings if it is within five (5) working days before the scheduled work.
- B. Protect existing surfaces not to be demolished as directed by the Owner or as may be reasonable in consideration of the type of work that will be undertaken. All surfaces damaged as a result of the Contractor's operation shall be immediately repaired or shall be scheduled for repair at the completion of the work as the Engineer may elect.
- C. Pipe contents shall be completely drained. Do not allow contents to flow into open excavations.
- D. Burning of material is prohibited.
- E. The use of explosives is prohibited.
- F. Coordinate the disconnection of all electrical branch circuits, wiring, and equipment prior to any demolition. Electric facilities shall be discontinued in compliance with applicable provisions of the National Electric Code and utility requirements. Verify that the circuit has been de-energized and is safe to be removed.
- G. Hardware, such as bolts and nuts for fittings, shall become the property of the Contractor but shall not be reused on this project.
- H. Piping and fittings set in concrete piers shall be removed without damaging the pipe or fitting.
- I. Pumps attached to concrete piers and foundations using anchor bolts shall be burned off without damaging the pump or motor.
- J. All concrete used as fill shall meet the requirements of Section 033000 and be a minimum of 3500 psi.

- K. Cease operations immediately if an unsafe condition develops. Do not resume operation until the condition has been corrected. On-site safety shall be the responsibility of the Contractor and all operations shall be performed in accordance with applicable OSHA regulations and guidelines. Scaffolding, safety rails, and trench sheeting shall be employed as required to satisfy OSHA regulations.

3.02 – PREPARATION

- A. Temporary Support: Provide adequate temporary support for work to be cut to prevent failure. Do not endanger other work.
- B. Provide adequate protection of other work during selective demolition to prevent damage and provide protection of the work from adverse weather exposure.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

- A. This Section covers the handling, waste disposal and training requirements of working with materials coated with lead containing paint.
- B. Perform work in accordance with applicable local, state and federal guidelines for impacting lead-containing paint.

1.02 REFERENCES

- A. NYS Department of Labor Industrial Code Rules Part 12 Control of Air Contaminants.
- B. State Department of Transportation (DOT): Follow all regulations of 49CFR Part 100 through 199.
- C. Occupational Safety and Health Administration (OSHA): Lead Exposure in Construction: Interim Final Rule 29 CFR 1926.62.
- D. U.S. Department of Housing and Urban Development (HUD): Guidelines for evaluation and control of Lead based paint hazards: Title Ten of Housing and Community Act of 1992.
- E. U.S. Environmental Protection Agency (EPA): Resource Conservation and Recovery Act (RCRA) Section 3004 Hazardous and Solid Waste Amendments.
- F. U.S. Environmental Protection Agency (EPA): Toxicity Characteristics Leaching Procedure EPA Method 1311.

1.03 DEFINITIONS

- A. Authorized Personnel: Owner or the Owner's Representative, and all other personnel who are authorized officials of any regulating agency, be it State, Local, Federal or Private entity who possess legal authority for enforcement or inspection of the work.
- B. Containment: The enclosure within the building which establishes a contaminated area and surrounds the location where lead remediation is taking place and establishes a Lead Control Work Area.

- C. Floor Surface Clearance Criteria: Shall be determined and established by an independent testing lab hired by the Owner, conforming to all standards set forth by all authorities having jurisdiction, mentioned in the references, and issue the certification of cleaning. At a minimum no single post work lead wipe sample test values shall have reading levels greater than the levels established by pre-work wipe sampling test values, or greater than 40 mg/ft². Record levels in mg/ft².
- D. Fixed Object: Mechanical equipment, electrical equipment, fire detection systems, alarms, and all other fixed equipment, furniture, fixtures or other items which cannot be removed from the work area.
- E. HEPA: High Efficiency Particulate Absolute filtration efficiency of 99.97 percent down to 0.3 microns. Filtration provided on specialized vacuums and air filtration devices to trap particles.
- F. Lead Based Paint (LBP): Paints or other surface coatings that contain lead equal to or greater than 1.0 milligrams per square centimeter or 0.5 percent of lead by weight.
- G. Lead Dust Control Work Area: A cordoned off area with drop clothes or an enclosed area or structure with containment to prevent the spread of lead dust, paint chips, or debris from lead-containing paint disturbance operations.
- H. PPE: Personal Protective Equipment.

1.04 ABBREVIATIONS

- A. ASTM: American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103
- B. CFR: Code of Federal Regulations, Government Printing Office, Washington, DC 20402
- C. DOT: Department of Transportation
- D. NIOSH: National Institute for Occupational Safety and Health, Building J, N.E. Room 3007, Atlanta, Georgia 30333
- E. OSHA: Occupational Safety and Health Administration, 200 Constitution Avenue, Washington, DC 20210
- F. USEPA: United States Environmental Protection Agency, 401 M Street SW, Washington, DC 20460

1.05 SUBMITTALS

- A. Quality Control Submittals: Submit the entire Lead Abatement submittal package at the same time.
1. Worker' Qualifications: Persons removing lead containing/coated material and their Supervisors shall be personally experienced in this type of work and shall have been employed by a company with a minimum of one-year experience in this type of work. Submit a copy of documentation of completion of the EPA lead renovators training program. Submit Evidence that all personnel working on the removal of materials coated with lead containing paint have been trained in accordance with OSHA Standard 29 CFR 1926.62.
 2. Name of lead supervisor on site during the work.
 3. Submit one copy of the detailed work plan required under Quality Assurance Article.
 4. Waste Transporter Permit: One copy of transporter's current waste transporter permit.
- B. Contract Closeout Submittals:
1. Copies of OSHA compliance monitoring results or current objective data that indicates such tasks did not cause exposure above the PEL.
 2. Assessment Report compiled by a testing lab certifying that the work area has lead concentrations below the levels specified under the cleaning criteria.
 2. Disposal Site Receipts: Copy of waste shipment record and disposal site receipt showing that the lead-containing materials have been properly disposed of.

1.06 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with the referenced standards.
- B. Pre-Work Conference: Before the Work of this Section is scheduled to commence, a conference will be held by the Owner at the Site with the contractor and the lead handling subcontractor (if any) for the purpose of reviewing the Contract Documents, discussing requirements for the Work, and reviewing the Work procedures.
- C. Detailed Lead-Containing Material Removal Work Plan: Before the physical Work begins, prepare and submit a detailed lead-containing material removal work plan.
1. The work plan shall indicate it complies with state, federal and local requirements for removing and disposing lead-containing materials during demolition activities. The plan

shall include engineering controls, personal protective equipment, air-monitoring methods, signage, location of handwashing facilities, work practices, waste-handling and disposal, and any other pertinent information.

1.07 PROJECT CONDITIONS

- A. Cut and alter existing materials as required to perform the work. Limit cutting to the smallest amount necessary. Flame cutting, high speed grinding or welding is prohibited on lead painted surfaces.

1.08 HEALTH AND SAFETY

- A. Where in the performance of the work, workers, supervisory personnel or sub-contractors may encounter, disturb, or otherwise function in the immediate vicinity of contaminated items and materials, all personnel shall take appropriate continuous measures as necessary to protect all ancillary building occupants from the potential lead exposure. Such measures shall include the procedures and methods described herein and shall comply with all applicable regulations of Federal, State and Local agencies.
- B. Workers shall receive training (29 CFR 1926.21) that includes the following:
 - 1. Information about the potential adverse effects of lead exposure.
 - 2. Information about the early recognition of lead intoxication.
 - 3. Instruction about heeding signs that mark the boundaries of lead-contaminated work areas.
 - 4. Discussion of the importance of personal hygiene in reducing lead exposure.
 - 5. Instruction about the use and care of appropriate protective equipment (including protective clothing and respiratory protection).
 - 6. Information about specific work practices for working safely with lead-based paints
 - 7. Information on the OSHA "Lead in Construction" Standard 29 CFR 1926.62 and an employee's right to access 29 CFR 1910.20.
 - 8. Contents of compliance plan in effect.

1.09 PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

- A. Workers shall wear protective suits, protective gloves, and eye protection. Respiratory protection shall be in accordance with OSHA regulation 1910.134 and ANSI Z88.2.

- B. Workers shall be trained in accordance with EPA requirements, have medical clearance and have recently received pulmonary function test (PFT) and respirator fit tested by a trained professional.
 - 1. A personal air sampling program shall be in place as required by OSHA.
 - 2. The use of respirators must also follow a complete respiratory protection program as specified by OSHA.

PART 2 PRODUCTS

2.01 RESPIRATORS

- A. Type: Approved by the Mine Safety and Health Administration (MSHA), Department of Labor, or the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services.

2.02 VACUUM CLEANERS

- A. Type: Vacuums equipped with new HEPA filters.

2.03 PLASTIC SHEETS

- A. Type: Minimum 6 mil., clear, fire retardant polyethylene sheets.
- B. Floor Protective Layer: Minimum 10 mil., reinforced polyethylene sheets.

2.04 DISPOSAL BAGS

- A. Type: Minimum 6 mil thick, clear polyethylene bags with preprinted Caution Label. Properly containerize/drum prior to disposal.

2.05 EQUIPMENT

- A. Temporary lighting, heating, hot water heating units, ground fault interrupters, and all other equipment on site shall be UL listed and shall be safe, proper, and sufficient for the purpose intended.
- B. All electrical equipment shall be in compliance with the National Electric Code, Article 305 - Temporary Wiring.

PART 3 EXECUTION

3.01 PREPARATION

- A. Comply with all applicable Occupational Safety and Health Administration (OSHA) Requirements.
- B. Employees shall wear the respiratory protection provided when it is required.

3.02 LEAD-CONTAINING/COATED MATERIAL HANDLING AND DISPOSAL

- A. Handle and dispose of lead-containing materials in accordance with OSHA 1926.62 and the approved lead-containing material work plan. Use procedures and equipment required to limit occupational and environmental exposure to lead when material containing or coated with lead containing paint is handled and disposed of in accordance with referenced standards.
- B. Dispose of demolition debris with lead-based paint attached at a permitted demolition debris landfill.
- C. Test results indicating a value greater than 5 ppm lead or 5mg/L classifies the removed material as Hazardous Waste.

3.03 RESTORATION

- A. Remove temporary decontamination facilities and restore area designated for these facilities to its original condition or better.
- B. Where existing construction is damaged or contaminated while performing this project, restore area to its condition or better.

END OF SECTION

PART 1 – GENERAL

1.01 – SECTION INCLUDES

- A. Repair of cracked, spalled, calcinated and hollow areas on concrete tank interior floors and walls.

1.02 - SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Submit manufacturers' product data and application requirements for proposed materials used to repair spalls and cracks.
- C. Submit documentation on characteristics of proposed media for abrasive blasting.
- D. Submit documentation indicating product applicators are trained and approved by product manufacturer.

1.03 - REGULATORY REQUIREMENTS

- A. Coatings shall comply with NYCRR, Part 205, of the New York State Department of Environmental Conservation (NYSDEC).
- B. Transport debris and rubbish in accordance with New York State Department of Environmental Conservation Law, Article 27, Treatment and Disposal of Refuse and Other Solid Waste.

1.04 - EXISTING CONDITIONS

- A. Allow Owner/Engineer to conduct an inspection after tank cleaning to identify areas for repair.

PART 2 - PRODUCTS

2.01 – MATERIALS

- A. All repair mortar shall fully bond to existing surfaces and be free of chlorides.
- B. Hydrophobic low viscosity, polyurethane chemical grout: SikaFix HH LV.
- C. Two Component, self-leveling, polyurethane elastomeric sealant: Sikaflex-2c SL.
- D. Bonding Agent and Reinforcement Protection: The bonding agent and reinforcement protection shall be a 3-component, solvent free, moisture tolerant, epoxy-modified, cementitious product specifically formulated as a bonding agent and an anti-corrosion coating. This product shall be Armatec 110 EpoCem as manufactured by SIKA CORP.
- E. Water: Potable, clean and free from oils, acids, alkali organic matter and other deleterious material.

- F. Filler: TNEMEC 63-1500.

PART 3 - EXECUTION

3.01 –PROTECTION

- A. Protect pipe openings so that no materials enter into the lines during preparation and repair.

3.02 – SURFACE PREPARATION

- A. Interior Abrasive blasting: Utilize abrasive blasting to remove all existing coatings and deposits at area to be repaired. Remove loose material to sound substrate. Equipment shall have ample capacity to furnish the required volume of compressed air to operate the blast effectively. The air shall be free of oil or moisture. Media shall be composed principally of silica grains. Do not utilize previously used media for abrasive blasting. Conduct abrasive blasting to prevent spread of media to adjoining property.
- B. Surfaces to be repaired and coated shall be clean.
- C. Mechanical chipping: Where necessary, and as directed by the Engineer, use chipping hammers to remove unsound concrete.

3.03 – REPAIR/RESTORATION

- A. Interior Wall and Floor Crack Repair
1. Rout with dovetail profile to a depth of ½-inch.
 2. Remove mortar at the ends of exposed wire and steel until corrosion free steel is exposed. Remove rust deposits and loose material from steel by blasting to a near white finish (SSPC-10). Coat bare steel with 20 mils (2 coats of 10 mils each) of SIKA ARMATEC 110 EPOCEM.
 3. Saturate surface with clean water.
 4. When repair area is saturated surface dry, coat entire concrete surface of repair area with 20 mils of SIKA ARMATEC 110 EPOCEM.
 5. Prepare two-component, polymer-modified, cementitious, non-sag mortar in accordance with manufacturer's standards.
 6. Apply in accordance with manufacturer's recommendations.
 7. Cure in accordance with ACI recommendations for Portland Cement Concrete.
- B. Interior Wall and Floor Repairs
1. Remove all loose material to sound substrate.

2. Abrasive blast to SSPC-SP13/NACE 6 Surface Preparation of Concrete.
3. When surface preparation of area to be repaired is completed, coat entire concrete surface of repair area with 1/16-inch of TNEMEC 63-1500.

3.04 - CLEANUP

- A. Maintain work area in a neat, orderly fashion. Debris such as used sand, muck, rust, scale, shall be frequently cleaned up and removed from the site. Thinners used to clean spray guns and other tools and equipment shall be held in containers and removed from the site to an approved disposal area by the Contractor. Do not clean equipment in tank.
- B. After completion of repair, thoroughly clean tank interior. Sweep broom clean
- C. Upon completion of the work, remove all excess material, rigging, empty containers, and supplies, from the site. Buildings and grounds shall be left in as good condition as when work was started.
- D. Transport debris and rubbish in accordance with New York State Department of Environmental Conservation Law, Article 27, Treatment and Disposal of Refuse and Other Solid Waste.

END OF SECTION

PART 1 - GENERAL

1.01 – SECTION INCLUDES

- A. Formwork, shoring, bracing, and anchorage.
- B. Concrete reinforcement and accessories.
- C. Cast-in-place concrete.
- D. Concrete curing
- E. Concrete finishes

1.02 - REFERENCES

- A. ACI 301 – Specification for Structural Concrete.
- B. ACI 304 – Guide For Measuring, Mixing, Transporting, and Placing Concrete.
- C. ACI 305 – Hot Weather Concreting.
- D. ACI 306 – Cold Weather Concreting.
- E. ACI 308 – Guide To Curing Concrete.
- F. ACI 318 – Building Code Requirements for Structural Concrete.
- G. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- H. ASTM A615 - Deformed and Plain Billet-Steel for Concrete Reinforcement.
- I. ASTM C33 - Concrete Aggregates.
- J. ASTM C94 - Ready-Mixed Concrete.
- K. ASTM C150 - Portland Cement.
- L. ASTM C260 - Air Entraining Admixtures for concrete.
- M. ASTM C309 - Liquid Membrane-Forming Compounds for Curing Concrete.
- N. ASTM C494 - Chemical Admixtures for Concrete.

- O. ASTM D1751 - Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
- P. CRSI 63 – Recommended Practice for Placing Reinforcing Bars.

1.03 - SUBMITTALS

- A. Comply with the requirements contained in Section 013300 - Submittals.
- B. Product data shall be submitted for all products specified herein.
- C. Submit concrete mix design.

1.04 - QUALITY CONTROL

- A. Perform all work in accordance with ACI 301.
- B. Fabricate concrete reinforcing in accordance with CRSI 63.
- C. Procure concrete from a single approved central commercial batching plant. To further insure consistency, coloring, finish and quality, all aggregates, cement, water and other ingredients shall each be secured from the same source for the duration of the project.
- D. The batching plant and raw materials may be subject to inspections and tests performed by the Owner.

1.05 - REGULATORY REQUIREMENTS

- A. Conform to ACI 304 and all applicable codes for placement of concrete and related work.

1.06 - DELIVERY, STORAGE AND HANDLING

- A. Store cement off the ground in a dry, weatherproof, adequately ventilated structure with provisions to prevent absorption of water.
- B. Transport dry concrete batches from the central plant to the site in approved truck mixers conforming to the requirements of the Truck Mixer Manufacturer's Agitating Standards. Each truck shall contain a plate stating the capacity, drum speeds and be provided with a revolution counter.

1.07 - ENVIRONMENTAL REQUIREMENTS

- A. Do not place concrete when the ambient temperature is below 40 deg. F. or when the concrete temperature exceeds 85 deg. F. Under certain circumstances, the Owner may approve the placement of concrete under the above conditions, provided that the procedures of ACI 305 and ACI 306 are strictly adhered to.
- B. Do not place concrete when the conditions may adversely affect the placing, curing or finishing of concrete, or its strength.
- C. Comply with the requirements contained in Section 016500 - Product Delivery, Storage and Handling.

PART 2 - PRODUCTS

2.01 - MATERIALS

- A. Plywood forms: Douglas Fir species, solid one side grade and sound undamaged sheets. Thickness of wood shall be as required to support weight of concrete with minimal deflection.
- B. Steel forms: Minimum 16 gage (1.5 mm) thick, stiffened to support weight of concrete with minimum deflection.
- C. Form ties: Snap-off metal, of fixed length, cone type.
- D. Reinforcing: ASTM A615, 60 ksi (414 Mpa) yield grade billet steel deformed bars; uncoated finish, size and dimensions as indicated on plans.
- E. Welded steel wire fabric: Plain type, ANSI/ASTM A1064; in flat sheets; uncoated finish; size and dimensions as indicated on plans.
- F. Cement: ASTM C150, Type II, Portland type, gray color.
- G. Fine and coarse aggregates: ASTM C33. (No. 57 or No. 67).
- H. Water: Clean and not detrimental to concrete.

2.02 - ACCESSORIES

- A. Air entraining admixture: ASTM C260.
- B. Chemical admixture: ASTM C494, Type as required.

- C. Bonding agent: Three (3) component, solvent free, moisture tolerant, epoxy-modified cementitious product. Product Armatec 110 EpoCem as manufactured by Sika Corp. or specifically approved equal.
- D. Form release agent: Bio-Release EF or equal; colorless, water based, non-toxic, V.O.C. compliant, environmentally safe material which will not stain concrete, absorb moisture or impair natural bonding or color characteristics of coating intended for use on concrete; manufactured by Dayton Superior or equal. Agent shall not be detrimental to the environment.
- E. Sealant: ASTM D1190; hot applied rubber compound manufactured by BURKE COMPANY or equal.
- F. Absorptive mat: Burlap-polyethylene, 8-oz/sq. yd (270-g/sq. m.), bonded to prevent separation during use.
- G. Membrane curing compound: Moisture Retention complying with ASTM C309. Products: Eucocure VOX as manufactured by Euclid or equal.

2.03 - MIXES

- A. Mix cast in place concrete in accordance with ASTM C94, Alternative No. 2, to achieve the following:
 - 1. Compressive strength (28 day): 4000 psi
 - 2. Maximum water (cement ratio by weight): 0.50
 - 3. Slump: Beams, Slabs, Footings, and Walls – Conventional Mix (Initial Slump): 3 ± 1 inch.
 - 4. Air entrainment: $5\frac{1}{2} \pm 1$ percent
 - 5. Large aggregate: $\frac{3}{4}$ " crushed stone, ASTM C33, No. 67
- B. Use admixtures only when approved by the Owner. High early-strength concrete admix to be submitted for approval.

PART 3 - EXECUTION

3.01 - EXAMINATION

- A. Verify lines, levels, and measurement before proceeding with formwork. Ensure that dimensions agree with the plans.

- B. Inspect the formwork and reinforcing that it has been properly set and secured and that all items to be embedded, built-in or pass through concrete are at their proper locations and elevations.
- C. Verify that all concrete inserts, sleeves and embedded elements of the project, such as conduit, and that their work has been totally completed and inspected by the Owner.

3.02 - FORMWORK ERECTION

- A. Align form joints.
- B. Do not apply form release agent where concrete surfaces are to receive special finishes or applied coatings that may be affected by the agent.
- C. Where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack with non-metallic/non-shrink grout.
- D. Prepare previously placed concrete by cleaning with steel brush and apply bonding agent in accordance with manufacturer's instructions.
- E. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts.

3.03 - INSTALLATION

- A. Place, support, and secure reinforcement against displacement at the locations and to the dimensions as indicated on the plans.
- B. Use reinforcing splices at a minimum of locations and only at locations of minimum stress. Review locations of splices with Owner.
- C. Rebar splice overlap shall be the minimum length as per ACI 318 and 350.
- D. Ensure reinforcement, inserts, embedded parts, formed joint fillers, and joint devices are not disturbed during concrete placement.
- E. Place concrete continuously between predetermined expansion, control and construction joints as rapidly as possible by methods that shall prevent the separation of ingredients.
- F. Place concrete with the aid of mechanical vibrators capable of transmitting to the concrete not less than 3,000 impulses per minute. Maintain at least two (2) vibrators, in good working condition, ready for use when concrete placement starts in any one area.

- G. Do not interrupt successive placement. Do not permit cold joints to occur.
- H. Apply curing compound in accordance with manufacturer's instructions in two (2) coats with second coat at right angles to the first.
- I. Remove forms in accordance with ACI 301. Remove formwork after the concrete has sufficiently hardened, except in inaccessible spaces where approved by the Owner. Forms shall be removed from placed concrete after a minimum of three full days following placement, or as otherwise approved by the Owner.

3.04 - CURING AND PROTECTION

- A. Hot Weather Concreting: Comply with ACI 305R whenever the atmospheric temperature or the form surface temperature is at or above 90 degrees F, or climatic conditions of wind and/or low humidity will cause premature drying of the concrete.
- B. Curing Temperature: Maintain the temperature of the concrete at 50 degrees F or above during the curing period. Keep the concrete temperature as uniform as possible and protect from rapid atmospheric temperature changes. Avoid concrete temperature changes that exceed 5 degrees F in any one hour and 50 degrees F in any 24 hour period.
- C. Cure floor surfaces in accordance with ACI 308.

3.05 - TOLERANCES

- A. Provide Class A tolerance to floor slabs according to ACI 301.
- B. Tolerance shall be true planes within 1/8 inch in 10 feet, as determined by a 10 foot straightedge placed anywhere on the slab in any direction.

3.06 - FINISHES

- A. Finish all concrete by:
 - 1. Filling all localized surface voids ("bugholes"), honeycombing, and pockets exceeding 1/8 inch diameter and 1/8 inch depth, in the concrete with an application of cement mortar as follows: White cement shall be added to the mortar in an amount sufficient to tint the mortar a shade lighter than the concrete to be repaired. Mortar shall be mixed approximately 45 minutes in advance of use. Care shall be exercised to obtain a good bond with the concrete. After the mortar has thoroughly hardened, the surface shall be rubbed with a carborundum stone in order to obtain the same color in the mortar as in the surrounding concrete. The final appearance shall be acceptable to the Owner.

2. Completely removing all fins caused by form joints and other projections to the satisfaction of the Owner.
 3. Filling all snap tie voids with mortar as specified above.
- B. Housekeeping pads shall be left with a broom finish with a steel trowel rounded or $\frac{3}{4}$ -inch wide chamfered edge.

3.07 - PROTECTION AND REPAIR

- A. Protect concrete from damage and rust staining to the date that the Final Completion Certificate has been issued by the Owner. Immediately remove all rust spots that have developed during the construction period as soon as directed by the Owner.

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Sealants and joint backing.

1.02 – REFERENCES

- A. ASTM C790 - Use of Latex Sealing Compounds.
- B. ASTM C804 - Use of Solvent-Release Type Sealants.
- C. ASTM C834 - Latex Sealing Compounds.
- D. ASTM D1056 - Flexible Cellular Material - Sponge or Expanded Rubber.
- E. SWRI (Sealant, Waterproofing and Restoration Institute) - Sealant and Caulking Guide Specifications.

1.03 – SUBMITTALS

- A. Submit under provision of Section 013300.
- B. Submit manufacturer's complete descriptive data and color availability.
- C. Manufacturer's installation instructions: Indicate special procedures, surface preparation, and perimeter conditions requiring special attention.
- D. Submit schedule of all conditions and joints requiring caulking and sealant proposed for each condition.

1.04 - QUALITY ASSURANCE

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

1.05 - PERFORMANCE REQUIREMENTS

- A. Install sealants to prevent air and moisture from infiltrating or migrating from the building exterior to the interior.

1.06 – PROTECTION

- A. Mask surrounding surfaces.
- B. Protect sealants until cured.

1.07 - ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.08 – COORDINATION

- A. Coordinate the work with all sections referencing this section.

1.09 – WARRANTY

- A. The products covered under this Section shall be covered by the manufacturer's standard 5-year warranty and include coverage for installed sealants and accessories which fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 - PRODUCTS

2.01 - MANUFACTURERS

- A. Sealant manufacturers: Bostik, TPI, 3M, DOW CORNING or approved equal.

2.02 – SEALANTS

- A. Acrylic latex sealant (Interior): ASTM C920, paintable grade; single component, solvent curing, non-staining, non-bleeding, non-sagging.
- B. Polyurethane sealant (Exterior): ASTM C92C, multi-component, chemical curing, non-staining, non-bleeding, non-sagging.
- C. Caulking compounds shall be non-staining. Selection based upon manufacturer's recommendations for type of surface material and submitted to the Architect/Engineer for approval.
- D. Butyl: One part butyl non-sagging, FSTT-5-1657.
- E. One Part Silicone: ASTM C920, Type 5, Grade HS, Class 75, vertical surfaces.
- F. Backing material shall be inserted into joint to the proper depth to allow for the proper balance of joint and sealant dimensions. Avoid excessive longitudinal stretching of rods during installation.

2.03 – ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint cleaner: Non-corrosive and non-staining type, as recommended by sealant manufacturer; compatible with joint forming materials.

- C. Joint backing: Round, closed cell polyethylene foam rod, oversized 50% larger than joint width; as recommended by sealant manufacturer; and compatible with sealant.
- D. Bond breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 - EXECUTION

3.01 – EXAMINATION

- A. Verify that substrate surface and joint openings are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.02 – PREPARATION

- A. Remove loose materials and foreign matter which might impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Protect elements surrounding the work of this section from damage or disfiguration.
- E. Apply masking tape. Do not allow tape to touch surface to which caulking or sealant is to be applied.

3.03 – INSTALLATION

- A. Perform installation in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Install sealant to achieve performance requirements, in accordance with manufacturer's instructions.
- D. Measure joint dimensions and size material to achieve required 2:1 width/depth ratios.
- E. Install joint backing to achieve a neck dimension no greater than 1/3 of the joint width.
- F. Remove masking tape immediately after tooling of sealant is accomplished and before surface skin has started to form.
- G. Install bond breaker where joint backing is not used.

- H. Install sealant free of air pockets, foreign embedded matter, ridges and sags.
- I. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- J. Apply sealant in continuous uniform bed.
- K. Tool joints concave, flush with surface of adjoining material.
- L. Match color of sealant to adjoining material.

3.04 – CLEANING

- A. Comply with the requirements of Section 017423.
- B. Clean adjacent soiled surfaces.

3.05 - PROTECTION OF FINISHED WORK

- A. Protect sealants until cured and until project completion.

END OF SECTION

PART 1 – GENERAL

1.01 - SECTION INCLUDES

- A. Painting of process piping, piping insulation, concrete surfaces, and misc. metals.

1.02 - REFERENCES

- A. The Society for Protective Coatings (SSPC) Volume 2
 - 1. Chapter 2 - Surface Preparation
 - 2. Chapter 5 - Paint Application Specifications

1.03 - SUBMITTALS

- A. Comply with the requirements in Section 013300 - Submittals.
- B. Submit the following:
 - 1. Technical data sheets for each paint specified.
 - 2. Color charts showing availability of each paint specified in the attached schedule.
 - 3. Application instructions

1.04 - QUALITY ASSURANCE

- A. The paint shall be furnished by one single supplier (paint manufacturer).
- B. Consideration will only be given to suppliers who can demonstrate that their paint system complies with these specifications having had successful and documented experience of the size, quality, performance and reliability to that specified, and who can successfully demonstrate this criteria to the Engineer.

1.05 - DELIVERY, STORAGE AND HANDLING

- A. Comply with the requirements in Section 016500 - Product Delivery, Storage and Handling.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- C. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

- D. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.
- E. Cover all building openings to achieve specified temperatures. Furnish and install temporary heaters and electric feed to maintain room temperatures. The use of propane heaters will be allowed when approved by the Engineer.

PART 2 - PRODUCTS

2.01 - MANUFACTURERS

- A. Tnemec East, Inc. of Wilmington, MA.

2.02 - MATERIALS

- A. Refer to the schedule for a listing of the appropriate surfaces for each paint material. The following are the types of materials that shall be used:
 - 1. N69 Epoxoline II Hi-Build Polyamidoamine cured epoxy
 - 2. 280 Tneme-Glaze 100% Solids, Hi-Build amine epoxy
 - 3. 201 Epoxoprime 100% Solids clear epoxy primer
 - 4. 1 Purple Prime Aromatic Urethane with Miox
- B. Colors shall be as selected by the Owner.
- C. Provide all required ladders, scaffolding, drop cloths, maskings, scrapers, tools, sandpaper, dusters, cleaning solvents, and miscellaneous equipment as required to perform the work and achieve the results specified herein.

2.03 - MIXING

- A. Mixing or tinting shall be done at the factory.
- B. Site mixing shall be prohibited.

PART 3 - EXECUTION

3.01 - EXAMINATION

- A. Do not apply materials when surface and ambient temperatures are outside the temperature

ranges required by the paint product manufacturer.

- B. Do not apply coatings when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- C. Apply paint only when temperature exceeds 50 degrees F or as otherwise required by manufacturer and drying conditions are good and predicted to remain so for at least 24 hours.
- D. Provide and maintain application temperatures for all finishes.
- E. Before painting is started in any area, clean area and remove excessive dust. After painting operations begin in a given area, clean only with commercial heavy-duty vacuum cleaning equipment.
- F. Provide adequate illumination and ventilation in all areas where painting operations are in progress.
- G. Verify the surfaces are ready to receive the work as required by the product manufacturer.
- H. Before starting any work, carefully examine surfaces to receive paint finish for defects which cannot be corrected by the procedures specified herein and which might prevent satisfactory painting results. Work shall not proceed until such defects are corrected.
- I. The commencing of work in a specific area only shall be construed as acceptance of the surfaces, and thereafter the Contractor's applicator shall be fully responsible for satisfactory work as required herein.
- J. Test shop applied primer for compatibility with subsequent cover materials.
- K. Do not begin work until surfaces to receive paint are dry, firm, sound, clean and free of defects or blemishes, which would adversely affect the quality or appearance of the finished work.
- L. Beginning of work means the applicator accepts existing surface conditions.

3.02 - PREPARATION

- A. Prepare surfaces as specified in the schedule. Surface preparation of steel shall be in accordance with SSPC - Chapter 2 - Surface Preparation Specifications.
- B. Galvanized surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

- C. Uncoated ferrous surfaces: Remove scale by wire brushing and wash clean with solvent. Apply treatment of phosphoric acid solution. Prime paint after repairs.
- D. Shop primed and existing previously painted steel surfaces: Sand and scrape to remove loose paint and rust, power tool clean, feather edges; clean surfaces with solvent. Prime bare steel surfaces.
- E. Concrete: All exposed concrete shall be installed with the intent that it will be painted. .
- F. Surface appurtenances: If allowed by the Engineer, remove or mask electrical plates, hardware, light fixture trim, escutcheons, fittings, and all other surfaces to be protected from paint prior to preparing surfaces or finishing.
- G. Surfaces: Correct defects and clean surfaces, which affect work of this Section. Remove or repair existing coatings that exhibit surface defects.
- H. Follow manufacturer's recommendations for preparing and cleaning surfaces to be primed and painted.
- I. Mask, cover, or remove surfaces to be protected from paint. Protect electrical and mechanical equipment and systems not to be painted.
- J. Do not paint over UL Labels, manufacturer installed equipment nameplates, factory installed nameplates and equipment identification plates.
- K. Clean and remove scale, oil or grease from ferrous metal surfaces.

3.03 - APPLICATION

- A. Apply paint in accordance with SSPC - Chapter 5 - Paint Application Specifications.
- B. It is the intent that the above brand names and types of material will give complete coverage with uniform appearance. If any additional coat is necessary for complete coverage and appearance, it shall be done at no additional cost.
- C. All paints shall be new stock, delivered to the site unopened. Prepare surfaces properly for receiving paint; protect adjacent surfaces not to be painted.
- D. Use of sprays may be permissible, upon prior approval by Engineer.
- E. All work shall be carefully done by skilled painters. Finished surfaces to be uniform in coverage, gloss, finish, and color, and free from brush marks. All coats shall be thoroughly dry before

applying succeeding coats.

- F. Apply products in accordance with manufacturer's instructions.
- G. Do not apply finish coats until paintable sealant is applied.
- H. Do not apply sealant or primer until surfaces are properly prepared.
- I. Spray, roller and/or brush may be used as appropriate for the various conditions, but the specified dry film thicknesses shall be provided.
- J. Thicknesses listed in the Schedule for High Build Coatings can be obtained in one coat by spray, but not necessarily by brush or roller.
- K. The specified DFT shall hold precedence over whatever recommendations are made for other supplier's products.
- L. Minimum air and surface temperature for application of epoxy coatings shall be maintained at 55 degrees F. unless otherwise noted on the manufacturer's product data sheet.
- M. Minimum air and surface temperature for 100% solids by volume epoxy coatings, such as 280 Tneme-Glaze, etc. shall be 70 degrees F. Optimum temperature of unopened 100% solids epoxy shall be 75 degrees F. Minimum temperature of unopened 100 solids epoxy shall be 60 degrees F.
- N. Supply heat with equipment that delivers clean, warm air into the space to be coated. Heat shall not be supplied by devices that give off exhaust fumes such as carbon dioxide or carbon monoxide into the area to be coated. The purpose of this requirement is to prevent the coatings from yellowing during application and cure.
- O. Sand surfaces lightly between coats to achieve required finish.
- P. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- Q. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- R. Prime concealed surfaces of interior and exterior woodwork with primer paint.
- S. Apply materials to obtain:
 - 1. Owner's satisfaction and approval.

2. Smooth uniform appearance.
 3. Complete coverage.
 4. Match with approved color sample.
 5. Work free of runs, sags and skips.
 6. Sharp, clean edges where finishes or colors change.
 7. Surfaces free of defects and damage at time of acceptance.
- T. Sand metal between coats.
- U. Coatings application equipment are not required to be new, but they shall be adequate and commensurate for the work and workmanship required herein.

3.04 - FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Paint shop primed equipment.
- B. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- C. Prime and paint insulated and exposed process pipes, fittings, valves, hangers, brackets, collars and supports, except where items are shop finished.
- D. Paint both sides and edges of plywood backboards of electrical and telephone equipment before installing equipment.
- E. Color code equipment, piping, conduit, and exposed ductwork in accordance with other Sections, as shown or noted on the Drawings, or as directed by the Owner/Engineer.

3.05 - FIELD QUALITY CONTROL

- A. The appearance of all coatings shall be subject to comparison to the paper chip samples. Acceptance of finish shall be made by the Engineer based on these comparisons.

3.06 - CLEANING

- A. Comply with the requirements in Section 017423 - Cleaning.
- B. Collect waste material, which may constitute a fire hazard, place in closed metal containers, and

remove daily from site.

- C. Install finished items removed by this Section. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.
- D. Remove masking and protective covering.
- E. Leave factory finish surfaces clean and free of paint.

3.07 - SCHEDULE

- A. FERROUS METALS, INTERIOR, NON-SUBMERGED (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL STEEL, MISCELLANEOUS STEEL AND PROCESS DUCTILE IRON PIPING, VALVES AND FITTINGS)
 - 1. Surface Preparation - SSPC-SP6, Commercial Blast Cleaning, 2-mil anchor pattern.
 - 2. Shop Primer – Series 1 Omnithane, 2.5-3.5 mils DFT
 - 3. Field Touch Up – Series 66H Epoxoline, 3-5 mils in finish color.
 - 4. Finish – Series 66H Epoxoline, Hi-Build (to color), 4-6 mils DFT, or 2 coats @ 2-3 mils by brush and/or roller.
 - 5. Notes:
 - a. Color code process pipes then apply mechanical identification.
 - b. Coordinate the work such that the prime coat specified is for process piping.
 - c. Paint piping before insulation is installed.
- B. SMALL DIAMETER PVC PIPING, INTERIOR
 - 1. Surface Preparation - Sand lightly and wipe clean
 - 2. Primer – Series 66H Epoxoline (to color), 2-3 mils DFT
 - 3. Finish – Series 66H Epoxoline (to color), 2-3 mils DFT
- C. PIPE AND DUCT INSULATION - CLOTH MATERIALS ONLY
 - 1. Surface Preparation - Remove all foreign matter.

2. Primer – 1028 Enduratone, 2 coats (to color), 2-3 mils per coat

D. CONCRETE FLOORS, INTERIOR & EXTERIOR (WALKING SURFACES WHERE SPECIFIED OR SHOWN)

1. Surface Preparation - Brush Blast to remove laitance. Follow paint manufacturer's written and verbal instructions. Allow curing for 28 days.
2. Primer - 201 Epoxoprime at 5-6 mils DFT
3. Finish (regular) - 280 or 281 Tneme-Glaze at 8-10 mils DFT. For exterior, use 290 CRU (urethane) as an additional finish.
4. Finish (non-skid) - Broadcast 3-5 lbs. aluminum oxide/100 S.F. into primer.
5. Note: Paint disturbed floors/surfaces of the new work locations including equipment pads. Color to be selected by Owner/Engineer.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Exterior coating.
- C. Piping, Valves and Fittings.

1.02 RELATED SECTIONS

- A. Section 013300 - Submittals
- B. Section 016100 - Basic Product Requirements
- C. Section 016500 - Product Delivery, Storage and Handling

1.03 REFERENCES

- A. AWWA - C115 - Standard for Flanged Pipe
- B. NACE No.5/SSPC-SP12 Surface Preparation and cleaning of Metals by Waterjetting
- C. NACE No. 2/SSPC SP10 - Near-white Blast Cleaning.
- D. NACE No. 3/SSPC SP6 - Commercial Blast Cleaning.
- E. SSPC PA - 1 - Shop, Field, and Maintenance Painting of Steel
- F. SSPC PA 2 - Method for Measuring of Dry Paint Thickness with Magnetic Gages
- G. SSPC VOL 1 - Good Painting Practices - 2002 4th Edition latest edition
- H. SSPC VOL 2 - Systems and Specifications - 2005 Edition latest edition
- I. SSPC SP 3 - Power Tool Cleaning
- J. SSPC SP 2 - Hand Tool Cleaning
- K. SSPC VIS 1-89 - Visual Standard for Abrasive Blast Cleaned Steel.
- L. SSPC VIS-4/NACE VIS 7 Guide for Steel Surfaces Prepared by Waterjetting
- M. ASTM D4417 – Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel
- N. ASTM E1216 - Standard Practice for Sampling for Particulate Contamination by Tape Lift
- O. NACE SP0188-99 Discontinuity (Holiday) Testing of New Protective Coatings on Conductive Substrates

1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.

- B. Product Data: Provide material data sheets (MDS) and safety data sheets (SDS), issued by the manufactures, for all materials and accessories that are to be used.
- C. Samples: Provide a color chart for paint color selection by the Owner and Engineer for approval prior to all aspects of painting. Owner or Engineer will select colors for all coating phase, primer, intermediate and finish coating.
- D. Manufacturer's instructions: Indicate surface preparation and paint application.
- E. Submit a detailed plan on the method(s) to be employed to protect adjacent equipment and surfaces including, but not limited to, the following:
 - 1. Method of surface preparation.
 - 2. Method of paint application.
 - 3. Quality Control Plan for all phases of construction operations.
- F. Submit detailed daily reports weekly, to include the following:
 - 1. The daily work location, date, start time and finish time, ambient conditions including wet bulb temperature, dry bulb temperature, and steel surface temperature, including hold point inspection observations.
 - 2. All surface preparation operations including location, date, start time and finish time.
 - 3. The date, start time and finish time for all painting operations, including location, wet bulb temperature, dry bulb temperature, and steel surface temperature, of the each coat applied.
 - 4. The name, type, batch numbers, manufacturer's name and amount of coatings used for each application.
- G. Submit letters from manufacturers certifying that the paint being supplied for this project conforms completely to specifications.

1.05 REGULATORY REQUIREMENTS

- A. All coatings shall comply with VOC regulations as promulgated by the Ozone Transport Commission, effective January 2005.

1.06 CERTIFICATES

- A. Submit to the Engineer, immediately upon completion of the job, certification from the manufacturer indicating that the quantity of each coating purchased was sufficient to properly coat all surfaces.
- B. Certification shall make reference to the square footage figures provided to the manufacturer by the Contractor.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to the site under provisions of Sections 016100 and 016500.
- B. All materials furnished by the Contractor shall be brought to the job site in the original sealed and labeled containers of the paint manufacturer and shall be subject to inspection by the Engineer.
- C. Every container of coatings materials shall have the batch number imprinted on the can, as well as the Federal Specification Number. Colors, where not specified, shall be as selected by the Engineer or Owner.

- D. Store all materials as recommended by the manufacturer. Any materials stored improperly shall be removed from the site immediately. Maintain storage location and temperature log at storage site available for inspection.
- E. The Contractor shall supply the Owner with two (5) one gallon paint kits of each of the exterior, intermediate and finished coats in each color.

1.08 WARRANTY

- A. Provide a 1-year labor and manufacturer's materials warranty for the coating systems.
- B. Warranties are to be submitted in writing to the Engineer prior to product delivery.
- C. Any defects, failures, breakdowns, or discrepancies of the paint or coatings, that reveal themselves within the 1-year warranty period after acceptance of work shall be promptly repaired at no additional cost to the Owner.
- D. Touch up procedures shall be issued by the engineer for areas of coating defects, breakdowns, or discrepancies to be repaired, only if the accumulative areas are less than five square feet, or if the engineer permits.
- E. Remove the entire coating in the area where failure occurs. Touch-up work will not be permitted. The surface is to be prepared as originally scheduled.

PART 2 - PRODUCTS

2.01 COATING REQUIREMENTS

- A. All coating systems submitted for use shall be new for the project described. Two component coating materials shall be mixed in accordance with the manufacturer's data sheet. No partial kits shall be permitted to be used.
- B. All coating systems submitted for use shall conform and meet the minimum requirements specified by the Engineer for:
 - 1. Adhesion - ASTM-D-3359 and D-4541
 - a. Minimum 600 psi as measured with a Type 2 tester
 - 2. Hardness - ASTM-D-2583 and D-2240
 - a. Exterior Finish Coating - No gouging or scratching with an 5H or less pencil
 - 3. Flexibility - ASTM-D-522 and FED-STD-6221
 - a. Exterior Finish Coating - No less than 34% elongation, average of three tests
 - b. Impact Resistance - ASTM-D-2754
 - c. Exterior Coating - No visible cracking or delamination of film after 34 inch pounds or less direct impact.
 - 4. Abrasion Resistance - ASTM-D 968 and D-4060
 - a. No More than 100 mg loss after 1000 cycles

2.02 MANUFACTURERS

- A. TNEMEC COMPANY, INC
- B. RD Coatings USA
- C. SHERWIN WILLIAMS
- D. HOLDTIGHT

- E. Coating substitutions shall be permitted only after receiving written approval from the Engineer prior to bid.

2.03 MATERIALS - CARBON STEEL AERATION HEADER

- A. RD Paint System - Three full coats, one stripe coat.
 - 1. RD Monoguard 2.0 - 3.0 mils DFT Owner/Engineer to choose color
 - 2. RD Monoguard 2.0 -3.0 mils DFT Stripe Coat (Contrasting Color)
 - 3. RD Monoguard 2.0 - 3.0 mils DFT Owner/Engineer to choose color
 - 4. RD Hydrograff HP 2.0 -3.0 mils DFT Owner/Engineer to choose color

2.04 MATERIALS - DUCTILE IRON PIPING AERATION BASIN HEADER

- A. TNEMEC Paint System - Three full coats, one stripe coat.
 - 1. Prime Coat: Series 94H2O Hydro-Zinc, 2.5 - 3.5 mils DFT
 - 2. Intermediate and Stripe Coats: Series N69 Immersion Service, Hi-Build Epoxoline II, 4.0 – 6.0 mils DFT. Stripe coat to be contrasting color
 - 3. Finish Coat: Series 72 Low VOC Acrylic Urethane, 3.0 - 5.0 mils DFT
- B. SHERWIN-WILLIAMS Paint System - Three full coats, one stripe coat
 - 1. Prime Coat: Corothane I Galvapac 1K Zinc Primer 2.5 – 3.5 mils DFT
 - 2. Intermediate and Stripe Coats: Macropoxy 646 Immersion Service, Hi-Build 4.0 - 6.0 mils DFT. Stripe coat to be contrasting color
 - 3. Sherwin-Williams Acrolon 218HS, 3.0 - 5.0 mils DFT

2.05 MATERIALS - PVC & COPPER PIPING

- A. TNEMEC Paint System - Two full coats
 - 1. Tnemec Series 115 Uni-bond, 2.0 - 4.0 mils DFT
 - 2. Tnemec Series 1028 or 1029 Enduratone, 2.0 - 3.0 DFT
- B. SHERWIN-WILLIAMS Paint System - Two full coats
 - 1. Sherwin-Williams DTM Primer/Finish, 2.5 - 5.0 mils DFT
 - 2. Sherwin-Williams DTM Acrylic Semi-Gloss, 1.5 - 2.5 mils DFT

2.06 ACCESSORIES

- A. Seam Sealer/Caulk: Shall be as recommended by the coating manufacturer.

2.07 TESTING

- A. The Engineer shall have the right to take random samples of paint from the painter's bucket as it is being applied to the steel structure, tank or mechanical piping. These samples will be sent to the paint manufacturer for analysis to determine constituents and type of coating.
- B. No material of any kind shall be used until it has been inspected and accepted by the Engineer. All materials rejected shall be immediately removed from the work and not again offered for inspection.

2.08 ACCESSORY MATERIALS

- A. Provide all required ladders, scaffolding, drop cloths, masking, scrapers, tools, sandpaper, cleaning solvents, and remove waste as required to perform the work to achieve the results

specified herein. Materials not specifically indicated but required to achieve the finishes specified shall be of commercial quality and as recommended by the manufacturer.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Contractor shall verify existing ambient condition and substrate conditions prior to proceeding with any work and submit to Engineer/representative prior to requesting Engineer's/representative's verification.
- B. Contractor shall verify substrate is properly prepared, properly cleaned, and or properly coated in accordance with project specifications prior to proceeding with any additional work and prior to requesting Engineer's/representative's verification.
- C. Should the contractor request verification from Engineer/representative and work is not in conformance with requirements contractor shall pay \$500 per occurrence to cover the costs to the owner.

3.02 PREPARATION - GENERAL

- A. Surface Preparation Schedule:
 - 1. Carbon Steel Aeration Header:
Clean in accordance with SSPC-SP 12 Cleaning of Metals by Waterjetting (HP WC) Holdtight 102 shall be used for all Waterjetting.
 - 2. Ductile Iron Aeration Basin Header:
Clean in accordance with SSPC-SP 12 Cleaning of Metals by Waterjetting (HP WC) Holdtight 102 shall be used for all Waterjetting. Conduct Waterjetting (HP WC) Holdtight 102 prior to (Commercial Blast Cleaning)
 - 3. Ductile Iron Aeration Basin Header:
Clean in accordance with SSPC-SP 6 (Commercial Blast Cleaning)
 - 4. Copper & PVC:
Clean in accordance with SSPC SP-1 (Solvent Cleaning) and SSPC SP-2 (Hand Tool Cleaning) to achieve a uniformly scarified surface.
- B. Cleaned surfaces, when viewed without magnification, shall be free of all visible paint oil, grease, dirt, mill scale, rust, oxides, corrosion products and other foreign matter as noted in Chapter 2, SSPC Painting Manual Volume 2.
- C. Pit filler shall be applied to all voids that are greater than ¼ of the original steel surface thickness.
- D. The pit filler shall be applied prior to the application of the first coat and in accordance with manufacturer's instructions. If the manufacturer's instructions differ from the project specifications, the more stringent will apply.
- E. All areas shall be cleaned prior to any coating application. All surfaces to be painted shall be dry.
- F. Weld projections or irregular portions of welds, or any steel defects that would interfere with the proper coating shall be ground smooth, as directed.

3.03 APPLICATION

- A. Apply coating in conformance with the manufacturer's instructions and requirements. If the manufacturer's instructions differ from the project specifications, the more stringent will apply.
- B. Before coating is applied to surfaces, steps shall be taken, either by circulation of dry air or by the application of heat, to dry the metal surfaces completely.
- C. No coatings shall be applied when the surface temperature is less than 5 degrees Fahrenheit (3 degrees Celsius) above the dew point.
- D. No coatings shall be applied when the relative humidity is above 85% or as recommended by manufacturer.
- E. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer. Do not apply exterior coatings when unfavorable weather conditions are forecast within 24 hours of application.
- F. No surfaces shall be coated that are not in compliance with SSPC surface preparation standards or any other part of the project specifications.
- G. All coatings shall be applied at the rate specified. Deficiencies in film thickness shall be corrected with the proper surface preparation and application of an additional coating or as directed by the Engineer. Coatings in excess of the specified range shall be corrected at the direction of the Engineer.
- H. All coating applications shall be inspected and approved by the Engineer prior to the application of any succeeding coats. All coats shall be applied to the dry film thickness specified.
- I. The minimum and maximum total dry film thickness shall be as indicated in this section. The Mil Gauge shall be calibrated in accordance with the National Institute of Standard and Technology. The Contractor shall have available on the job site a satisfactory magnetic type Mil Gauge for measuring film thickness.
- J. A brush applied stripe coat, of different color, shall be applied to all weld seams, edges, seams, or any non conforming surfaces deemed necessary by the Engineer. The stripe coat shall be applied after the first coat but prior to the second coat.
- K. The coating shall be applied as a continuous film of uniform thickness. Any holidays or areas missed in the application shall be recoated within the maximum re-coat time or be corrected with the proper surface preparation and cleaning prior to the application of the subsequent coating.
- L. All coatings that are specified shall only be acceptable in the number of coats specified in the contract documents.
- M. Color Coding of Process Piping shall be in accordance with Ten States Standards as follows:

SEE SHEET M0.0 – PIPE COLOR PAINT SCHEDULE

3.04 CLEANING

- A. All surfaces shall be free of all dirt, oil, debris, or any other foreign matter prior to the application of any coating.

- B. Maintain work area in a neat, orderly fashion. Accumulation of debris, muck, rust, scale, etc., shall be frequently (not to exceed 1 week) cleaned up and removed from the site. Thinners used to clean equipment shall be held in sealed containers and removed from the site to an approved disposal area by the Contractor. Provide certificates from the disposal site indicating that the material has been properly disposed of.
- C. Upon completion of the work, all excess material, rigging, empty containers, cables, tarps, etc., shall be removed from the site. Buildings and grounds shall be left in as good condition as when work was started.

3.05 FIELD QUALITY CONTROL

- A. The Engineer will inspect the painting as it is being performed.
- B. The Engineer reserves the right to accept each phase of the work before further work may be conducted, to halt all Work deemed to be improper or not in compliance with project specifications, and to require the contractor to promptly correct all improper practices or deficient work. Contractor shall notify the Engineer's/representative's 24 hours minimum prior to the following:
 - 1. Prior to and upon Contractor mobilization.
 - 2. Prior to the delivery and upon receiving of any materials, equipment, supplies, or personnel.
 - 3. Prior to and upon completion of any installation of permanent or nonpermanent items on the project.
 - 4. Prior to the start of hot work (of any item).
 - 5. Upon completion of hot work (of any item).
 - 6. Prior to the installation of containment.
 - 7. Upon completion of the installation of containment.
 - 8. Prior to the start of surface preparation (of any section, zone, or area).
 - 9. Upon completion of surface preparation (of any section, zone, or area).
 - 10. Prior to the application of any coating or lining (on any section, zone, or area).
 - 11. Upon completion of application of any coating or lining (on any section, zone, or area).
 - 12. Following the curing of any coating or lining (of any section, zone, or area).
 - 13. Prior to the dismantling or removal of the containment.
 - 14. Upon completion of the dismantling or removal of the containment.
 - 15. Prior to and upon completion of disinfection.
 - 16. Prior to and upon completion of any sampling or testing.
- C. The Engineer reserves the right to conduct any testing, both destructive and nondestructive, at any time for inspection or evaluation purposes.
- D. Any expenses incurred for corrective measures required as the result of improper practices and/or defective or deficient work shall be borne by the contractor and the extent of these corrective measures shall be at the discretion of the engineer.

- E. Provide safe access to all areas, including but not limited to, equipment, containers and spaces for inspection at any time as deemed necessary by the engineer or his representative
- F. Sufficient lighting shall be provided to ensure proper safety conditions and permit inspection.
- G. All manholes and other tank openings shall remain open as necessary during cleaning, painting and curing operations.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Basic Mechanical requirements specifically applicable to Division 22 Sections, in addition to the General Requirements.
- B. Furnish all tools, machinery, equipment, scaffolding, appurtenances and appliances necessary for the satisfactory handling and execution of the work.
- C. Keep the premises free from accumulations of waste material and rubbish caused by machines, material, employees or work. Place waste and rubbish in neat piles or in containers outside of the building as directed. Cooperate with all the other trades appurtenant to this work. At the completion of his work, remove all tools, scaffolding and surplus material.

1.02 REFERENCES

- A. ASME American Society of Mechanical Engineers
- B. ASHRAE American Society of Heating, Refrigeration, and Air Conditioning Engineers.
- C. AGA American Gas Association.
- D. ANSI American National Standards Institute.
- E. ARI American Refrigeration Institute.
- F. ASTM American Society for Testing and Materials.
- G. AWWA American Water Works Association.
- H. MSS Manufacturer's Standardization Society of the Valve and Fitting Industry.
- I. NEMA National Electrical Manufacturers' Association.
- J. NFPA National Fire Protection Association.
- K. SMACNA Sheet Metal and Air Conditioning Contractors' National Association.
- L. UL Underwriters' Laboratories, Inc.

1.03 SUBMITTALS

- A. Approval by the Architect/Engineer of the layouts and shop drawings for any material, apparatus, devices and layouts shall not relieve Contractor from the responsibility of furnishing same of proper dimensions, size, quantity, quality and all performance characteristics to efficiently perform the requirements and intent of the Contract Documents. Such approval shall not relieve Contractor from the responsibility for errors of any sort on the shop drawings. If the shop drawings deviate from the Contract Documents, the Contractor shall advise the Architect/Engineer of the deviations in writing accompanying the initial submission shop drawings, and including the reasons for the deviations.
- B. Submit under provisions of the General Requirements.

- C. Submit shop drawings and product data grouped to include complete submittals of related systems, products and accessories in a single submittal.

1.04 RECORD DRAWINGS

- A. Keep master set of prints on job site for recording deviations from the Drawings as specified in the General Requirements.

1.05 WARRANTY AND SERVICE

- A. Provide manufacturer warranties.
- B. Provide warranty services for all installed equipment.

1.06 REGULATORY REQUIREMENTS

- A. Applicable Building Code, including Mechanical and Plumbing Codes.
- B. Obtain permit and request inspections from Authority Having Jurisdiction.
- C. Equipment shall bear the U.L or National Board label.

1.07 PROJECT/SITE CONDITIONS

- A. Mechanical layouts indicated on the Drawings are diagrammatic. Coordinate mechanical work with other trades prior to installation. Install work in locations shown on the Drawings, unless prevented by project conditions.
- B. Prepare drawings showing proposed rearrangement of work to meet project conditions, including changes to work specified in other sections.
- C. Cause as little interference or interruption of existing utilities and services as possible. Schedule work which will cause interference or interruption in advance with Owner and Architect/Engineer, Authorities Having Jurisdiction, and all affected trades.
- D. Determine sizes and verify locations of existing utilities on or near site.
- E. Visit site and be informed of conditions under which work must be performed.
- F. Install equipment in accordance with manufacturer's recommendations.

1.08 INTENT OF SPECIFICATIONS AND DRAWINGS

- A. It is the intent of the Specifications and the Drawings to describe the nature and extent of the work to be performed and the character of the material to be used to include all material, equipment, apparatus and devices, even if not specifically described in the specifications or shown on the Drawings, which can be reasonably inferred to be necessary for the control and operation of the work installed and/or for which the necessity is established by any governmental and/or insurance rules and regulations in effect at the time of bid opening.
- B. The Drawings showing the layouts of piping, heating, ventilating and air conditioning work, apparatus, accessories and duct systems are diagrammatic, except where specifically located by dimensions. All apparatus shall be located and all pipes and ducts run in the manner and locations shown thereon as closely as conditions of construction of the building will permit.

Deviations shall be made only with the consent of the Architect/Engineer and/or Owner and without additional charge.

- C. Accessibility: Install equipments and materials in order to provide the required access for servicing and maintenance. Coordinate the final location of concealed equipment and devices requiring access with final location of required access panels and doors. Allow ample space for removal of all parts that require replacement or servicing.
- D. Rough-In: Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected.
- E. Refer to the architectural drawings and those of other trades for items such as space conditions and locations of work under separate contracts.

1.09 DAMAGE TO OTHER WORK

- A. This Contractor shall be responsible for, and be required to make good at his own expense, any and all damage done to the Owner's property and/or to any work or material in place in the premises, which is caused by his work or workers.

1.10 COORDINATION WITH OTHER WORK

- A. Coordinate work with the other contractors in order to insure installation of equipment and materials without conflict.
- B. Scaled and figured dimension with respect to the items are approximate only, sizes of equipment have been taken from typical equipment items of the class indicated. Before proceeding with the work, carefully check all dimension and sizes and assume full responsibility for the fitting in of equipment and material to the building and to meet Architectural and Structural conditions.
- C. Wherever field conditions or the proper execution of the work required reasonable changes in piping, supports, breeching, ducts and equipment as shown on drawings, make all such changes as directed or approved without extra cost. This includes horizontal or vertical offsets of piping, breeching and ductwork necessary to avoid conflicts or to maintain ceiling heights.
- D. Should any discrepancy, conflict, error or omission appear, or should any doubt arise as to the true intent and meaning of the Drawings and Specifications, or should any portion of same be obscure or capable of more than one interpretation, the Contractor shall bring such items to the attention of the Architect/Engineer before performing this work, for the correction or explanation of same. In all cases the interpretation of the Architect/Engineer and/or Owner shall be considered final and work shall be done accordingly. The Architect/Engineer will decide whether, and in what amount, a change to the contract price is necessitated by such corrective work.

1.11 TESTS

- A. The Contractor shall be responsible for the work of other trades disturbed or damaged by tests, repair or replacement of work. Work so disturbed or damaged shall be restored to its original condition at no additional expense to the Owner.
- B. All equipment shall be tested in service and the Contractor shall demonstrate that it complies with the requirements of the Specification.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Support of exposed piping. Pipe hangers shall be meant to include pipe support systems.
- B. Where product specifications are provided they are intended to provide a standard of quality.
- C. The Drawings show the layout, sizes, elevations, and general arrangement of piping, valves, primary instrumentation elements, and process equipment. Pipe support systems shall be selected, configured, and installed by the Contractor in order to comply with the requirements contained herein. Install pipe support systems consisting of hangers, supports, clamps, U-bolts, brackets, bracings, attachments, and structural shapes to adequately support piping from building components, tank walls, decking, walkways, slabs, or fabricated structural assemblies specifically designed for this purpose. All piping supports and hardware shall be fabricated and erected of stainless steel as specified herein.

1.02 - REFERENCES / QUALITY ASSURANCE

- A. Comply with the following in designing and installing pipe support systems:
 - 1. MSS SP58 - Pipe Hangers and Supports - Materials, Design and Manufacturer.
 - 2. MSS SP69 - Pipe Hangers and Supports - Selection and Application
 - 3. MSS SP89 - Pipe Hangers and Supports - Fabrication and Installation Practice
- B. Terminology used in this Section is defined in MSS SP-90.
- C. All interior and exterior pipe support systems that are located within tanks, reactors, basins, wet wells, channels, pits, chambers, pipe galleries, rooms, buildings, either exposed, submerged, partially submerged, intermittently submerged or never submerged shall be 304L stainless steel as a minimum.

1.03 - SUBMITTALS

- A. Comply with the requirements contained in Section 013300 - Submittals.
- B. Submit the following:
 - 1. Product data and installation instructions.
 - 2. Pipe hanger and support catalog cuts showing manufacturer's figure number, size, materials of construction, and features for each type of support.

3. Provide catalog cuts for all types of stainless steel pipe support.
4. Provide details of each size knee brace and indicate materials of construction and the proposed locations.

PART 2 - PRODUCTS

2.01 - MANUFACTURERS

- A. Anvil International
- B. Approved equal.

2.02 - MATERIALS

- A. Supports, hangers and hardware: Type 304 stainless steel.
- B. Anvil International figure 260 MSS Type 1, with adjustable clevis hangers for non-insulated pipe 2 through 24-inch diameter.
- C. Anvil International figure 260 adjustable wrought clevis hangers, with Figure 167, MSS Type 40 galvanized insulation protection shields sized for supporting insulation having a strength of 4 psi, at 8-foot intervals. Support piping on outside of insulation. Size hangers so that pipe insulation passes through them without interruption. Use these for:
 1. Insulated steel pipe 1/2 through 24-inch diameter.
 2. Insulated galvanized steel pipe 1/2 through 24-inch diameter.
 3. Insulated copper pipe 1/2 through 8-inch o.d.
 4. Insulated PVC pipe with no longitudinal movement.
- D. Anvil International Figure 104, MSS Type 6, with adjustable swivel ring, split ring type for:
 1. Non-insulated steel pipe, galvanized steel pipe, and copper pipe 1/2 through 1-1/2-inch diameter.
 2. Non-insulated cast iron soil pipe up through 8-inch diameter.
- E. Anvil International Figure CT-138R, MSS Type 9, with adjustable wrought tubing ring hanger, either plastic covered for:
 1. Non-insulated copper tubing with no longitudinal movement.
 2. Non-insulated PVC pipe, 1/2 through 4-inch diameter, with no longitudinal movement.

- F. Anvil International Figure 171, MSS Type 41 with pipe roller, and Anvil International Figure 167, MSS Type 40 galvanized insulation protection shields (sized for supporting insulation having a compressive strength of 4 psi, at 8-foot intervals). Support piping on outside of insulation. Size hangers so that pipe insulation passes through them without interruption. Use these for:
 - 1. Insulated copper pipe, 1/2 through 2-1/8-inch diameter, having longitudinal movement.
 - 2. Insulated steel pipe, 1 through 30-inch diameter, having longitudinal movement.
- G. Anvil International Figure CT-121C, MSS Type 8, riser clamps (at floor slab penetrations) to support:
 - 1. Copper pipe risers.
 - 2. PVC pipe risers.
- H. Anvil International Figure 261, MSS Type 8, riser clamps (at floor slab penetrations) to support steel pipe risers.
- I. Anvil International or Anvil-Strut Trapeze Hangers: Where three or more lines of pipe run parallel, support them with stainless steel trapeze hangers and stainless steel hardware.
- J. Concrete Inserts: Anvil International Figure 282, MSS Type 18, universal concrete inserts, adequately sized and correctly positioned to support full load, operating systems.
- K. C-Clamps: Anvil International Figure 66, MSS Type 23. Use these for attaching hangers to steel beams. Welding hanger rods to steel members is not permitted. Provide retaining clip for C-Clamps.
- L. Malleable Beam Clamps: Anvil International Figure 229, MSS Type 30. Use these for attaching hangers to bar joists. Provide retaining clip for all beam clamps.
- M. Floor supports: Steel, adjustable pipe support, adjustable height, locknut, nipple, floor flange and baseplate; Figure 265 and station Figure 62 or equal.
- N. Hanger Rods: Stainless steel threaded both ends or continuous thread. Only stainless steel threaded rod shall be used on the project. Diameter shall be as required to adequately support the load except where otherwise shown on the Drawings.

PART 3 - EXECUTION

3.01 - EXAMINATION

- A. Examine substrate and conditions under which supports and anchors are to be installed. Do not proceed with the installation until satisfactory conditions have been corrected by reinforcing the substrate.

3.02 - INSTALLATION OF HANGERS AND SUPPORTS

- A. General: Install hangers, supports, clamps, and attachments to support piping properly from building structure; comply with MSS SP-69 and SP-89. Arrange for grouping of parallel runs of horizontal piping supported together on field-fabricated, heavy-duty trapeze hangers where possible. Install supports with maximum spacing complying with MSS SP-69. Where piping of various sizes is supported together by trapeze hangers, space hangers for smallest pipe size or install intermediate supports for smaller diameter pipe as specified above for individual pipe hangers.
- B. Install building attachments to wood joists or to structural steel. Space attachment within maximum piping span length indicated in MSS SP-69. Install additional attachments at concentrated loads, including valves, flanges, guides, strainers, expansion joints, and at changes in direction of piping.
- C. Install hangers and supports complete with necessary bolts, rods, nuts, washers, and other accessories.
- D. Field-Fabricated, Heavy-Duty Steel Trapezes: Fabricate from steel shapes selected for loads required; weld steel in accordance with AWS D-1.1.
- E. Install hangers and supports to allow controlled movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends and similar units.
- F. Load Distribution: Install hangers and supports so that piping live and dead loading and stresses from movement will not be transmitted to connected equipment.
- G. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes, and so that maximum pipe deflections allowed by ASME B31.9 Building Services Piping Code is not exceeded.
- H. Insulated Piping: Comply with the following installation requirements.

1. Clamps: Attach clamps, including spacers, to piping with clamps projecting through insulation; do not exceed pipe stresses allowed by ASME B31.9.
2. Saddles: Install protection saddles MSS Type 39 where insulation without vapor barrier is indicated. Fill interior voids with segments of insulation that match adjoining pipe insulation.
3. Shields: Install protective shields MSS Type 40 on cold water piping that has vapor barrier.
4. Shields shall span an arc of 180 degrees and shall have dimensions in inches not less than the following:

| NPS | LENGTH | THICKNESS |
|-------------------|--------|-----------|
| 1/4 through 3-1/2 | 12 | 0.048 |
| 4 | 12 | 0.060 |
| 5&6 | 18 | 0.060 |
| 8 through 14 | 24 | 0.075 |
| 16 through 24 | 24 | 0.105 |

5. Pipes 8 inches and larger shall have wood inserts.
6. Insert material shall be at least as long as the protective shield.
7. Thermal Hanger Shields: Install where indicated, with insulation of same thickness as piping.

3.03 - INSTALLATION OF ANCHORS

- A. Install anchors at proper locations to prevent stresses from exceeding those permitted by ASME B31.9 and to prevent transfer of loading and stresses to connected equipment.
- B. Fabricate and install anchors by welding steel shapes, plates, and bars to piping and to structure. Comply with ASME B31.9 and with AWS Standards D1.1.
- C. Anchor Spacing: Install anchors at ends of principal pipe runs, at intermediate points in pipe runs between expansion loops and bends. Make provisions for preset of anchors as required to accommodate both expansion and contraction of piping.

3.04 - INSTALLATION OF PIPE ALIGNMENT GUIDES

- A. Install pipe alignment guides on piping that adjoins expansion joints and elsewhere as required.
- B. Anchor to building substrate.

3.05 - EQUIPMENT SUPPORTS

- A. Fabricate structural steel stands to suspend equipment from structure above or support equipment above floor. Structural steel members shall be used where lateral support is required.
- B. Grouting: Form and place non-shrink grout for piping pier supports, thrust blocking, submersible pump discharge elbows, and equipment base plates. Shim to obtain level and plumb before placing grout.

3.06 - METAL FABRICATION

- A. Cut, drill, and fit miscellaneous metal fabrications for pipe anchors and equipment supports. Install and align fabricated anchors in indicated locations.
- B. Fit exposed connections together to form hairline joints. Field weld connections that cannot be shop welded because of shipping size limitations.
- C. Field Welding: Comply with AWS D1.1 for procedures of manual shielded metal-arc welding, appearance and quality of welds made, methods used in correcting welding work, and the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. Finish welds at exposed connections so that no roughness shows after finishing, and so that contours welded surfaces to match adjacent contours.

3.07 - ADJUSTING

- A. Hanger Adjustment: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.

3.08 – SCHEDULE

PIPE SCHEDULE ON SHEET M0.0 PROVIDES MAXIMUM HORIZONTAL AND VERTICAL SPACING FOR VARIOUS PIPE MATERIALS AND SIZES

END OF SECTION

PART 1 – GENERAL

1.01 - SECTION INCLUDES

- A. Mechanical identification of equipment and piping. Provide labels for each type pipe supplied and installed.

1.02 - DELIVERY AND STORAGE

- A. Deliver products to the site in unopened original containers, bearing manufacturer's printed labels.

1.03 - REFERENCES

- A. ANSI A13.1 - Scheme for Identification of Piping Systems

1.04 - SUBMITTALS

- A. Product Data: Catalog sheets, specifications and installation instructions for each item specified.

PART 2 - PRODUCTS

2.01 - MANUFACTURERS

- A. W.H. Brady Co., Milwaukee, WI.
- B. Emed Co., Buffalo, NY.
- C. Panduit Corp., Tinley Park, IL.
- D. Seton Nameplate Corp., New Haven, CT.

2.02 - MATERIALS

- A. Self-Adhesive Markers: Pressure sensitive adhesive backed type constructed of vinyl with clear polyester coating. Marker size shall be 4-¹/₂ inches high by 24 inches long. Markers shall be ANSI color-coded for the service with flow direction arrow.
- B. Self-Adhesive Labels: Pressure sensitive adhesive backed type constructed of vinyl with clear polyester coating, vertical reading pipe size in inches, and legend size matching adjacent pipe marker with directional flow arrows:
 - 1. Large size (2-¹/₄" x 14") for pipes 3" or over size

2. Medium size (1 1/8" x 7") for pipes 3" and below size

PART 3 - EXECUTION

3.01 - PREPARATION

- A. Do not execute the work of this Section until all testing, insulation, and finish painting work have been completed.
- B. Clean surfaces before label or marker is placed.

3.02 - INSTALLATION

- A. Identify all piping, bare or insulated, by means of self-adhesive markers. Install four markers per 50 feet or less of piping.
- B. Locate markers to be readily visible from any point of observation.
- C. Place identification along centerline of pipe, close to equipment. Where view is unobstructed from two directions, apply two markers in each direction.
- D. Identify all mechanical equipment by means of labels. Place labels where directed by the Engineer.

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Plumbing piping insulation for the following at minimum:
 - 1. Potable water systems
 - 2. Plant Water systems
 - 3. As noted on the Contract Drawings

1.02 - REFERENCES

- A. ASTM C335 - Steady-State Heat Transfer Properties of Horizontal Pipe Insulation.
- B. ASTM C533 - Specification for Calcium Silicate Block and Pipe Thermal Insulation.
- C. ASTM C534 - Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
- D. ASTM C547 - Mineral Fiber Preformed Pipe Insulation.
- E. ASTM C921 - Properties of Jacketing Materials for Thermal Insulation.
- F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- G. ASTM E96 - Test Method for Water Vapor Transmission of Materials.

1.03 - DELIVERY, STORAGE AND HANDLING

- A. Comply with the requirements contained in Section 016500.
- B. Deliver, store and protect products in accordance with manufacturer's instructions.
- C. Deliver materials to site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.
- D. Store insulation in original wrapping and protect from weather and construction activities.
- E. Protect insulation against dirt, water, chemical, and mechanical damage.

1.04 - ENVIRONMENTAL REQUIREMENTS

- A. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics, and insulation cements.
- B. Maintain temperature during and after installation for minimum period of 24 hours.

PART 2 - PRODUCTS

2.01 - MATERIALS

- A. Manufacturers: Owens Corning or equal.
- B. Insulation:
 - 1. High density all service jacket with double adhesive lap seal, two-component, butt strip, closure system.
 - 2. ASTM C547; rigid noncombustible molded type
 - 3. K-Value: ASTM C335, 0.24 at 75 F.
 - 4. Minimum Service Temperature: 0 F.
 - 5. Maximum Service Temperature: 850 F.
 - 6. Maximum Moisture Absorption: 0.2% by volume.
- C. Premolded Fitting Insulation: Minimum density 4.0 pcf, K of 0.26 at 75 degrees F; ASTM C 547, Class 1.
- D. Vapor Barrier Jacket (Interior and Exterior Service):
 - 1. Fiberglass SSL II by Owens Corning or equal.
 - 2. ASTM C 1136, Type I.
 - 3. Secure with integral 1-1/2 inch self-sealing longitudinal laps and 3-inch wide adhesive backed butt strips.
 - 4. Secure with outward clinch expanding staples and vapor barrier mastic.
- E. Premolded PVC Fitting Jackets: Constructed of high impact, UV resistant PVC. ASTM D 1784, Class 14253-C. Working Temperature: 0-150 F.
- F. Tie Wire: 18 gage stainless steel with twisted ends on maximum 12 inch (300 mm) centers.

- G. Fire and Smoke Hazard Ratings: Class 1 and 2 jacketing materials, mastics, sealants and adhesives shall have a maximum flamespread rating of 25 and a maximum fuel contributed and smoke developed rating of 50 or less, when tested in accordance with ASTM E84 and UL723.

PART 3 - EXECUTION

3.01 - PLACEMENT

- A. Install insulation on all cold service and hot service copper water lines.
- B. Install insulation on all piping installed overhead.
- C. Coordinate work with other Contracts before insulation is installed.

3.02 - EXAMINATION

- A. Verify that piping has been tested before applying insulation materials.
- B. Verify that hangers, supports and appurtenances have been installed in their permanent locations.
- C. Verify that surfaces are clean, foreign material removed and dry.

3.03 - INSTALLATION

- A. Install materials in accordance with manufacturer's instructions.
- B. Minimum pipe insulation thickness shall be in accordance with ANSI/ASHRAE/IES Standard 90.1 and IECC requirements
- C. Inserts and Shields:
 - 1. Application: All piping regardless of size.
 - 2. Shields: 304L Stainless steel between pipe hangers or pipe hanger rolls and inserts.
 - 3. Insert Location: Between support shield and piping, and under the finish jacket.
 - 4. Insert Configuration: Minimum 6 inches long, of same thickness and contour as adjoining insulation; may be factory fabricated.
 - 5. Insert Material: Cork or other heavy density insulating material suitable for the planned temperature range.

6. Neatly finish insulation at supports, protrusions, and interruptions.
- D. Nominal insulation thickness for water lines: 1 inch diameter and less: 1-inch. 1-1/4 inch diameter and larger: 1-1/2-inch.

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Copper piping and accessories

1.02 - RELATED SECTIONS

- A. Section 220529 – Hangers & Support for Plumbing Piping and Equipment
- B. Section 220553 – Identification for Plumbing Piping & Equipment

1.03 - REFERENCES

- A. ASME B16.22 - Wrought Copper and Bronze Solder-Joint Pressure Fittings.
- B. ASME B16.23 - Cast Copper Alloy Solder - Joint Drainage Fittings -DWV.
- C. ASME B31.3 – Process Piping.
- D. ASTM B42 - Seamless Copper Pipe.
- E. ASTM B88 – Seamless Copper Tube

1.04 - SUBMITTALS

- A. Submit product data under provisions of Section 013300.
- B. Product Data: Provide data on pipe materials, pipe fittings, and accessories.

1.05 - QUALITY ASSURANCE

- A. Perform work in accordance with the State Plumbing Code and local ordinances.
- B. Manufacturer's name and pressure rating marked on pipe.

1.06 - DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Section 016500.
- B. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work and isolating parts of completed system.

PART 2 - PRODUCTS

2.01 - COPPER PIPING AND ACCESSORIES

- A. Small copper piping: Type "K" hard drawn copper tubing, conforming to ASTM B88.
- B. Wrot Copper Alloy Tube Fittings, Solder Joint: ASME B16.22.
- C. Unions: Cast bronze, 150 lb Class, bronze to bronze seats, threaded or solder joint.

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. Clean inside of pipe before installation. Keep installed piping clean and protect ends from foreign matter by capping or plugging.
- B. Install pipe so that it does not interfere with opening of doors or apparatus, access to equipment or any portion of electrical equipment.
- C. Install pipe with a minimum of one-inch free air space around pipe or pipe covering.
- D. Run pipes in straight lines and square with building. Install rise plumb. Make offsets only where indicated and where necessary. Install horizontal piping with a constant pitch, and without sags or humps.
- E. Install pipes so that expansion and contraction will not cause undue stress or strain to pipes or equipment. Provide offsets and expansion joints as shown on drawings.
- F. Provide flanges and unions throughout the pipe systems to make installation and removal of piping and equipment convenient. Make provisions for servicing and removal of equipment without dismantling piping.
- G. Support pipe in accordance with provisions of Section 220529.
- H. Install non-conducting dielectric connections wherever joining dissimilar metals.
- I. All fittings, except couplings, shall be supported and valves shall be braced to resist torque during valve manipulation.
- J. All piping shall be free of traps and graded to permit complete drainage.

- K. Cuts made in copper service tubing shall be square, reamed, and all burrs removed. Protective pads or leather, rubber or felt shall be employed to prevent damage to pipe walls by chuck and/or vise jaws.

3.02 - FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 014500.
- B. Flush piping prior to conducting pressure testing.
- C. Rework or replace defective and leaking joints, and joints which are otherwise unsatisfactory. Peening, caulking and doping are not permitted.
- C. Furnish all labor, materials and equipment necessary to accomplish all testing and repairs.

3.03 - TESTING

- A. Leakage testing shall be in accordance with ANSI/AWWA C600. Check joints for leakage while under air pressure by swabbing, utilizing soap and water solution, and leaks found shall be repaired and rechecked. Furnish all labor, materials, and equipment necessary to accomplish all testing and repairs.
- B. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.
- C. Rework or replace defective and leaking joints, and joints that are otherwise unsatisfactory. Peening, caulking and doping are not permitted.

END OF SECTION

PART 1 - GENERAL

1.01 - DESCRIPTION

- A. Contractor shall provide all labor, equipment, materials, and services necessary to furnish and install vertical flex-coupled, single-stage split case pumps used on the following Plant Effluent Water cooling lines:
1. Engine Cooling Loop Pumps
 2. General Cooling Loop Pumps
- B. Control panels for the pumps specified herein shall be furnished and installed by the Contractor in accordance with the requirements of Section 407000. The designated control panel is described herein. Coordinate the work of this Section with the work of other Sections and the Electrical Trade to furnish fully integrated pumping systems.
- C. Terminal connections, installation of junction boxes, local disconnect switches, connection to the MCC and SCADA RTU, and integration into the existing Plant-wide SCADA system shall be the work of the Contractor under this Section. All pump power and control cables shall be brought to a junction box at the pump and temporarily secured in place by the Contractor for final electrical terminations by his Electrical subcontractor and/or Integrator.
- D. Accessories furnished and installed as work of this Section include, but are not limited to, the following: spare parts and materials necessary for a complete installation. Mounting hardware and shim assemblies shall be furnished and installed by the Contractor.
- E. Refer to the attached Schedules for quantities of vertical split-case pumps that shall be furnished and installed as work of this Section. The attached Schedules also list the system head curves and the electrical characteristics for each pump application.
- F. The specification sections listed below are an integral part of this equipment specification, and the Contractor shall be responsible for providing these sections to the equipment suppliers:
1. Section 012500 - Product Substitution Procedures
 2. Section 013100 - Project Management and Coordination
 3. Section 013300 – Submittal Procedures
 4. Section 014500 - Quality Control

5. Section 016500 - Product Delivery, Storage and Handling
6. Section 017823 - Operating and Maintenance Data
7. Section 017900 – Demonstration and Training
8. Section 407000 – Instrumentation for Process Systems

1.02 - REFERENCES

- A. Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified:
 1. ASTM A48 - Gray Iron Castings
 2. NFPA 70 – National Electric Code
 3. Hydraulic Institute Standards
 4. National Electrical Manufacturers Association
 5. Institute of Electrical and Electronic Engineers
 6. American National Standards Institute
 7. NEMA ICS 1 - General Standards for Industrial Control and Systems

1.03 - QUALITY ASSURANCE

- A. To assure a properly integrated and compatible system, all equipment described in this Section shall be furnished by one single Pump Manufacturer, who shall assume full responsibility for the proper operation of the pumps and associated equipment.
- B. The vertical split-case pumps specified herein and as shown to be installed on the Contract Drawings, are manufactured by Aurora Pump (Pentair). The specified unit provides a standard of quality, specification dimensions and performance required for this project.
- C. Acceptable alternate manufacturers for vertical single-stage, split-case pumps include: Weinman (Crane) and Fairbanks Nijhuis (Pentair) vertical split case models. The listing of these alternate manufactures does not guarantee the acceptability of the entire product line for that manufacturer. The specific equipment must be of equal quality and performance. By listing one of the substitute products in his/her bid, the Contractor understands that he/she is ultimately responsible for all design modifications and associated costs that may be required to adapt,

modify, and otherwise satisfy the design and operating requirements.

- D. Any other proposed substitutions from manufacturers other than those listed will require full compliance with the requirements of Specification Section 012500 – Product Substitution Procedures.
- E. All systems shall be designed, furnished, and installed to achieve the conditions of service specified herein.
- F. The manufacturer shall have at least ten (10) years of experience in the design and manufacturing of vertical single-stage split-case pumps equivalent to those listed in the schedule.
- G. The cost for any construction modifications shall be included in the cost as bid and no additional cost shall be paid by the Owner for acceptance of alternate equipment and any required installation modifications.

1.04 - WARRANTY

- A. Provide a Warranty Certificate from the manufacturer typed on company letterhead and signed by an authorized officer of the manufacturer. The certificate shall be witnessed by a notary public in the state in which the company headquarters is located.
- B. The manufacturer shall guarantee clog-free operation to the Owner for a period of 12 months from the date of start-up of the pumps by the local authorized factory representative. A certificate shall be provided to the Owner on the day of start up with the local contact information and effective date. Should the impeller clog with typical solids and debris normally found in domestic wastewater during this period, an authorized representative shall either travel to the jobsite remove the pump, clear the obstruction and reinstall the pump at no cost or reimburse the Owner for reasonable cost to provide this service. A written report shall be provided to the Owner detailing the service call with pictures for verification purposes.
- C. (Manufacturer) guarantees that the system to be free from defects in design, materials and workmanship for a period of two (2) years commencing on the date the system was permanently placed on – line and the equipment functions without flaw. During the guarantee period if any part or equipment component is defective or fails to perform when operating at design conditions and if the equipment has been installed and is being operated and maintained in accordance with the written instruction we provided then we shall repair or exchange such defective part(s). The cost of shipping to return defective part(s) and to deliver replacement part(s) shall be borne by the manufacturer.
- D. If the manufacturer fails to repair or exchange such defective part(s) within 30 calendar days “grace period” of receiving either notification of warranty repair/replacement by the owner or delivery of the

defective part(s) to the manufacturer's designated service center, if required then the guarantee period shall be extended by a period of time equal to the total period of time needed to satisfy the warranty repair or replacement delivered to the site, including the 30 day grace period. The extended guarantee period shall pertain to all of the manufacturer's equipment placed "out of service" due to defective part/component. This provision will hold true regardless of the number of times covered equipment requires warranty repair during warranty period, original or extended.

1.05 - DELIVERY, STORAGE AND HANDLING

- A. Comply with the requirements contained in Section 016500 - Product Delivery, Storage and Handling.
- B. Supply and credit to the Owner field services as specified in Section 014500 - Quality Control.
- C. The following field services shall be provided as a minimum in accordance with the requirements contained in Section 011400 – Work Restrictions and Section 017500 - Starting and Adjusting:
 - 1. One (1) day totaling one (1) trip per pump, once each pump has been installed to check the completed installation, make all necessary adjustments and otherwise place the system into permanent operation as specified in Section 017500 - Starting and Adjusting. During one of these trips, and before substantial completion, provide operation and maintenance instruction to the Owner. A complete review of the operations and maintenance manual shall be presented at this time. The Contractor shall coordinate all startup activities. The electrical work shall be verified by the representative.

1.07 - SUBMITTALS

- A. All information shall be submitted in accordance with the requirements contained in Section 013300 - Submittals:
- B. Submit the following pump related information for each vertical single-stage, split-case pump:
 - 1. Technical specifications for the pump, motor, and accessories
 - 2. Dimensional data for pump and motor
 - 3. Pump performance curve and system head curve(s) with duty point shown on a single plot.
 - 4. Electrical data sheet for pump motor.
 - 5. Field-wiring diagram for pump motor.

6. Catalog cuts and/or engineering data for each accessory item specified to be provided herein.
 7. Certified pump performance curve from the factory after the pump is constructed and before shipment to the project site. The plot shall be prepared in accordance with the standards of the Hydraulic Institute.
 8. Storage, handling and installation instructions.
 9. Warranty Certificate in the form specified herein.
 10. Manufacturer Startup Reports (MSR's) as specified in Section 017500 for the pumps.
- C. Submit an operation and maintenance manual in accordance with the requirements contained in Section 017823.

1.09 - SERVICE CONDITIONS

- A. All components of the system shall be designed for continuous duty.
- B. Provisions shall be made for lubrication, adjustments, or replacement of all parts. Corresponding parts of multiple units shall be interchangeable.

1.10 - SPARE PARTS

- A. The following spare parts shall be supplied for each model of pump:
 1. One (1) set of lower and upper seals
 2. One (1) set of lower and upper bearings
 3. One (1) set of gaskets

PART 2 - PRODUCTS

2.01 - VERTICAL SINGLE-STAGE, SPLIT-CASE PUMPS

- A. Vertical flexible coupled, single-stage, split-case pumps:
 1. Cooling water pumps shall be model 413 BF as manufactured by Aurora Pump (Pentair), or equal.
- B. Pump Construction:

1. The pump casing halves shall be of the inline piping design and will be constructed of Class 30 cast iron having a minimum tensile strength of 30,000 psi and shall be of sufficient thickness to withstand stresses and strains at full operating pressures.
2. Casings shall be subject to a hydrostatic pressure test at 150% of the specified duty point.
3. Bearing housing supports, suction and discharge flanges shall be integrally cast with the lower half of the casing.
4. Removal of the upper half of the casing must allow the rotating element to be removed without disconnecting the suction and discharge flanges. The upper casing is to be dowel aligned to the lower casing.
5. Drain openings must be provided in the bearing arms for removal of lubricating liquid.
6. Impeller shall be of the enclosed double suction type and shall be vacuum cast bronze. Impeller shall be dynamically balanced and securely fastened to the shaft by key and screw locked shaft sleeves. The vanes shall be designed to reduce noise.
7. The pump shaft shall be made of high grade SAE 1045 steel or equal, accurately machined to give a true running rotating element. The shaft shall be protected from wear by bronze sleeves which are key locked and threaded so that the sleeves tighten with the rotation of the shaft.
8. Buna O-rings must be provided between the impeller hub and the shaft sleeves to prevent pumped liquid from corroding the shaft.
9. Pump shall be equipped with easily renewable bronze casing rings (impeller wearing rings) so designed that hydraulic pressure will seat them against a shoulder in the pump case around the full periphery of the wearing ring. The wear rings will be locked in place by the doweling to prevent rotation.
10. The rotating element shall be mounted in heavy duty grease lubricated ball bearings and shall be equipped with water strainers on side next to pump glands.
11. Bearing housings shall be so designed to flush lubricant through and provide continuous cleaning of bearing surfaces and maximum protection against overheating.
12. The pump shall be supplied with a single row inboard bearing primarily for radial loads and double row outboard bearing primarily for thrust loads. Both bearings shall be re-

greaseable lubrication ball type, designed for 250,000 hours average life.

13. Each bearing shall be mounted in a machined housing that is moisture- and dust-proof. The housing shall have registered fits to assure alignment, pinned to prevent rotation and bolted to the bearing arms. Each housing shall be supplied with a grease fitting and a plugged relief port.
 14. Vertical Pump Models: Mechanical seal boxes shall be placed on both sides of the pump centerline to seal the pump shaft. Each pump is to be furnished with mechanical seals with all metal parts to be 303 stainless steel with Buna-N elastomers, ceramic seat, and carbon washer.
 15. Vertical Pump Models: A bypass line must be provided for the upper seal between the seal faces and the discharge flange to assure adequate venting of the seal chamber and to provide lubrication. All pumps shall be provided with cored passages in the parting flange of the pump to provide additional circulation to both seals. The mechanical seal boxes shall be equipped with heavy, cast, one-piece O-ring sealed glands. The pump shall be supported by a cast iron drip rim base.
 16. Vertical flexible coupled pumps shall be furnished with a cast iron motor bracket which is to be bolted to the vertical casing. The motor bracket must be machined with a register fit to ensure proper alignment of motor and pump shaft.
- C. Stainless steel nameplates shall be attached to each pump and motor giving pertinent design data, horsepower, voltage, phase, running amps, model, serial numbers, and manufacturer's name. Provide one spare duplicate nameplate for each pump.
- D. Motor:
1. The pumps shall be flexible coupled to a standard vertical NEMA B, 3 phase, 60Hertz, 230/460 volts, drip-proof motor, NEMA Premium Efficiency.
 2. All motors regardless of pump application shall be provided as variable speed ready, unless noted otherwise.
 3. A performance chart shall be provided showing curves for torque, current, power factor, input/output kW and efficiency. This chart shall also include data on starting and no-load characteristics.
 4. The motor horsepower shall be adequate so that the pump is non-overloading throughout the entire pump performance curve from shut-off through run-out.

E. Protection:

1. All stators shall incorporate thermal switches in series to monitor the temperature of each phase winding. At 125 deg. C (260 deg. F) the thermal switches shall open, stop the motor and activate an alarm.
2. The thermal switches shall be connected to a Mini CAS (Control and Status) monitoring unit by Aurora Pump or equal. Each Mini CAS shall be interchangeable so it can be used for any vertical split-case pump furnished under this specification.

2.02 – ENGINE & EQUIPMENT LOOP COOLING PUMPS CONTROLS

- A. Controls shall consist of a single local control panel mounted in the vicinity of the cooling water pumps as indicated in the Contract Drawings
- B. Panel front shall include the following for each cooling water pump:
1. Start and stop pushbutton controls
 2. Power On LED Indicator light, colored white, with push-to-test functionality
- C. Nameplate on panel shall indicate: "COOLING WATER CONTROL PANEL – CWCP"
- D. Fabrication requirements provided in Section 407000 INSTRUMENTATION FOR PROCESS SYSTEMS.
- E. Panel status shall be integrated into the Plant's SCADA system by the Contractor to include new SCADA screen development and navigation button modifications to the existing screens.

2.03 - SCADA INTERFACE

- A. SCADA RTU
1. Space shall be provided near the control enclosure for the mounting of the RTU.
 2. RTU shall be provided by the control system manufacturer of this specification Section.
- B. Set of auxiliary contacts including:
1. Each Pump Running (DO)

PART 3 - EXECUTION

3.01 - INSTALLATION

- A. Install vertical pump plumb and level and per manufacturers installation instructions.
- B. Install interconnecting piping and check valve.
- C. Install pump in accordance with manufacturers installation instructions.
- D. Coordinate the checking of the pump's rotation in the presence of the manufacturer's representative.
- E. SCADA system's RTU shall be connected to the dedicated terminal strip within the controls enclosure. RTU shall be provided, installed, and connected to the terminal strip on site by the control panel manufacturer.
- F. Refer to 011400 – Work Restrictions for information regarding the maintenance of plant operations.

3.02 - FIELD QUALITY CONTROL

- A. Test each electric motor and record operating voltage and amperage. Have the representative record this information on the manufacturer's startup report (MSR).
- B. Submit the MSR for each pump startup for record purposes. Record the model number, serial number, and nameplate data on each MSR. Separate MSR's shall be provided for each pump.

3.03 - SCHEDULE

VERTICAL SINGLE-STAGE, SPLIT-CASE PUMP - SCHEDULE 221329-1

GENERAL:

| | |
|---------------------------|---------------------|
| Application: | Engine Cooling Pump |
| Quantity: | 2 |
| Aurora Model Number: | 413 BF 5X 6X 11A |
| Aurora Impeller Diameter: | 11 inch |
| Motor Starter Location: | MCC-05 |
| SCADA Location: | PLC-K |

PUMPING CHARACTERISTICS:

One pump in operation, at maximum static head, shall deliver a minimum flow of 875 gpm at 50 ft. TDH and a shutoff head no greater than 80 ft. TDH.

PHYSICAL CHARACTERISTICS:

Pump Discharge Size (inches): 5
Pump Suction Size (inches): 6

ELECTRICAL CHARACTERISTICS:

Minimum Motor Horsepower (hp): 15
Motor Speed (RPM): 1750
Service Voltage (V): 460
Frequency (HZ): 60
Phase: 3
Variable Frequency Ready Motor Required

VERTICAL SINGLE-STAGE, SPLIT-CASE PUMP – SCHEDULE 221329-2

GENERAL:

Application: Equipment Cooling Loop Pump
Quantity: 3
Aurora Model Number: 413 BF 4X 5X 11C
Aurora Impeller Diameter: 11 inch
Motor Starter Location: MCC-05
SCADA Location: PLC-K

PUMPING CHARACTERISTICS:

One pump in operation, at maximum static head, shall deliver a minimum flow of 500 gpm at 90 ft. TDH and a shutoff head of no greater than 105 ft. TDH.

PHYSICAL CHARACTERISTICS:

Pump Discharge Size (inches): 4

Pump Suction Size (inches): 6

ELECTRICAL CHARACTERISTICS:

Minimum Motor Horsepower (hp): 20

Motor Speed (RPM): 1750

Service Voltage (V): 460

Frequency (HZ): 60

Phase: 3

Variable Frequency Ready Motor Required

END OF SECTION

PART 1: GENERAL

1.01 DESCRIPTION

- A. All work and materials specified in this section associated with the Pressurized Plant Water System shall be included in the Base Bid and all work and materials for the High Pressure Washdown system shall be included in Alternate 1.
- B. The Contractor shall submit a single source responsibility for the provision, manufacture, warranty, service and operation of the following:
 - 1. A High-Pressure Wash-down Pumping System utilizing Yonkers JWWTP treated effluent water
 - 2. A Pressurized Secondary Plant Water Pumping System utilizing Yonkers City water received through an atmospheric break tank
- C. Both systems shall be prefabricated, skid mounted, fully automatic and monitored/controlled by the Plant's SCADA system. Each system and all components shall be specified as to be suitable for services using treated Plant effluent water with a chlorine residual range of 1 mg/L to 8 mg/L.
 - 1. This specification covers minimum requirements; however, it should not be construed as all inclusive.
 - 2. It is the Contractor's responsibility to include everything necessary to provide a complete, automatic, smooth operating, and reliable tri-plex High-Pressure Wash-down Pumping System and duplex Pressurized Secondary Plant Water Pumping System.
 - 3. The manufacturer shall warrant all items supplied, whether of its manufacturer or of its purchase, per the warranty requirements below:
 - a. Pass through warranties, warranties provided by manufacturers of purchased equipment included in the pump station, passed through to the owner, shall not be accepted.
 - b. Pumping system manufacturer shall have a history, covering at least five years, of providing warranties of a single source responsibility nature.
 - c. On request, pumping system manufacturer shall provide contact information for pumping systems in which the manufacturer has provided this single source responsibility.
 - 4. Manufacturer shall coordinate the motor and controls enclosure ratings with coating ratings for a wet corrosive environment (NEMA 4X).
 - 5. Manufacturer shall be a US manufacturer, and system shall be manufactured in the USA. All imported pumping systems or pumping systems from foreign manufacturers shall be rejected.
- D. Terminal connections, installation of junction boxes, local disconnect switches, connection to the MCC and SCADA RTU, and integration into the existing Plant-wide SCADA system shall be the work of the Contractor under this Section. All skid system power and control cables shall be brought to a

junction box at the skid and temporarily secured in place by the Contractor for final electrical terminations by his Electrical subcontractor and/or Integrator.

- E. System components have been selected that will fit through the available doorways without requiring destructive modifications. Contractor to verify doorway access prior to submittal of equipment shop drawings. Disassembly and re-assembly of skid components to allow doorway access shall be the responsibility of the Contractor and is included as work under this Section.
- F. Relocation of the bladder tanks to an off-skid location (as illustrated in the Contract Drawings) and the resulting relocation of instrumentation shall be the work of the Contractor under this Section.

1.02 RELATED SECTIONS

- A. The specification sections listed below are an integral part of this equipment specification, and the Contractor shall be responsible for providing these sections to the equipment suppliers.
 - 1. Section 013100 - Project Management and Coordination
 - 2. Section 013300 – Submittal Procedures
 - 3. Section 014500 - Quality Requirements
 - 4. Section 016500 - Product Delivery, Storage and Handling
 - 5. Section 017900 – Demonstration and Training
 - 6. Section 017823 - Operating and Maintenance Data
 - 7. Section 407000 – Instrumentation for Process Systems

1.03 SUBMITTALS

- A. Provide submittal (per Section 013300), with a detailed table of contents, including no less than the following:
 - 1. Full set of mechanical drawings including skid dimensioning, connection dimensions, anchor bolt location and typical installation, and equipment layout, all to scale
 - 2. Full electrical schematic, including three-line power schematic, control ladder logic, PLC and SCADA system interface, labeled as to identification and function so as to be easily understood.
 - 3. In order to assure that all welding will be accomplished according to ASME standards, submit copies of all fabricating employees' ASME Section IX pressure vessel certification and AWS D1.1 structural certification. Only those employees with said welding certificates submitted shall weld on the structural or piping portions of the system.
 - 4. Properly indicated pump curves, whose total dynamic head includes pumping system internal losses, manufacturer's name (other than pumping system manufacturer), pump model number, and motor type, RPM and horsepower.
 - 5. Properly marked cut sheets for each major component of the pumping system, both mechanical and electrical.
 - 6. Copies of UL and ETL authorizations for control panels, and for complete pumping system.
 - 7. Manufacturer's current ISO9001:2008 certificate.

8. Complete and separate descriptions of the system including:
 - a. Submittal schedule,
 - b. Shipment schedule after receipt of approved submittals,
 - c. Specification section number relevant to the submittal,
 - d. Technical information
 1. system model number,
 2. design GPM,
 3. rated system suction pressure or lift,
 4. rated system discharge pressure,
 5. voltage phase and frequency of required power,
 6. system approximate dry weight
 7. system footprint
 - e. Operation sequence,
 - f. Alarm sequence,
 - g. Manufacturer recommended spare parts list,
 - h. SCADA interface, via Ethernet,
 - i. Post production features,
 - j. Owner's manual description,
 - k. Shipment method and carrier type,
 - l. Notes clarification and exceptions,
 - m. Receiving instructions,
 - n. Storage instructions
 - o. Warranty statement

1.04 OPERATION & MAINTENANCE MANUALS

- A. Operation and maintenance manuals for the system shall be provided as an electronic file (PDF File) by the contractor, suitable for inclusion into the Yonkers JWWTP Online O&M Manual.
- B. Operation and maintenance manual shall have been prepared for this specific project, based on the reviewed submittal, and shall not be a general manual applicable to many systems. Manufacturers' technical manuals shall be included for each piece of equipment that is field serviceable.
- C. Manuals shall include the approved submittal and shall be produced in the same format as the submittal, bound in a three-ring binder, with tabbed sections, including as built drawings, schematics and PLC & OIT programs.
- D. Manufacturer's manuals shall be included after the submittal pages for each field serviceable device.
- E. Manufacturer's manuals shall include a comprehensive troubleshooting guide applicable to the specific system.
- F. Components that are serviceable through replacement only shall not have any manuals included. Such components shall include, but shall not necessarily be limited to:
 1. Flexible pipe couplings
 2. Relays

3. Pressure transducers
4. Pressure switches
5. PLC components

1.05 REFERENCES

- A. American Water Works Association (AWWA)
- B. American National Standards (ANSI)
- C. American Standards for Testing Materials (ASTM)
- D. Hydraulic Institute
- E. American Society of Mechanical Engineers (ASME)

1.06 INDUSTRY CODES

- A. Without exception, pumping systems shall be UL and ETL listed as finally assembled.
- B. Control panel with controls shall be built in accordance to NEC, and UL and ETL standards.
 1. Without exception, the electrical components and enclosure shall be labeled as a complete UL and ETL listed industrial control panel assembly.
 2. Manufacturer's UL and ETL labels shall be applied to the door.
- C. Without exception, pumping system shall be manufactured under the manufacturer's ISO9001:2008 quality assurance program.

1.07 SEQUENCE OF OPERATION

- A. General items applying to each alarm circuit shall include a display of condition, the illumination of a red indicating light, and manual or automatic reset of condition.
- B. Alarm sequence
 1. **Low Suction Pressure Alarm (High-Pressure Washdown System only)** - Low Suction Pressure alarm shall protect the pumps from operating without adequate inlet pressure, which could cause damage to pumps. A pressure sensor shall monitor pressure at the suction manifold. This feature shall include a short time delay to handle transient conditions which can occur during the starting of a pump. Operator interface device (OIT), mounted in enclosure door, shall signal low suction pressure. Pump system shall not start until low suction pressure is corrected and circuit has been reset. Alarm shall be equipped with visual indication and automatic reset.
 2. **Low Water Level Alarm (Pressurized Plant Water System only)** - Low water level alarm shall serve to protect the pumps from the adverse effects of running dry. Alarm shall be activated when level in the air break tank reaches a critical low level. Alarm shall cause the pumps to be retired in an orderly manner. Alarm shall not be capable of being overridden. Alarm shall not allow any pumps to run, whether in the "Hand" or "Automatic functions of the selector switch until level has been restored and alarm has been reset. Indication of the alarm shall be displayed visually on the control panel door. Alarm shall be equipped with visual indication and automatic reset.

3. **High Discharge Pressure Alarm** - High Discharge Pressure alarm circuit shall shut down pumping system if discharge pressure reaches a predetermined high level. Operator interface device (OIT), mounted in enclosure door, shall signal high discharge pressure. Pumping system shall not operate until pressure is reduced and alarm has been reset. Alarm shall be equipped with visual indication and automatic reset.
 4. **Low Discharge Pressure Alarm** - Low Discharge Pressure alarm circuit shall shut down pumping system in the event discharge pressure drops below normal level. Operator interface device (OIT), mounted in enclosure door, shall signal low discharge pressure. Pumping system shall operate until alarm has been manually reset. Alarm shall be equipped with visual indication and manual override.
 5. **Main Phase Failure and Low Voltage** - Safety circuit shall retire the pumping system if it experiences low voltage, phase failure or phase reversal as monitored at line-side of control enclosure. Phase monitor shall have a time delay to allow for transient low voltage during motor starting and to allow maximum motor protection. Operator interface device (OIT), mounted in enclosure door, shall signal phase failure for any affected pump.
 6. **System Thermal Purge** - Thermal purge shall include a temperature sensor and valve for each pump. Thermal sensor shall open the solenoid valve when it experiences a water temperature in excess of 140 degrees F. Valve, when actuated, shall purge water from the pump discharge, to atmosphere. A 1/2" line to drain shall be provided on site by the installing contractor. Thermal purge shall not be considered as an alarm, but its function shall be considered as normal operation. There shall be no indication of its operation, other than warm water discharge, and it shall not shut down any pumps.
 7. **Plugged Strainer Alarm** - A differential pressure switch shall be mounted across the strainer (single basket, dual basket, wye type or other type of strainer) to determine if the strainer has experienced an excessive drop or has become plugged. Contact closure in the DP switch shall activate an alarm within the control panel. Indication of the alarm shall be displayed visually on the control panel door. Alarm shall be equipped with visual indication and automatic reset.
 8. **High Water Level Alarm (Pressurized Plant Water System only)** - High water level alarm shall serve solely as an advice and shall not shut down the pumps. Alarm shall be activated when level in the air break tank reaches a critical high level. Alarm shall not be capable of being overridden. Indication of the alarm shall be displayed visually on the control panel door. Alarm shall be equipped with visual indication and automatic reset.
- C. Functional Sequence, Pressure and Flow Sequencing
1. Equal sized pumps shall be alternated based on accumulated run time, the pump having the least run time starting as lead.
 2. In the event a pump has failed to run or start, or if its switch is turned off, PLC shall shift the pumping sequence to utilize the remaining pumps.

3. Lead pump shall start immediately on a reduction in discharge pressure (10 psid factory default value).
4. PLC shall control pump's VFD to maintain discharge pressure regardless of flow rate.
5. Lag pump shall start on a reduction in discharge pressure (10 psid factory default value) as maintained for a time (10 seconds default value).
6. Second lag pump shall start on a reduction in discharge pressure (10 psid factory default value) as maintained for a time (15 seconds default value). – Only for High-Pressure Washdown System
7. Second lag pump shall retire when flow has decreased to 80% of the preceding two pumps' combined capacity (default value) as maintained for a time (30-45 seconds default value). – Only for High-Pressure Washdown System
8. Lag pump shall retire when flow has decreased to 80% of the lead pump's capacity (default value) as maintained for a time (30-45 seconds default value).
9. Lead pump shall retire when flow has decreased to zero as maintained for a time (30-45 seconds default value).

1.08 CONTROLS REQUIREMENTS

- A. Manufacturer shall be authorized by Underwriters' Laboratories to label its manufactured control panels as UL Listed under category NITW/NITW7.
- B. Conform to the latest edition of NFPA 70 in the manufacturing of control panels.

1.09 WARRANTY

- A. Provide a Warranty Certificate from the manufacturer typed on company letterhead and signed by an authorized officer of the manufacturer. The certificate shall be witnessed by a notary public in the state in which the company headquarters is located.
- B. (Manufacturer) guarantees that the system to be free from defects in design, materials and workmanship for a period of two (2) years commencing on the date the system was permanently placed on – line and the equipment functions without flaw. During the guarantee period if any part or equipment component is defective or fails to perform when operating at design conditions and if the equipment has been installed and is being operated and maintained in accordance with the written instruction we provided then we shall repair or exchange such defective part(s). The cost of shipping to return defective part(s) and to deliver replacement part(s) shall be borne by the manufacturer.
- C. If the manufacturer fails to repair or exchange such defective part(s) within 30 calendar days “grace period” of receiving either notification of warranty repair/replacement by the owner or delivery of the defective part(s) to the manufacturer’s designated service center, if required then the guarantee period shall be extended by a period of time equal to the total period of time needed to satisfy the warranty repair or replacement delivered to the site, including the 30 day grace period. The extended guarantee period shall pertain to all of the manufacturers equipment placed “out of service” due to defective

part/component. This provision will hold true regardless of the number of times covered equipment requires warranty repair during warranty period, original or extended.

PART 2 - PRODUCTS

2.01 PRE-FABRICATED, FULLY AUTOMATIC HIGH-PRESSURE WASH-DOWN & PRESSURIZED PLANT WATER SYSTEMS

- A. Manufacturer: SyncroFlo, Inc., Norcross, Georgia, U.S.A., or equal.
- B. Alternate manufacturer seeking authorization to bid shall be registered under ISO9001:2015, shall hold a current Quality Management Certificate, for the assembly of custom packaged pumping systems accessories and controls for use in municipal wastewater applications.

2.02 VERTICAL MULTI-STAGE PUMPS

- A. Vertical multi stage pumps:
 - 1. Stainless steel vertical multi-stage pump shall be by Goulds, or equal.
 - 2. Pump case, diffusers, shaft, inner bowls, seal spring and retainer clip, and coupling guards: manufactured from 304 stainless steel.
 - 3. Impellers and shaft spacers, priming and drain plugs: manufactured from 316 stainless steel.
 - 4. Shaft bushing: ceramic.
 - 5. Stationary seal portions: silicon carbide.
 - 6. Rotary seal portions: carbon.
 - 7. Seat elastomers and casing o-rings: Viton.
 - 8. Shaft sleeve: tungsten carbide.
 - 9. Tie rods and nuts: zinc coated steel.
 - 10. Pump curve shall rise continuously to shut off head.
 - 11. Best efficiency point of pump shall lie between 70% and 80% of maximum flow capacity of the pump.
 - 12. Pump connections: ANSI flanged, class 300, either 1.25" or 2".
 - 13. Pump shall accept a standard NEMA frame C-face motor, and shall not require a specialty motor with special thrust bearings.
 - 14. Conditions of service:

High-Pressure Washdown System:

Pumping System Minimum Inlet Pressure: **5** PSIG minimum

Pumping System Internal Losses: **15'** water column

Pumping System Discharge Pressure: 125 PSIG

Minimum Flow w/ 2 Pumps Running: 150 GPM

| Pump No. | Duty Point | Pump TDH | % Efficiency | Horsepower | RPM |
|----------|------------|----------|--------------|------------|------|
| 1 | 75 GPM | 125 PSI | 69% | 15 | 3600 |
| 2 | 75 GPM | 125 PSI | 69% | 15 | 3600 |
| 3 | 75 GPM | 125' PSI | 69% | 15 | 3600 |

Pressurized Plant Water System:

Pumping System Minimum Inlet Pressure: **0** PSIG minimum

Pumping System Internal Losses: **15'** water column

Pumping System Discharge Pressure: **60** PSIG

| Pump No. | Duty Point | Pump TDH | % Efficiency | Horsepower | RPM |
|----------|------------|----------|--------------|------------|------|
| 1 | 100 GPM | 60 PSI | 71% | 7.5 | 3600 |
| 2 | 100 GPM | 60 PSI | 71% | 7.5 | 3600 |

2.03 AIR BREAK TANK FOR PRESSURIZED PLANT WATER SYSTEM

- A. Air break tank: 500-gallon, 42" diameter x 96" height.
- B. Air break tank shell, base, tabs, and top shall be manufactured from 10-gauge 304 stainless steel.
 - 1. Base shall include four tabs for bolting tank to the skid.
 - 2. Top shall include supports for the fill valve, openings for water entry, level sensors, and valve float. Opening for water entry shall be 4" greater in diameter than the pipe size of the fill valve.
 - 3. Skid shall have a full plate support under the air break tank adequate to support the full weight of the tank when filled with water.
 - 4. Air break tank shall be bolted to the skid support plate through the four tabs using stainless steel bolts no smaller than 1/2".
- C. There shall be two stilling wells within the air break tank, one for the valve float and one for the level sensors. Still wells shall be 8" minimum diameter from 304 stainless steel.
- D. Openings in the side of the shell:
 - 1. One flanged outlet for pump suction.
 - 2. One threaded outlet for drain, complete with 2" isolation ball valve.
 - 3. One flanged overflow at the top of the tank.
 - 4. Two threaded taps, one over the other, for mounting of the sight glass.

- E. Sight glass shall be manufactured from Duran Borosilicate, including a red longitudinal stripe to help water level visualization.
- F. Sight glass gauge valves shall be made from brass, and shall be provided at top and bottom of the gauge glass. Valves shall be equipped with 1/2" MNPT threaded connection for direct connection to tank shell threaded taps. Valves shall include four rods to protect the gauge glass.
- G. Float valve for filling the tank shall be a Cla-Val model 124-01, complete with float and adequate float rod extensions having adjustable collars.
 - 1. Float valve shall be single-seated, diaphragm operated, pilot-controlled, globe or angle valve. It shall be spring loaded & hydraulically operated. Valve spring shall be of stainless steel. Seat ring shall be of bronze & readily replaceable with no special tools.
 - 2. Diaphragm assembly shall be fully guided, top and bottom. Diaphragm shall be of nylon reinforced Buna-N synthetic rubber and shall be fully supported by the valve casting in both the full-open and full-closed positions to eliminate strain on the diaphragm. All necessary repairs shall be possible without removing valve from the line. Packing glands are not permitted. Disc shall be synthetic rubber (Buna-N) and have a rectangular cross section. Disc shall be reversible to provide two (2) usable sealing surfaces.
 - 3. Valve shall be sized so that no more than eight (8) PSI drop shall occur through it at rated station capacity.
 - 4. Valve shall have a valve position indicator to indicate flow at any given time.
 - 5. The valve shall be equipped with the following accessories to ensure proper operation:
 - a. Valve outlet shall be equipped with a flanged by plain end pipe outlet, stopping 6" above the top of the air break tank. Straight pipe length shall be 6" long or two pipe diameters, whichever is greater, as measured from the end of the pipe.
 - b. Float controlled pilot shall have stainless steel seat, bronze sealing surface and a Buna-N seals. Pilot valve body shall be of bronze.
 - c. Float control shall be mounted directly to the fill valve, and shall not be remotely mounted. Float shall be adjustable from 1" of travel to 19" of travel on its actuating rod. Float shall be manufactured from polypropylene.
 - d. Flow-clean type strainer shall be provided to remove any solids that may be of sufficient size to damage or plug the pilot and other control components. Wye-type strainers shall not be acceptable. Flow-clean strainer shall screw directly into the inlet valve port without a bushing or port extension. Flow-clean strainers shall be of two-part design. The inner mesh shall be of MONEL and shall be designed to support the outer screen. The outer screen shall be of 0.008" MONEL wire, having a 40 x 40 mesh.

2.04 C-FACE MOTORS

- A. Motors for the pumps shall be from a United States manufacturer.
 - 1. Motor enclosure shall be TEFC, JM frame, premium efficient, conforming to MG-1 Part 31 for use on inverter.
 - 2. Motor shall have a 1.15 service factor and class F insulation.
 - 3. Motor shall be wound for full voltage starting.
 - 4. Maximum pump horsepower shall not be greater than motor nameplate rating exclusive of service factor.
 - 5. The motor shaft shall be high-strength steel rigidly coupled to the pump shaft.
 - 6. Motor shall be a standard motor of the manufacturer, and not a specialty motor with thrust bearings.
 - 7. Motor shall be as manufactured by Baldor or U.S. Electrical Motors.

2.05 BLADDER-TYPE PRESSURE VESSEL FOR HIGH-PRESSURE WASHDOWN SYSTEM

- A. Discharge pressure will be supplemented by a bladder-type pressure vessel. Bladder-Tank shell, base, tabs, and top shall be manufactured from 10-gauge 304 stainless steel.
 - 1. Base shall include four tabs for bolting of the tank to the skid.
 - 2. Top shall include supports for the water entry and pressure sensors.
 - 3. Skid shall have a full plate support under the bladder tank adequate to support the full weight of the tank when filled with water.
- B. Bladder-Tank / Pressure vessel 185 Gal rated at 200 psi
- C. Model FXA700 by Wessels, Inc, or approved equal

2.06 BUTTERFLY ISOLATION VALVE

- A. Body:
 - 1. Shall be one-piece lug design with extended neck to allow for 2” of piping insulation.
 - 2. A non-corrosive bushing and a self-adjusting stem seal shall be provided. No field adjustment shall be necessary to maintain optimum field performance.
- B. Disc:
 - 1. Disc edge and hub on metal discs shall be spherically machined and hand polished for minimum torque and maximum sealing capability.
- C. Stem:
 - 1. Shall be one-piece design.
 - 2. Disc to stem connection shall be an internal double “D” design with no possible leak paths in the disc-to-stem connection. External disc-to-stem connections such as disc screws or pins are not allowed.
 - 3. Stem shall be mechanically retained in the body neck and no part of the stem shall be exposed to the line media.

- D. Seat:
 - 1. Shall be tongue-and-groove bonded seat with a primary hub seal and a molded flange O-ring suitable for weld-neck and slip-on flanges.
 - 2. The seat shall totally encapsulate the body isolating it from the line media and no flange gaskets shall be required.
- E. Testing
 - 1. Valve shall be tested to 110% of the rated pressure.
- F. Pressure Ratings:
 - 1. Valve shall be rated for bubble-tight shut-off at pressure rating shown below:
Bi-directional and Dead-End Service: 2"-20" (50mm-500mm) 250 psi (17.2 Bar).
- G. Valve shall be Bray Series 31H or approved equal.

2.07 BALL VALVES

- A. Isolation valves shall be provided as full port ball valves in sizes 2.5" and smaller.
- B. Valve shall be a two-piece bronze full port ball valve.
- C. Valve shall be sized for a maximum velocity of 7 fps.
- D. Valve shall have adjustable packing, blow-out proof stem, RPTFE seats and stuffing box ring, hardened ball, and actuator mounting pad.
- E. Stem and gland shall be from B16 bronze.
- F. Ball shall be chrome plated, from B16 bronze.
- G. Retainer and body shall be from B584-C84400 bronze.
- H. Body seal shall be from PTFE.
- I. Quarter turn manual actuator shall be from zinc plated steel, with Vinyl cover.
- J. Valve shall be rated at 600 PSI CWP.
- K. Pump isolation valve shall be Model G100 as manufactured by American Valve or Apollo Model 77-100 as manufactured by Conbraco.

2.08 VIBRATION ISOLATION

- A. Potential vibration of the motors and pumps shall be isolated from both the piping and the skid, to assure complete isolation of any motor and/or pump vibration.
 - 1. Flexible Pipe Connectors.
 - a. Each pump suction and discharge connection shall include a grooved flexible connector. Connectors shall be installed between each pump and its inlet and outlet isolation valves.
 - b. The flexible pipe connector shall be designed to meet or exceed the pressure, movement and dimensional rating of the "Spool" Arch Types as shown in the Rubber Expansion Joint Division, Fluid Sealing Association "Technical Handbook - Eighth Edition" Table V.

- c. Connections suitable for grooves shall be manufactured from ductile iron conforming to ASTM A-536.
 - d. Both wetted and exposed elastomeric portions of the flexible connector shall grade EHP.
2. Flexible Motor and Pump Mounts.
- a. Each motor and pump combination shall be mounted on vibration isolators.
 - b. Vibration isolators shall not be of a “one kind fits all” type, but shall be selected specifically for the pump and motor weight.
 - c. Full weight of the pump and motor shall be divided equally among the vibration isolators, and each isolator shall have a maximum rating of 1.5 to 2 times the calculated weight it is intended to support.
 - d. Each vibration isolator shall be attached to the pump and motor combination by one bolt, and shall be attached to the system skid by two bolts. Attachment bolts shall be as determined by the vibration isolator manufacturer. Any modification of the vibration isolator to accept a bolt of a different size shall be cause to have the submittal and/or the pumping system to be rejected. All bolts shall be stainless steel.
 - e. Vibration isolator shall be model ND as manufactured by Mason Industries, or pre-approved equal.

2.09 PRESSURE REDUCING VALVE

- A. Pressure reducing valve for each pump shall be single-seated, diaphragm operated, pilot-controlled, globe valve. It shall be spring loaded & hydraulically operated. Valve spring shall be manufactured of stainless steel. Seat ring shall be manufactured of bronze & readily replaceable with no special tools.
- B. Diaphragm assembly shall be fully guided, top and bottom. Diaphragm shall be manufactured of nylon reinforced Buna-N synthetic rubber and shall be fully supported by the valve casting in both the full-open and full-closed positions to eliminate strain on the diaphragm. All necessary repairs shall be possible without removing valve from the line. Packing glands are not permitted. Disc shall be synthetic rubber (Buna-N) and have a rectangular cross section. Disc shall be reversible to provide two (2) usable sealing surfaces.
- C. Valve shall be sized so that no more than eight (8) PSI drop shall occur through it at rated station capacity.
- D. Valve shall have a valve position indicator to indicate flow at any given time.
- E. The valve shall be equipped with the following accessories to ensure proper operation:
 - 1. All control valve pilots shall have stainless steel seats, Buna-N sealing surface and a Buna-N diaphragm. Pilot valve bodies shall be of bronze.
 - 2. Pressure-sustaining pilot shall be sensitive to valve inlet pressure. Pilot shall be normally closed and spring-loaded with spring tension adjustment. Pilot shall open automatically against the spring-loading set when pilot inlet pressure exceeds the set value. This pilot shall

- function to maintain a minimum valve inlet pressure which shall prevent the pumps from operating under an unstable or overloaded condition.
3. Pressure reducing pilot shall be sensitive to discharge pressure. Pilot shall be direct-acting, spring-loaded diaphragm type that operates hydraulically or pneumatically. This pilot shall function to maintain a constant downstream pressure, so long as distribution demand does not exceed the capacity of the pumping system.
 4. An opening-speed control pilot shall be installed. Pilot shall function to prevent overreaction of the valve and allow rapid closure when necessary.
 5. Isolation cocks shall be provided on control tubing at the valve inlet, outlet and bonnet ports. Situate these valves such that the control valve may be manually closed & the valve trim serviced.
 6. Pressure gauge shall be mounted directly to the inlet valve port in a manner which allows ease of observation. Situate ball valves on the gauge piping so that the gauge may be replaced without draining the lines or pumping system.
 7. Flow-clean type strainers shall be provided to remove any solids that may be of sufficient size to damage or plug the pilots and other control components. Wye-type strainers shall not be acceptable. Flow-clean strainer shall screw directly into the inlet valve port without a bushing or port extension. Flow-clean strainers shall be of two-part design. The inner mesh shall be of MONEL and shall be designed to support the outer screen. The outer screen shall be of 0.008" MONEL wire, having a 40 x 40 mesh.
- F. Valve shall be a Model 90-01 as manufactured by Cla-Val Company of Newport Beach, CA.
- G. A pressure gauge shall be installed between the pump and its PRV, to allow for proper adjustment of the PRV pilot.

2.10 HOSE BIBB

- A. Manufacturer: NIBCO or approved equal
- B. Bronze or brass with hose thread spout, and vacuum breaker in conformance with ANSI/ASSE 1011.

2.12 STATION BASE

- A. All equipment including, but not limited to, pumps, motors, valves, instrumentation and controls, shall be mounted on a common structural steel base to form a complete operating pumping system.
- B. The pumping system base shall be designed and fabricated to provide proper structural support for all attached equipment if it is supported solely on the peripheral members. Internal members need not contact the floor. This design shall allow the pumping system to be mounted on a slab, a frost wall, or a basement foundation. The base shall supply sufficient rigidity to withstand the stresses of reasonable and competent transportation to site, off loading, installation, and operation.
- C. Peripheral structural members shall be from channel or wide flange beam, ASTM A36.
- D. Internal structural members shall be from ASTM A36 rectangular tubing or channel.
- E. Base shall be of open framework construction, suitable for grouting.

- F. All employees welding structural members shall have certificates on file exhibiting conformance to ASME AWS D1.1 structural welding.
- G. Provisions shall be made in the station base for off-loading and handling the station at the site.
- H. Station base shall be factory painted. Field touchup shall be required as necessary after final placement and anchoring.

2.13 STAINLESS STEEL PIPING

- A. All piping on systems with 6" or smaller manifolds shall be constructed from AISI 304 schedule 80 stainless steel pipe or heavier as required to maintain a 3 to 1 pressure safety factor.
- B. Welders performing structural and pipe welds shall be certified to ASME section IX, and their certificates shall be on file with the manufacturer. Upon request by the engineer or owner, the certificates shall be made available for inspection.
- C. Piping smaller than 4" and greater than 36" shall be flame cut and beveled, having the cut surface ground to bare metal before welding.
- D. Piping 4" to 36" size shall be plasma cut and beveled, including ends, and side penetrations, on a single machine, capable of tilting, extending, and rotating the pipe for making three dimensional cuts. All entrances and exits to the piping shall also be cut in this fashion. Machine shall cut manifolds and branches to be welded onto the manifolds, including any cuts that are not 90 degrees to the axis of the pipe.
- E. After fabrication and before coating, piping shall be hydrostatically tested to 150% of maximum pump shutoff pressure plus stated suction pressure, or greater.

2.14 PIPING SUPPORT

- A. Piping support shall be manufactured from structural rectangular stainless steel tubing, sized according to the weight and size of the piping to be supported.
- B. Each tubing member shall be capped to prevent internal corrosion.
- C. Vertical tubing members shall be solidly welded to the skid and shall support the weight of the piping when filled with water.
- D. Horizontal tubing members shall be solidly welded to the vertical members, shall extend beyond the pipe OD, and shall support the weight of the piping when filled with water.
- E. Piping shall be secured to the members through the use of stainless steel piping U bolts designed for this purpose.
- F. Thrust of the piping, whether the thrust is in the vertical or horizontal direction, shall be restrained on site by the installing contractor.

2.15 PRESSURE GAUGES

- A. Manifold mounted pressure gauges shall be:
 - 1. Mounted on each header and on each pump discharge, complete with isolation ball valve.
 - 2. Filled with glycerin to reduce wear due to vibration.
 - 3. Accurate to within 0.5%, and comply with ASME B40.1 Grade 2A.

4. 4.5" minimum diameter.
 5. Of the following materials of construction:
 - a. Connection and bourdon tube: 316 stainless steel.
 - b. Dial: white aluminum with black lettering and a stop at the 6 o'clock position.
 - c. Pointer: adjustable from black aluminum.
 - d. Turret style case: black glass reinforced thermoplastic (PBTP), with built in rear flange lugs, with a solid front and blow-out back, rated at NEMA 4X.
 - e. Window: acrylic.
 - f. Window gasket: Buna-N.
 - g. Filling material: glycerin.
 6. Selected so that operating pressure is in the mid-range of the gauge. In no case shall the gauge be less than 20% higher than the highest pressure attainable from the pumps at shutoff head conditions.
 7. Shock resistant up to 100G.
 8. Model 233.34 as manufactured by Wika or equal.
- B. Pump mounted pressure gauges shall be:
1. 2.5" and mounted on each pump discharge, complete with isolation ball valve.
 2. Filled with glycerin to reduce wear due to vibration.
 3. Accurate to 2/1/2%, and shall comply with ASME B40.100 and EN 837-1.
 4. Of the following materials of construction:
 - a. Connection and bourdon tube: copper alloy.
 - b. Movement: copper alloy with an internal stop at 1.3 times the gauge range.
 - c. Dial: white ABS with black lettering.
 - d. Pointer: adjustable from black aluminum.
 - e. Turret style case: 304 stainless steel with vent plug and stainless steel crimp ring sealed with an EPDM O-ring.
 - f. Window: polycarbonate.
 - g. Window gasket: Buna-N.
 5. Selected so that operating pressure is in the mid-range of the gauge. In no case shall the gauge be less than 20% higher than the highest pressure attainable from the pumps at shutoff head conditions.
 7. Shock resistant up to 100G.
 8. Model 213.53 as manufactured by Wika or equal.

2.16 PRESSURE TRANSMITTER

- A. Pressure Transmitters shall be mounted on the suction and discharge headers and shall provide all pressure signals for the control logic to the PLC and SCADA.
- B. Pressure Transmitter shall be supplied with an isolating ball valve.
- C. Pressure Transmitter shall be a media isolated instrument, having no silicone oil, internal o-rings, or welds.

- D. Pressure Transmitter wetted material shall be 17-4PH stainless steel NACE compatible housed in 304 stainless steel having a male threaded process connection.
- E. Pressure Transmitter shall provide a 4-20 mA analog output linear with the sensed pressure, from a two wire 10-28 VDC supply, reverse polarity protected.
- F. Pressure Transmitter shall have an accuracy of plus/minus 0.25% BFS.
- G. Resolution of the Transmitter shall be greater than the resolution of the analog to digital conversion for PLC operation.
- H. Transmitter shall be rated for pressures greater than station discharge pressure, and shall provide gauge pressure output, rather than absolute pressure.

2.17 PRESSURE SWITCH

- A. Pressure switch shall be supplied on each pump discharge if the suction pressure is 20 PSI or lower.
 - 1. Pressure switch shall be NEMA 4X enclosed.
 - 2. Pressure switch shall have SPDT contacts rated 5 amps at 240 volts non-inductive, and 125 VA at 24 to 600 volts for control circuit.
 - 3. Operating temperature rating of pressure switch shall be -22°F to 150°F (-30°C to 66°C).
 - 4. Storage temperature rating of pressure switch shall be -22°F to 200°F (-30°C to 93°C).
 - 5. Pressure switches shall sense pump discharge pressure and shall signal the controls if the pump discharge pressure, while the pump is running, drops below a predetermined minimum threshold.
 - 6. Pressure switches shall be UE series 100 type H100, or Allen Bradley series 836C.

2.18 MAGNETIC FLOWMETER

- A. The pumping system shall have a magnetic flow sensor installed, which shall be utilized for control and to display the pumping system flow rate, and to display total flow through the pumping system controller operator interface device (OIT). Flow meter shall be electro magnetic flow meter comprised of two major components, a primary head and a signal converter. Flow meter signal converter shall produce two separate signals, pulse and 4-20mA, in linear proportion to flow rate. Flow meter shall read flows from 0-40 fps, with a worst-case inaccuracy of 0.5% of indicated value (not a percentage of full scale) at 1.3 fps or greater. Flows less than 1.3 fps shall have a lower accuracy with accuracy applying to indicated value (not full scale). Meter shall be installed according to manufacturer's recommendations. Manufacturer shall have a US based manufacturing and assembly center. Flow meter shall be as manufactured by Krohne. Flowmeter shall be sized for maximum expected flow rate through the pumping system, and not as a line sized flowmeter.
- B. Primary Head: The flow tube shall be a ANSI B16.5 class 150 flanged for sizes less than 24" and AWWA class D flanged for sizes above 24" with a 304SS spool. Wetted liner shall be hard rubber. Liner shall extend beyond the ends of the flow tube and over the flange faces. Liner shall remain stable and in place under a 500 mBar absolute vacuum or pressure situation. Liner shall be rated for

the medium pumped. Magnetic coils shall be wound by the flow meter manufacturer and held in place in such a way as to prevent any fluctuation in the magnetic field generated. Magnetic coils in flow tubes 6" and smaller shall be epoxied together through a fusion bonding process, which renders the magnetic coil a single solid piece with no loose windings. Electrodes shall be from Hastelloy C4. They shall be inserted from the inside of the flow tube, and shall be sealed along their length. Electrodes sealed at one or more discrete points shall not be accepted. The wires connecting the electrodes to the primary head shall be fastened in place along their entire length to prevent the transmission of erroneous data or signal noise acquired through signal wire movement. All wiring shall be brought into the primary head connection box and terminated. The shroud protecting the coils and electrodes shall be welded in place, and internally pressure tested to 1.5 atmospheres with air pressure. On completion, the flow tube shall be finish painted on all outside metallic surfaces. Primary head shall be NEMA 6 rated.

- C. Signal Converter: The signal converter shall be NEMA 4X rated, and shall house the microprocessor-based electronics required for magnet excitation and flow measurement. Functions and data requirements shall be set by either a PC or by a hand held programmer. Unit shall process flow using a bipolar pulsed DC signal. Power supply shall be 115/230VAC 48-64 Hz. Outputs shall be 4-20 mA and pulsed output scalable at 0-100Hz or 0-1000 Hz for full scale range. Signal converter shall also include a binary output to indicate direction of flow.
- D. Grounding rings: Where magnetic flow meters are placed in a pipeline that insulates the water from ground (e.g. epoxy lined steel pipe or plastic pipe) grounding rings are required at both ends of the flow meter to eliminate electrical eddy currents that may exist within the medium being pumped. Grounding rings and flow meter body must be grounded properly., in accordance with manufacturer's recommendations.
- E. Calibration and Testing: Meter shall be hydraulically calibrated on a testing device that is at least 10 times more accurate than the meter, and shall not be calibrated against a master meter. Each flow meter produced by the flow meter manufacturer shall be flow tested and hydraulically calibrated according to this procedure. Manufacturer's test and calibration equipment shall be internationally certified, and shall be re-certified every three years. Calibration shall be accomplished through direct volumetric comparison, on rigs certified as having a measurement error of equal to or less than 0.03%. A calibration certificate shall be issued for each flow meter produced by the flow meter manufacturer. Calibration certificate shall be traceable to the US National Bureau of Standards. Meters shall be calibrated under standard conditions to a measurement error of less than 0.50% of rate.
- F. Best resolution of flowmeter shall be with 5 diameters of straight pipe upstream of the center of the flowmeter, and 2 such diameters downstream of the center of the meter. Meter manufacturer shall have provided system manufacturer with a written authorization and test data, which shall be kept on file at the system manufacturer's place of business, and made available for inspection on request.
- G. Stainless steel grounding rings, properly bonded, shall be provided at the inlet and outlet of the flowmeter, when the piping is non conductive, to arrest any electrical eddy currents in the water that could affect the meter accuracy.

2.19 COATING SYSTEM

- A. Coating system shall be equivalent to the ISO 12944 coating system C4 for medium corrosive environment application where high humidity and some air pollution may occur.
- B. All steel surfaces shall be prepared to at least SSPC-SP6, abrasive blast cleaning.
- C. Upon completion of preparation, all steel surfaces must be immediately coated with PPG's Amercoat 385PA red primer containing zinc phosphate, or equivalent by Tnemec or Sherwin Williams, to a DFT of 4.0-8.0 mils.
- D. Primer shall be oven cured after application to improve adhesion.
- E. Intermediate coat shall be PPG's Amercoat 450HAcrrylic Aliphatic Polyurethane, or equivalent by Tnemec or Sherwin Williams, applied to a DFT of 2.0-5.0 mils.
- F. Intermediate coat shall be oven cured after application to improve adhesion.
- G. Cover coat shall be PPG's Amercoat 450HAcrrylic Aliphatic Polyurethane, or equivalent by Tnemec or Sherwin Williams, applied to a DFT of 2.0-5.0 mils.
- H. Cover coat shall be oven cured after application to improve adhesion.
- I. Each coat shall be of a color different than the previous color, to make holidays in the coating obvious. Finish coat shall be safety blue.

2.20 BOLTS

- A. All bolts and nuts used in the assembly of the pumping system shall be stainless steel grade 8. To protect the finish and prevent loosening, bolts shall be provided with washers and lock washers.

2.21 CONTROL ENCLOSURE

- A. Controls, except VFDs, shall be housed in a NEMA 4X enclosure.
- B. The control enclosure shall be constructed of 12-gauge 316 stainless steel and the back-plate assembly shall be constructed of 12 gauge 316 stainless steel.
- C. All indicating LED lights, reset buttons, selector switches and the operator interface device (OIT) shall be mounted on enclosure door and shall be rated NEMA 4X.
- D. All internal components shall be mounted and secured to the removable back plate assembly. All equipment and wiring shall be mounted within the enclosure and labeled for proper identification.
- E. All adjustments and maintenance shall be able to be done from the front of the control enclosure.
- F. A complete wiring circuit and legend with all terminals, components, and wiring identification shall be provided.
- G. Equipment shall be provided within the controls enclosure to assure compliance with current NEC and UL codes.
- H. A dedicated terminal strip shall be provided near the bottom of the enclosure to which shall be connected the remote signals for the Yonkers Plant-wide SCADA system.

2.22 LIGHTNING AND SURGE ARRESTOR

- A. Electrical equipment shall be protected by a U.L. 1449 Fifth Edition Listed SPD to suppress voltage surges on incoming power.

- B. SPD shall be connected to the line side of the pumping system landing lugs and shall be properly grounded.
- C. The device shall be rated according to IEEE C62.41.1-2002, C62.41.2-2002, and C63.45-2002 to provide a surge capacity of no less than 50kA per phase.
- D. Response time shall not be greater than 1 nanosecond.
- E. SPD shall withstand no less than 5000 3kA impulses, 8x20µs, or 1000 10kA impulses, 8x20µs.
- F. Manufacturer of SPD shall be ISO 9001:2015 certified, and shall have an ISO 17025:2017 test lab.

2.23 MAIN DISCONNECT

- A. A NEMA-rated circuit breaker main disconnect shall be provided to isolate all controls and motor starting equipment from incoming power.
- B. UL/CSA short-circuit interrupting capacity rating of the circuit breaker shall be not less than 25,000 amps.
- C. Main disconnect shall have a through the door operator and shall be sized in accordance with current NFPA 70 and UL requirements.
- D. Disconnect shall be as manufactured by Eaton or Schneider Electric.
- E. Disconnect's short circuit rating shall not be less than 25,000 amps.

2.24 CONTROL POWER

- A. Power for the controls shall be provided by a control power transformer which shall provide 120 volt, single phase power for the pumping system control operation.
- B. Control power transformer shall not be used for any load other than controls.
- C. The control power transformer shall be protected on the primary side by control limiting fuses of adequate size and voltage rating.
- D. All control components on the load side of the transformer shall be protected by time delay circuit breakers of adequate size.
- E. The control power transformer shall be as manufactured by Micron Industries or pre-approved equal.

2.25 THERMAL PURGE

- A. Thermal purge shall be an encapsulated thermo-mechanical device.
- B. Valve shall be a 1/4" brass.
- C. A 1/2" line to drain shall be provided on site by the contractor.

2.26 VARIABLE FREQUENCY DRIVES

- A. Variable Frequency Drives: Each pump shall have its own variable frequency drive with the following features, Mitsubishi Electric or approved equal:

1. The drive shall be a voltage source, GTR or IGBT power transistor based inverter - PWM Type. The inverter shall use a high carrier frequency to reduce drive and motor noise.
2. Drive shall be capable of operating in an ambient temperature between 5 °F and 104 °F and a line voltage variation of less than 10%.
3. Self-protection features shall include: under voltage and over voltage protection, current overload protection, short circuit protection, power failure protection, ground fault protection, and over-temperature protection.
4. A four digit LED readout shall be provided to indicate the following: drive enabled, output frequency, and all VFD fault conditions.
5. The drive shall be capable of automatically restarting after any of the following: overload over-voltage, converter over-current, inverter over-current, or power failure.
6. The following drive parameters shall be user adjustable: acceleration speed (1 to 300 seconds), deceleration speed (1 to 300 seconds), minimum speed, and maximum speed.
7. The drive shall have a front mounted "HAND-OFF-AUTO" selector switch and a potentiometer for adjusting drive speed in the "HAND" position.
8. Each drive shall have individual PID control for backup mode operation.
9. The VFD shall use the following energy saving techniques
 - i. Slows down the motor
 - ii. Reduce current
 - iii. Reduces voltage
 - iv. Evaluates 6 motor characteristics to further increase efficiency
10. VFD shall communicate with the PLC with a DIGITAL connection, with the following capabilities:
 - i. Able to modify 300 different VFD parameters through the PLC and HMI
 - ii. Read all VFD data and communicate it to the PLC, HMI, and write to the compact flash drive.
11. VFD drives shall be mounted internal to the control panel.

2.27 MICROPROCESSOR CONTROLS

- A. All control logic shall be handled by an industrial microprocessor logic controller accessible through a 7" high definition widescreen graphic operator interface which shall provide data entry and read-out capabilities. Controller shall provide demand controlled sequential pump start up, shutdown and alarm features through its pressure sensing, flow sensing and voltage sensing devices. Controller shall be

- provided with a built-in memory. All logic for system control, and timing shall be handled by the controller.
- B. Control software shall be parameter driven, fully documented, and allow user to easily change all operational parameters.
 - C. Conditions that shall be displayed on the controller's operator interface terminal (OIT):
 - 1. Suction Pressure
 - 2. Discharge pressure
 - 3. Current flow rate
 - 4. Total gallons pumped
 - 5. Each alarm on its occurrence, retained until reset.
 - 6. Each pump run time hours and tenths
 - 7. Selection of manual or automatic alternation sequence.
 - D. Panel face switches and LED lights:
 - 1. Individual pump run lights – Green
 - 2. General alarm light – Red
 - 3. Control power on light – White
 - 3. Individual pump Hand/Off/Automatic switches
 - 4. Alarm reset pushbutton
 - 5. Local-Off-Remote switch
 - E. All pumping system shutdowns shall be of the controlled type which sequence pumps off at user selectable intervals.
 - F. Graphic operator interface shall be mounted on the control panel door.
 - 1. This device shall allow the operator to view and modify each register in the PLC.
 - 2. The device shall allow for display and modification of all timer values, set points, lockout times, etc.
 - G. PLC shall be of the PAC Systems family as manufactured by General Electric (GE), and shall be capable of Ethernet interface to a variety of SCADA platforms, via 2 serial ports with F1/DH485/Modbus RTU/DNP3/ASCII protocol support and a built-in Ethernet port, which shall support Ethernet/IP peer-to-peer messaging.
 - H. OIT shall be a Maple Systems HMI5070NL color touch screen, or equal.

2.28 SCADA RTU INTERFACE

- A. Space shall be provided near the control enclosure for the mounting of the RTU.
- B. RTU shall be provided by the Pumping system manufacturer of this specification Section.
- C. Fabrication requirements in Section 407000 INSTRUMENTATION FOR PROCESS SYSTEMS.
- D. Panel status and alarms shall be integrated into the Plant's SCADA system by the Contractor to include new SCADA screen development and navigation button modifications to the existing screens.

- A. SCADA system's RTU shall be connected to the dedicated terminal strip within the controls enclosure. RTU shall be provided, installed, and connected to the terminal strip on site by the pump station manufacturer.
- B. Set of auxiliary analog signals including:
 - 1. Suction Pressure (AO)
 - 2. Discharge Pressure (AO)
 - 3. Flow Rate (AO)
- C. Set of auxiliary contacts including:
 - 1. Each Pump Running (DO)
 - 2. Each Pump Fault (DO)
 - 3. Low Inlet Pressure (DO)
 - 4. Low Discharge Pressure (DO)
 - 5. High Discharge Pressure (DO)
 - 6. Irregular Power (DO)
 - 7. Each Pressure Transmitter Signal Failure (DO)
 - 8. Flowmeter Signal Failure (DO)

2.11 QUALITY ASSURANCE

- A. Welders performing structural and pipe welds shall be certified to ASME section IX, and their certificates shall be on file with the manufacturer. Upon request by the Engineer or Owner, the certificates shall be made available for inspection.
- B. All employees welding structural members shall have certificates on file exhibiting conformance to ASME AWS D1.1 structural welding.

2.29 SPARE PARTS

- A. Spare parts shall be provided as listed below, wrapped to prevent premature oxidation, properly identified and boxed. Provide the following for each skid system.
 - 1. Qty (1) Seal kit with gaskets for each pump
 - 2. Qty (1) Set of control panel replacement fuses
 - 3. Qty (1) Set of pilot light replacement lamps
 - 4. Qty (1) Spare basket for strainer

PART 3 EXECUTION

3.01 GENERAL

- A. Provide all materials, equipment, and labor necessary to install, connect, and integrate each pumping system into the Plant-wide SCADA system.

3.02 SYSTEM FACTORY WITNESSED FLOW TEST

- A. The entire pumping system shall be flow tested across its entire range at the manufacturer's facility prior to shipment.
- B. Factory flow test rig shall include flowmeter and gauges that are NIST traceable. Test rig shall be able to supply power to the pumping system control panel to support the operation of all pumps.
- C. System shall be supplied with the established minimum suction pressure, and adequate flow for test of the pumps.
- D. All electrical controls and circuits shall be included in the system test, as shall their interface to the motors and the outputs to the SCADA system.
- E. System factory flow test results shall be provided in the form of an X-Y plot.
- F. Any failure in the flow test, either for any pump or for the system, shall be corrected by the manufacturer at his expense, and the test repeated until satisfactory results are obtained.
- G. Flow test shall be witnessed virtually, via the internet, using a portable web cam and link to computer screen displaying data that is recorded during test. Test shall be interactive between the tester and the witness, allowing questions, comments and responses to be communicated while the test is in progress. Advise engineer one week in advance of flow test to be witnessed virtually.

3.03 UNLOADING AND SETTING SUPERVISION

- A. Setting of the pumping system and connection to suction, discharge and power, anchoring of the pumping system, and thrust blocking of the suction and discharge piping that is connected to the pumping system shall be the responsibility of the Contractor.
- B. Lifting and transport equipment to off-load and set the pumping system onto the concrete pad shall be provided by the Contractor.
- C. All anchoring of skids and equipment, setting of piping and electrical connections shall be the responsibility of the Contractor and must be complete prior to startup.
- D. Refer to 011400 – Work Restrictions for information regarding the maintenance of plant operations.

3.04 START UP

- A. When discharge piping, electrical connections, and electrical inspection have been completed, the pumping system manufacturer shall be contacted for start up.
- B. A minimum one week notice shall be given to manufacturer prior to scheduled start up date.
- C. Field testing:
 - 1. During start up, the complete pumping system shall be inspected for proper installation, and shall be given a running test of normal start and stop, and fully loaded operating conditions.
 - 2. During this test, each pump shall demonstrate its ability to operate without undue vibration, or overheating and shall demonstrate its general fitness for service.
 - 3. All defects shall be corrected and adjustments made at the expense of the pumping system manufacturer.
 - 4. Test shall be repeated until satisfactory results are obtained.

- D. Start up assistance shall be limited to three (3) days, for each system.
- E. After the station startup has been completed, but before the technician leaves the job site, a training session shall be given to the owner and/or the owner's representative to familiarize them with the pumping system operation, maintenance and adjustments.

END OF SECTION

PART 1: GENERAL

1.01 DESCRIPTION

- A. All work and materials specified in this section shall be included in Alternate 2.
- B. To provide a single source responsibility for the manufacture, warranty, service and operation of a compressed air system.
- C. This specification covers minimum requirements; however, it should not be construed as all inclusive.
- D. It is the successful vendor's responsibility to include everything necessary to provide a complete, automatic, smooth operating, and reliable compressed air system.
- E. The manufacturer shall warrant all items supplied, whether of its manufacture or of its purchase, per the warranty requirements below:
 - 1. Pass through warranties, warranties provided by manufacturers of purchased equipment included in the compressor system, passed through to the owner, shall not be accepted.
 - 2. Compressed air system manufacturer shall have a history, covering at least five years, of providing warranties of a single source responsibility nature.
 - 3. On request, compressed air system manufacturer shall provide contact information for compressed air systems in which the manufacturer has provided this single source responsibility.
- F. Manufacturer shall coordinate the motor and controls enclosure ratings with coating ratings for a wet corrosive environment.
- G. Manufacturer shall be a US manufacturer, and system shall be manufactured in the USA. All imported compressed air systems or compressed air systems from foreign manufacturers shall be rejected.
- H. Control panels for the compressed air system specified herein shall be furnished and installed by the Contractor in accordance with the requirements of Section 407000. The designated control panel is described herein. Coordinate the work of this Section with the work of other Sections and the Electrical Trade to furnish a fully integrated compressed air system. The compressors and their control panel shall be supplied by a single source to ensure proper system integration and provide single source responsibility.
- I. Terminal connections, installation of junction boxes, local disconnect switches, connection to the MCC and SCADA RTU, and integration into the existing Plant-wide SCADA system shall be the work of the Contractor under this Section. All compressed air system power and control cables shall be brought to a junction box adjacent to the system location, and temporarily secured in place by the Contractor for final electrical terminations by his Electrical subcontractor and/or Integrator.
- J. Accessories furnished and installed as work of this Section include, but are not limited to, the following: spare parts and materials necessary for a complete installation. Mounting hardware and shim assemblies shall be furnished and installed by the Contractor.

- K. System components have been selected that will fit through the available doorways without requiring destructive modifications. Contractor to verify doorway access prior to submittal of equipment shop drawings.

1.02 RELATED SECTIONS

- A. Section 013100 - Project Management and Coordination
- B. Section 013300 – Submittal Procedures
- C. Section 014500 - Quality Requirements
- D. Section 016500 - Product Delivery, Storage and Handling
- E. Section 017900 – Demonstration and Training
- F. Section 017823 - Operating and Maintenance Data
- G. Section 407000 – Instrumentation for Process Systems

1.03 SUBMITTALS

- A. Provide copies of the submittal (per Section 013300) for approval, properly dated, sectioned, bound, titled, with a detailed table of contents, including no less than the following:
- B. Full set of mechanical drawings including equipment dimensioning, connection dimensions, anchor bolt location and typical installation, and equipment layout, all to scale
- C. Full electrical schematic, including three-line power schematic, control ladder logic, PLC and SCADA system interface, labeled as to identification and function so as to be easily understood.
- D. In order to assure that all welding will be accomplished according to ASME standards, submit copies of all fabricating employees' ASME Section IX pressure vessel certification and AWS D1.1 structural certification. Only those employees with said welding certificates submitted shall weld on the structural or piping portions of the system.
- E. Properly indicated compressor curves, whose total system pressure includes pressure system internal losses, manufacturer's name (other than pumping system manufacturer), compressor model number, and motor type, RPM and horsepower.
- F. Properly marked cut sheets for each major component of the compressed air system, both mechanical and electrical.
- G. Copies of UL and ETL authorizations for control panels, and for complete compressed air system.
- H. Manufacturer's current ISO9001:2008 certificate.
- I. Warranty Statement
- J. Spare Parts List

1.04 OPERATION & MAINTENANCE MANUALS

- A. Provide an electronic file (PDF File), suitable for inclusion into the Yonkers JWWTP Online O&M Manual.
- B. Operation and maintenance manual shall have been prepared for this specific project, based on the reviewed submittal, and shall not be a general manual applicable to many systems. Manufacturers' technical manuals shall be included for each piece of equipment that is field serviceable.

- C. Manuals shall include the approved submittal and shall be produced in the same format as the submittal, bound in a three-ring binder, with tabbed sections, including as built drawings and electrical schematics.
- D. Manufacturer's manuals shall be included after the submittal pages for each field serviceable device.
- E. Manufacturer's manuals shall include a comprehensive troubleshooting guide applicable to the specific system.
- F. Components that are serviceable through replacement only shall not have any manuals included. Such components shall include, but shall not necessarily be limited to:
 - 1. Flexible pipe couplings
 - 2. Relays
 - 3. Pressure transducers
 - 4. Pressure switches
 - 5. Control panel components

1.05 REFERENCES

- A. Compressed Air and Gas Institute (CAGI)
- B. American National Standards (ANSI)
- C. American Standards for Testing Materials (ASTM)
- D. Underwriter Laboratory (UL)
- E. American Society of Mechanical Engineers (ASME)

1.06 INDUSTRY CODES

- A. Compressed air system shall be UL listed as finally assembled.
- B. Control panel with controls shall be built in accordance to NEC, and UL and ETL standards.
 - 1. The electrical components and enclosure shall be labeled as a complete UL and ETL listed industrial control panel assembly.
 - 2. Manufacturer's UL and ETL labels shall be applied to the door.
- C. System shall be manufactured under the manufacturer's ISO9001:2015 quality assurance program.

1.07 CONTROLS REQUIREMENTS

- A. Manufacturer shall be authorized by Underwriters' Laboratories to label its manufactured control panels as UL Listed under category NITW/NITW7.
- B. Manufacturer shall conform to the latest edition of NFPA 70 in the manufacturing of its control panels.
- C. All powered components to make up this system are to be capable of remote monitoring by the Plant's SCADA system.
- D. Fabrication requirements provide in Section 407000 INSTRUMENTATION FOR PROCESS SYSTEMS.
- E. Panel status and alarms shall be integrated into the Plant's SCADA system by the Contractor to include new SCADA screen development and navigation button modifications to the existing screens.

1.08 WARRANTY

- A. Provide a Warranty Certificate from the manufacturer typed on company letterhead and signed by an authorized officer of the manufacturer. The certificate shall be witnessed by a notary public in the state in which the company headquarters is located.

- B. (Manufacturer) guarantees that the system to be free from defects in design, materials and workmanship for a period of two (2) years commencing on the date the system was permanently placed on – line and the equipment functions without flaw. During the guarantee period if any part or equipment component is defective or fails to perform when operating at design conditions and if the equipment has been installed and is being operated and maintained in accordance with the written instruction we provided then we shall repair or exchange such defective part(s). The cost of shipping to return defective part(s) and to deliver replacement part(s) shall be borne by the manufacturer.

- C. If the manufacturer fails to repair or exchange such defective part(s) within 30 calendar days “grace period” of receiving either notification of warranty repair/replacement by the owner or delivery of the defective part(s) to the manufacturer’s designated service center, if required then the guarantee period shall be extended by a period of time equal to the total period of time needed to satisfy the warranty repair or replacement delivered to the site, including the 30 day grace period. The extended guarantee period shall pertain to all of the manufacturers equipment placed “out of service” due to defective part/component. This provision will hold true regardless of the number of times covered equipment requires warranty repair during warranty period, original or extended.

PART 2 - PRODUCTS

2.01 FULLY AUTOMATIC SECONDARY COMPRESSED AIR SYSTEM

- A. The Secondary Compressed Air System shall be comprised of the following components:
 - 1. Two (2) Reciprocating Air Compressors
 - 2. Inline filters for pre- and post-Dryer installation
 - 3. Refrigerated Dryer
 - 4. Three (3) dry storage pressure vessels
 - 5. Two (2) wet storage pressure vessels
 - 6. Flow Controller
 - 7. Five (5) Robo Condensate Drains
 - 8. Oil / Water Separator

2.02 RECIPROCATING AIR COMPRESSOR

- A. COMPRESSOR UNIT: Champion Model PL70A, two stage, pressure lubricated, reciprocating air compressor equipped with air-cooled aftercooler, and tapered roller bearings for high load carrying capacity. Standard fluid fill is CHAMPLUB. Compressor shall be rated for 102.9cfm @ 125psi.

- B. MOTOR: 25HP, 230/460V, ODP, Class F insulation, 4 pole (1800 rpm), squirrel cage induction type. 40°C maximum (104°F) ambient temperature.
- C. STARTER: Full voltage starter with 24 Volt DC control circuit, power supply, start/stop Push buttons, e-stop, microprocessor control and three phase overload protection in a NEMA 4 enclosure.
- D. COUPLING: Motor connects directly to the compressor male rotor through a gear driven arrangement. Motor and compressor have a positive alignment through machined mating members.
- E. INLET AIR FILTER: Heavy-duty dry type with differential pressure indicator. 99.99% Efficient Per SAE J726C. Oversized for longer life. Element is easily replaced. 10 micron industrial grade intake air filter.
- F. AIR / FLUID HOUSING & SEPARATION SYSTEM: ASME pressure relief valve; exclusive fluid filler to prevent overfilling; fluid level sight glass; molded media, high efficiency, long life air / fluid separator; separator element; minimum pressure check valve; pneumatic blowdown valve.
- G. AIR COOLED AFTERCOOLER: Factory mounted, heavy duty, air-cooled aftercooler effectively reduces up to 65% of moisture from discharged compressed air.
- H. COOLING LUBRICATING SYSTEM: Fluid removes heat of compression from compressor unit and is circulated by air pressure differential (no auxiliary pump required) through air-cooled or water-cooled heat exchanger and filter. Equipment includes piped air-cooled after-cooled coolers with separate TEFC motor driven fan mounted for updraft discharge, moisture separator and electric drain. Full flow fluid filter, fluid thermal bypass valve. "O" ring seals are used on fluid connections. Maximum operating temperature of aircooled coolers is 40°C (104°F).
- I. FLUID FILTER: Full flow fluid filter with spin off bowl for ease of service. Filter has replaceable element with high performance fiberglass media with efficiency rating Beta 15 = 75 Per ISO 16889. Elements are coreless containing no metal for environmentally friendly disposal. External spin-on filter and an internal oil inlet screen protect internal components from debris.
- J. CONTROL: Capacity modulation range from 100 to 40 percent. Operating pressure can be set from 60 PSIG to operating pressure with pneumatic control. Inlet valve piston is controlled by a pressure regulator matching compressor output to system demand. Below 40 percent are demand will unload by use of solenoid valve and pneumatic blowdown valve, reducing receiver pressure and minimizing no load power consumption. Automatic start / stop of the compressor package via microprocessor control to match system demands.
- K. PROTECTIVE DEVICES: High discharge temperature shutdown, low and high sump pressure, motor overload; low water pressure switch on water-cooled machines, fan motor overload on air-cooled machines. ASME inter-stage pressure relief valve.
- L. MICROPROCESSOR: Air receiver and line pressure readouts, start / stop pushbuttons, power on light, machine running

- M. CONTROLLER: light, service required light, fault light with fault reason display, compressor discharge temperature readout, air/oil separator delta pressure, run hours, unload pressure, load delta pressure, unload minutes, condensate drain interval and on time, modulate disable, manual/automatic run selection, language selection, compressor sequencing.
- N. ENCLOSURE: Equipped with sound attenuating enclosure for low noise emission.
- O. All components are assembled and mounted as an integral package. Main motor and compressor are mounted on vibration isolators. Corrosion resistant control tubing and fittings are standard.

2.03 REFRIGERATED AIR DRYER

| | |
|--|---------------------------|
| Manufacturer | ZEKS |
| Part Number & Model | 100HSH (100 cfm) |
| Type of Cooling | Air Cooled |
| Number of Fans | 1 |
| Type of Refrigerant | R-134A |
| Refrigerant Compressor HP | 3/4 |
| Number of Heat Exchangers | 1 |
| Separator Type | Integrated |
| Drain Type | Timer |
| Noise Level | < 85 db |
| Max rated Air Flow in SCFM @ 100F inlet. | 100PSIG, and 100F ambient |
| Relative Humidity (%) | 100 |
| Max Ambient (°F/C) | 113/45 |
| Min Ambient Temp (°F/C) | 50/10 |
| Max Inlet Temp (°F/C) | 120/49 |
| Max Pressure (PSI) | 200 |
| Air Pressure Drop (PSIG) | 2.36 |
| Air Temperature at Dryer Outlet (°F) | 69-80 |
| Electrical Connection (Volts/Phase/Hz) | 115-1-60 |
| Operating kW | .98 |
| Min Circuit (Amp) | 15.44 |
| Control Type | Automatic |
| Electrical Protection Class | NEMA 1 |
| Drain Outlet connection (in) | 1/4" |
| Inlet/Outlet Connections (in) | 1" |

2.04 DRY STORAGE PRESSURE VESSEL

- A. Dry storage will be provided by three (3) steel pressure vessels. Pressure vessel shell, base, and top shall be manufactured from 10-gauge carbon steel.

1. Base shall include four tabs for bolting of the tank to an equipment pad.
- B. ASME vertical dry storage pressure vessels to be 400 gallon rated at 200 psi with drain kit and gauge
- C. Model A10056 by Samuel Pressure Vessels, Inc, or approved equal

2.05 WET STORAGE PRESSURE VESSEL

- A. Wet storage will be provided by two (2) steel pressure vessels. Pressure vessel shell, base, and top shall be manufactured from 10-gauge carbon steel. Base shall include four tabs for bolting of the tank to an equipment pad.
- B. ASME vertical wet storage pressure vessels to be 240 Gal rated at 200 psi with drain kit and gauge
- C. Model A10053 by Samuel Pressure Vessels, Inc, or approved equal

2.06 FLOW CONTROLLER

- A. Flow control shall be provided by Opti Flo Model OPTI-200-GRN-RL.
 1. Max inlet pressure 300 psig
 2. Max flow 200 scfm
 3. Temperature range -4 - 176 degrees F
 4. Control range 0-160 psig
 5. Sensitivity 0.2% of full span

2.07 BALL VALVES

- A. Isolation valves shall be provided as full port ball valves in sizes 1.5" and smaller.
- B. Valve shall be a two-piece bronze full port ball valve.
- D. Valve shall have adjustable packing, blow-out proof stem, RPTFE seats and stuffing box ring, hardened ball, and actuator mounting pad.
- E. Stem and gland shall be from B16 bronze.
- F. Ball shall be chrome plated, from B16 bronze.
- G. Retainer and body shall be from B584-C84400 bronze.
- H. Body seal shall be from PTFE.
- I. Quarter turn manual actuator shall be from zinc plated steel, with Vinyl cover.
- J. Valve shall be rated at 600 PSI CWP.
- K. Pump isolation valve shall be model 90700 as manufactured by Applied System Technologies or equal.

2.08 PRESSURE GAUGES

- A. Manifold mounted pressure gauges:
 1. Each gauge shall be filled to reduce wear due to vibration.
 2. Gauge accuracy shall be within 0.5%, and shall comply with ASME B40.1 Grade 2A.
 3. Gauge diameter shall be 3.5" minimum.

4. Gauge materials of construction:
 - a. Connection and bourdon tube shall be from 316 stainless steel.
 - b. Movement shall be from stainless steel with an internal stop at 1.3 times the gauge range.
 - c. Dial shall be from white aluminum with black lettering and a stop at the 6 o'clock position.
 - d. Pointer shall be adjustable from black aluminum.
 - e. Turret style case shall be from black glass reinforced thermoplastic (PBTP), and shall have built in rear flange lugs, with a solid front and blow-out back, rated at NEMA 4X.
 - f. Window shall be from acrylic.
 - g. Window gasket shall be from Buna-N.
 - h. Filling material shall be glycerin.
5. Range shall be selected so that operating pressure is in the mid-range of the gauge.
6. Gauge range shall in no case be less than 20% higher than the highest pressure attainable from the pumps at shutoff head conditions.
7. Gauge shall resist shocks to 100G.
8. Pressure gauge shall be model 233.34 as manufactured by Wika or equal.

2.09 ALTERNATING CONTROL PANEL

- A. Control enclosure shall be NEMA 4
- B. Control panel fabrication shall be in accordance with Section 407000 INSTRUMENTATION FOR PROCESS SYSTEMS
- C. Control panel shall be used to consolidate outputs from the air compressors and flow controller
- D. Terminal strip shall be included for connection to the system components and communication to the SCADA RTU
- E. Compressor Control I/O shall include:
 1. service required
 2. General fault
 3. Compressor discharge temperature
 4. air/oil separator delta pressure
 5. run hours
 6. unload pressure
 7. load delta pressure

8. unload minutes
 9. condensate drain interval
 10. compressor sequencing.
- F. Flow Controller I/O shall include:
1. Inlet pressure (PSI)
 2. Flow (SCFM)
 3. Temperature range (degrees F)

2.10 SCADA INTERFACE

- A. Space shall be provided near the control enclosure for the mounting of a SCADA RTU for ethernet communication to the Plant SCADA system.
- B. RTU shall be provided and installed by the control system manufacturer of this specification Section.
- C. Fabrication requirements provide in Section 407000 INSTRUMENTATION FOR PROCESS SYSTEMS.
- D. Panel I/O and alarms shall be integrated into the Plant's SCADA system by the Contractor to include new SCADA screen development and navigation button modifications to the existing screens.
- E. SCADA system's RTU shall be connected to the dedicated terminal strip within the controls enclosure. RTU shall be connected to the terminal strip of the compressed air system control panel.
- F. Set of auxiliary analog signals and auxiliary contacts shall be sufficient for the I/O listed in paragraph 2.07 above.

2.11 CIRCUIT BREAKER MAIN DISCONNECT

- A. A circuit breaker main disconnect shall be provided for each compressor to isolate all controls and motor starting equipment from incoming power.
- B. UL/CSA short-circuit interrupting capacity rating of the circuit breaker shall be not less than 25,000 amps.
- C. Main disconnect shall have a through the door operator, and shall be sized in accordance with current NFPA 70 and UL requirements.
- D. Disconnect shall be as manufactured by Eaton or Schneider Electric.
- E. Disconnect's short circuit rating shall not be less than 25,000 amps.

PART 3 EXECUTION

3.01 GENERAL

- A. Provide all materials, equipment, and labor necessary to install and connect the compressed air system.

3.02 UNLOADING AND SETTING

- A. Setting of the compressed air system components and connection to piping and supports shall be the responsibility of the Contractor.
- B. Rigging equipment to off-load and set the compressed air system components onto the concrete slab shall be provided by the Contractor.
- C. All anchoring of equipment, setting of piping and electrical connections shall be the responsibility of the Contractor and must be complete prior to startup.
- D. Refer to 011400 – Work Restrictions for information regarding the maintenance of plant operations.

3.03 START UP

- A. When pressure piping, electrical connections, and electrical inspection have been completed, the compressed air system manufacturer shall be contacted for start up.
- B. A minimum one week notice shall be given to manufacturer prior to scheduled start up date.
- C. Field testing:
 - 1. During start up, the complete compressed air system shall be inspected for proper installation, and shall be given a running test of normal start and stop, and fully loaded operating conditions.
 - 2. During this test, each compressor shall demonstrate its ability to operate without undue vibration, or overheating and shall demonstrate its general fitness for service.
 - 3. All defects shall be corrected and adjustments made at the expense of the compressed air system manufacturer.
 - 4. Test shall be repeated until satisfactory results are obtained.
- D. Start up assistance shall be limited to three (3) days.
- E. After the system startup has been completed, but before the technician leaves the job site, a training session shall be given to the owner and/or the owner's representative to familiarize them with the compressed air system operation, maintenance and adjustments.

END OF SECTION

PART 1 GENERAL

1.1 GENERAL

- A. Applicable provisions of the Information for Bidders, General and Special Clauses, General Requirements, govern the work of this section.

1.2 WORK INCLUDED

- A. The work under this Division shall consist of all labor, materials, equipment and services necessary and required to complete all electrical as shown on the Drawings, as described in the specifications, or as inferable from the Drawings and Specifications. Where the words provide or install are used singularly or in combination, it shall mean to furnish and install complete for fully functioning and operational systems. The work shall include but not necessarily be limited to the following:
 - 1. Motor control center retrofill buckets.
 - 2. Building feeders in accordance with the drawing.
 - 3. Conduit, wiring, outlet boxes, switches, convenience receptacles, etc. for lighting, branches, and relays.
 - 4. Motor disconnect switches as required by Code as shown.
 - 5. Setting controllers or control panels furnished by other trades.
 - 6. Temporary light and power.
 - 7. Setting of all sleeves, hanger supports and the like.
 - 8. Cutting and patching for installation of electric work.
 - 9. Testing, adjustments and instructions.
 - 10. Provide shop drawings for all work.

1.3 WORK NOT INCLUDED

- A. The following related items will be covered in other sections of these specifications:
 - 1. Furnishing motors and controllers. (Only controllers shipped in manufactured control panels).

1.4 CODES AND STANDARDS

- A. All materials furnished and all work installed shall comply, where applicable, with the requirements of the current New York State Building Code, Local Codes and the 2020 National Electrical Code. Whenever reference is made of "National Electrical Code" or "NEC," it shall mean the 2020 National Electrical Code.
- B. Material and work shall comply with other Codes and Standards as may be specified or referenced.
- C. Where applicable or specified herein, all material and devices furnished shall meet requirements of Underwriters' laboratories' Inc., shall be U.L. listed and where further applicable, shall bear the U.L. listing mark.

1.5 POWER SHUTDOWN

- A. The Contractor may be permitted power shutdowns during normal working hours of 7 a.m. to 3 p.m. Tuesday through Thursday only. Arrange for connections to existing systems as directed by the Engineer and Owner.
- B. Schedule and coordinate shutdowns a minimum of two weeks in advance with the Engineer and Owner. Pay for all diesel fuel for all shutdowns.

- C. Include the cost of performing work during other than normal work hours at overtime or premium wage rates in the bid price. The Contractor will not receive any separate or additional payment for work during other than normal working hours above lump sum bid work included under this Contract.

1.6 FINAL TEST AND INSPECTION

- A. Demonstrate to the satisfaction of the Engineer that all the electrical systems, equipment and devices operate as specified.
- B. All existing systems shall first be tested by owner to insure total system functioning. The contractor shall adapt, connect to, or modify systems as required.
- C. Provide fire underwriters certificate of inspection.

1.7 CUTTING AND PATCHING

- A. Provide all necessary cutting of the walls, floors, ceilings, etc. for installation of conduit, outlet boxes, etc. Cutting shall be kept to a minimum, all areas shall be spray painted for approval prior to any cutting.
- B. All finished patching and painting to be by this Contractor. The Electrical Contractor shall completely fill all openings left by the removal of conduit, equipment, etc., with regard to floor openings, plywood shall be attached to the underside of the slab to facilitate the filling of the opening completely.

1.8 FIREPROOFING

- A. All openings through fire proof barriers shall be fully resealed to maintain the fire rating with 3M CP25WB caulking or approved equal.
- B. Fire rated barrier and non-flammable supports for floor openings to be KBS Sealbags or equal.

1.9 HEAT SCAN

- A. Upon completion of all work under the contract, the Contractor shall perform a heat scan survey of all his work.
- B. Scan shall be performed while the facility is under full operation, and equipment at full load.
- C. Equipment shall be capable of taking pictures of all areas, especially problem locations.
- D. Results shall be neatly assembled and labeled in three (3) binders for the Owner after the Engineer's approval.

1.10 PERFORMANCE REQUIREMENTS

- A. The electrical contractor shall verify that all terminations on contract equipment is proper. Testing for phase rotation, continuity and full operation of the equipment shall be performed.

- B. The electrical contractor shall render full assistance to all trades for control wiring sequence and unit operation testing.

1.11 WALL PENETRATIONS

- A. All wall penetrations for conduit shall be sealed with non-shrink grout or modular seal as manufactured by Link Seal, or equal.

1.12 TORQUE REQUIREMENTS

- A. All equipment and cable connections shall be tightened to the torque values determined by the manufacturer.
- B. Assemble all information after the work is complete in a binder for the owner.

1.13 WORKMANSHIP

- A. Perform all operations necessary for the proper installation and operation of all systems.
- B. All work performed shall be first class work in every respect. The work shall be performed by mechanics skilled in their respective trades, who shall at all times be under the supervision of competent persons.
- C. Work that is slipshod, poorly laid out, not perfectly aligned, or that is not consistent with the requirements generally accepted in the trade for “first class work” will not be acceptable.
- D. In addition to the materials specified elsewhere, all other miscellaneous items be necessary for the completion of the work shall be furnished and installed by the Contractor to the extent that all system be complete and operative.
- E. Electrical Contractor shall submit references for the foreman to run the project. Electrical Foreman shall have a minimum of five (5) years experience as a working foreman.

1.14 REGULATIONS AND CERTIFICATES

- A. All work required by the Drawings and Specifications shall be installed to comply with all applicable building laws, regulations and ordinances of the State of New York, and local laws and regulations as may apply, except where these requirements are exceeded by the Drawings and Specifications in quality or quantity.
- B. Any and all changes in the arrangement of the work, either before or after installation, to suit conditions in the building or the work of other trades, and any and all changes required by agencies having jurisdiction shall be made without extra charge, unless the charges are in consequence of changes made by the Owner.

1.15 OPENINGS

- A. The admittance into the building of all equipment and materials furnished under this Contract shall be through finished openings.

1.16 EXPEDITING THE WORK

- A. Take all measurements at the job, verify all figured dimensions indicated on the construction drawings, familiarize himself to assure complete knowledge of code requirements and coordinate the work with other trades so as to cause no delay in the work and to eliminate wherever possible future cutting and patching. Any discrepancies or interference shall be reported immediately to the Owner.

1.17 PROTECTION OF THE WORK

- A. Provide temporary covering and do all work required to protect work, materials, machinery and equipment from all damage from moisture.
- B. After the work is completed, the Contractor shall clean all equipment and piping.

1.18 GUARANTEE

- A. The Contractor shall guarantee clean power throughout the new systems.
- B. The Contractor shall guarantee that the capacity of all new equipment installed meets Specification requirements.
- C. The Contractor shall guarantee that all new systems will operate without excessive noise and vibration.
- D. The Contractor shall obtain from the various manufacturers or vendors standard guarantees or warranties for their particular equipment or components for a period of at least one year, and deliver them to the Owner.

1.19 EQUIPMENT GROUNDING

- A. All equipment, panels and devices (except motors) which require electrical connections shall be furnished with a factory-welded (prior to finish painting) ground lug in a concealed and accessible location.

1.20 FINAL INSPECTION

- A. Conduct a final inspection of all work installed under each Section of the Specification after the installation have been completed; the testing hereinafter specified has been performed; and test reports have been submitted.
- B. During the conduct of the final inspection, have present a representative of the various manufacturers and a representative of the manufacturers of other pertinent equipment as direct by the Owner.
- C. Include in base bid a testing period of two (2) working days wherein all aspects of the electrical systems specified herein will be tested in accordance with detailed test procedures which will be issued by the Owner at a later date. Provide sufficient technical personnel and instruments to perform the tests as directed by the Owner. Personnel for each working day shall include one mechanic, one helper, manufacturer's representative as required, plus GC and HVAC supervisory personnel. The testing period specified herein is in addition to all other testing or instruction periods included in the specifications.

- D. Demonstrate, to the satisfaction of the Owner, that the systems installed meet Specification requirements and that the capacities and performances of the equipment meets schedule requirements. Make all changes, modifications and adjustments to the installed systems, as directed by the Owner, to meet Specifications requirements, at no additional cost to the Owner.

1.21 ALTERATION AND REMOVAL OF EXISTING WORK

- A. The Contractor shall refer to the Contract Documents, for specific requirements relative to the existing facilities and the Sequence of work.
- B. All existing systems shall be maintained in operation during the construction period as directed by the Owner. Existing systems shall not be shut down nor shall connections be made thereto without prior approval of the Owner.
- C. The Contractor shall relocate all existing conduit hangers and supports, as required to accommodate the new installation at no additional costs to the Owner. This includes all work in spaces where new work is specified under this Contract.
- D. Unless otherwise specified or indicated on the Drawings, all equipment, piping, appurtenances, etc. are indicated to be removed from the site when directed by the Owner.

1.22 SHOP DRAWINGS

- A. The Contractor shall submit copies of manufacturer's shop drawings and descriptive literature together with the manufacturer's installation, operating and maintenance instructions, for all equipment to be incorporated in the work including all required wiring diagrams and shall obtain approval before proceeding with the installation.
- B. The Contractor shall submit copies of shop drawings at ¼ inch scale or larger showing all conduit mains, including connections to equipment, and all equipment layouts and shall obtain approval before proceeding with the work. Shop drawings shall be accurately dimensioned so that conduit clears all structural members and other work incorporated in the project. The Contractor shall take all shop drawing measurements at the building.
- C. Acceptance of shop drawings does not absolve the Contractor to provide specified materials and function in the intended manner.
- D. CONDUIT LAYOUT SUBMITTAL: Provide submittals for all interior and exterior conduit layout. Submittals shall be 11x17 or 24x36, scaled drawings indicating conduit routing, elevations, quantity and type of conduits, quantity and type of wires, and conduit source and destination. All pull and junction boxes shall also be noted on the drawings. Conduits shall be tagged/labeled on the drawings and likewise labeled during installation.

1.23 SHOP DRAWING SUBMISSION

- A. All shop drawings submitted shall be in the quantity specified in Section 013300, and identified by transmittal.

- B. The transmittal shall have all appropriate information including, project name, date, specification section, submission number, and item description. It is recommended that the attached transmittal form be used to expedient turn over.
- C. If this format is not followed, the Engineer reserves the right to reject any submission.
- D. Facsimiles will not be accepted for shop drawings.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Copper building wire rated 600 V or less.
 - 2. Connectors, splices, and terminations rated 600 V and less.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Product Schedule: Indicate type, use, location, and termination locations.

1.3 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

PART 2 - PRODUCTS

2.1 COPPER BUILDING WIRE

- A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Alpha Wire Company.
 - 2. Belden Inc.
 - 3. Encore Wire Corporation.
 - 4. General Cable Technologies Corporation.
 - 5. Southwire Company.
- C. Standards:
 - 1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
 - 2. RoHS compliant.
 - 3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."
- D. Conductors: Copper, complying with ASTM B 3 for bare annealed copper and with ASTM B 8 for stranded conductors.
- E. Conductor Insulation:

1. Type XHHW-2: Comply with UL 44.

2.2 CONNECTORS AND SPLICES

- A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. 3M Electrical Products.
 2. Hubbell Power Systems, Inc.
 3. ILSCO.
 4. NSi Industries LLC.
 5. O-Z/Gedney; a brand of Emerson Industrial Automation.
 6. Thomas & Betts Corporation; A Member of the ABB Group.
- C. Jacketed Cable Connectors: For steel and aluminum jacketed cables, zinc die-cast with set screws, designed to connect conductors specified in this Section.
- D. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.
 1. Material: Copper.
 2. Type: One hole with standard barrels.
 3. Termination: Compression.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

- A. Feeders: Copper; solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- B. Feeders: Copper for feeders smaller than No. 4 AWG; copper for feeders No. 4 AWG and larger. Conductors shall be solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- C. Branch Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.
- D. Branch Circuits: Copper. Solid for No. 12 AWG and smaller; stranded for No. 10 AWG and larger.
- E. Power-Limited Fire Alarm and Control: Solid for No. 12 AWG and smaller.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

- A. Service Entrance: Type XHHW-2, single conductors in raceway.
- B. Exposed Feeders: Type XHHW-2, single conductors in raceway.

- C. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Type XHHW-2, single conductors in raceway.
- D. Exposed Branch Circuits, Including in Crawlspace: Type XHHW-2, single conductors in raceway.
- E. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Type XHHW-2, single conductors in raceway.
- F. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and Underground: Type XHHW-2, single conductors in raceway.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

- A. Conceal cables in finished walls, ceilings, and floors unless otherwise indicated.
- B. Complete raceway installation between conductor and cable termination points according to Section 260533 "Raceways and Boxes for Electrical Systems" prior to pulling conductors and cables.
- C. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.
- D. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.
- E. Install exposed cables parallel and perpendicular to surfaces of exposed structural members, and follow surface contours where possible.
- F. Support cables according to Section 260529 "Hangers and Supports for Electrical Systems."

3.4 CONNECTIONS

- A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.
- B. Make splices, terminations, and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.
 - 1. Use oxide inhibitor in each splice, termination, and tap for aluminum conductors.
- C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches (150 mm) of slack.

3.5 IDENTIFICATION

- A. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."

- B. Identify each spare conductor at each end with identity number and location of other end of conductor, and identify as spare conductor.

3.6 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies. Comply with requirements in Section 260500 – General Electrical Requirements.

3.7 FIRESTOPPING

- A. Apply firestopping to electrical penetrations of fire-rated floor and wall assemblies to restore original fire-resistance rating of assembly according to Section 260500 – General Electrical Requirements.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Steel slotted support systems.
2. Conduit and cable support devices.
3. Support for conductors in vertical conduit.
4. Structural steel for fabricated supports and restraints.
5. Mounting, anchoring, and attachment components, including powder-actuated fasteners, mechanical expansion anchors, concrete inserts, clamps, through bolts, toggle bolts, and hanger rods.
6. Fabricated metal equipment support assemblies.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For fabrication and installation details for electrical hangers and support systems.

1. Hangers. Include product data for components.
2. Slotted support systems.
3. Equipment supports.
4. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.

1.3 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plan(s) and other details, drawn to scale, and coordinated with each other, using input from installers of the items involved.

B. Seismic Qualification Data: Certificates, for hangers and supports for electrical equipment and systems, accessories, and components, from manufacturer.

C. Welding certificates.

1.4 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M .

B. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M.
2. AWS D1.2/D1.2M.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014500 "Quality Control," to design hanger and support system.
- B. Seismic Performance: Hangers and supports shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 - 1. The term "withstand" means "the supported equipment and systems will remain in place without separation of any parts when subjected to the seismic forces specified and the supported equipment and systems will be fully operational after the seismic event."
 - 2. Component Importance Factor: 1.5.
- C. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame Rating: Class 1.
 - 2. Self-extinguishing according to ASTM D 635.

2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

- A. Steel Slotted Support Systems: Preformed steel channels and angles with minimum 13/32-inch- (10-mm-) diameter holes at a maximum of 8 inches (200 mm) o.c. in at least one surface.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. B-line, an Eaton business.
 - b. ERICO International Corporation.
 - c. Flex-Strut Inc.
 - d. Thomas & Betts Corporation; A Member of the ABB Group.
 - e. Unistrut; Part of Atkore International.
 - 2. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
 - 3. Material for Channel, Fittings, and Accessories: Stainless steel, Type 304 .
 - 4. Channel Width: Selected for applicable load criteria.
 - 5. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
 - 6. Nonmetallic Coatings: Manufacturer's standard PVC, polyurethane, or polyester coating applied according to MFMA-4.
 - 7. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Conduit and Cable Support Devices: Stainless Steel hangers, clamps, and associated fittings, designed for types and sizes of raceway or cable to be supported.
- C. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for nonarmored electrical conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be made of malleable iron.

- D. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M steel plates, shapes, and bars; black and galvanized.
- E. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:
 - 1. Mechanical-Expansion Anchors: Insert-wedge-type, stainless steel, for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) B-line, an Eaton business.
 - 2) Empire Tool and Manufacturing Co., Inc.
 - 3) Hilti, Inc.
 - 2. Concrete Inserts: Stainless Steel slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.
 - 3. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
 - 4. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
 - 5. Toggle Bolts: Stainless-steel springhead type.
 - 6. Hanger Rods: Threaded steel.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Comply with the following standards for application and installation requirements of hangers and supports, except where requirements on Drawings or in this Section are stricter:
 - 1. NECA 1.
 - 2. NECA 101
 - 3. NECA 102.
 - 4. NECA 105.
 - 5. NECA 111.
- B. Comply with requirements for raceways and boxes specified in Section 260533 "Raceways and Boxes for Electrical Systems."
- C. Maximum Support Spacing and Minimum Hanger Rod Size for Raceways: Space supports for RMC as required by NFPA 70. Minimum rod size shall be 1/4 inch (6 mm) in diameter.
- D. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.
 - 1. Secure raceways and cables to these supports with two-bolt conduit clamps.

- E. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch (38-mm) and smaller raceways serving branch circuits and communication systems above suspended ceilings, and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except as specified in this article.
- B. Raceway Support Methods: In addition to methods described in NECA 1, RMC may be supported by openings through structure members, according to NFPA 70.
- C. Strength of Support Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb (90 kg).
- D. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten electrical items and their supports to building structural elements by the following methods unless otherwise indicated by code:
 - 1. To New Concrete: Bolt to concrete inserts.
 - 2. To Masonry: Approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
 - 3. To Existing Concrete: Expansion anchor fasteners.
 - 4. To Steel: Welded threaded studs complying with AWS D1.1/D1.1M, with lock washers and nuts.
 - 5. To Light Steel: Sheet metal screws.
 - 6. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that comply with seismic-restraint strength and anchorage requirements.
- E. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

- A. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor electrical materials and equipment.
- B. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 INSTALLATION SCHEDULE

- A. All hangers and supports shall be Type 304 stainless steel or PVC coated, galvanized steel.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal conduits and fittings.
 - 2. Metal wireways and auxiliary gutters.
 - 3. Surface raceways.
 - 4. Boxes, enclosures, and cabinets.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For custom enclosures and cabinets. Include plans, elevations, sections, and attachment details.

1.3 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Conduit routing plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of items involved:
 - 1. Structural members in paths of conduit groups with common supports.
 - 2. HVAC and plumbing items and architectural features in paths of conduit groups with common supports.
- B. Seismic Qualification Data: Certificates, for enclosures, cabinets, and conduit racks and their mounting provisions, including those for internal components, from manufacturer.

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

- A. Metal Conduit:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AFC Cable Systems; a part of Atkore International.
 - b. Allied Tube & Conduit; a part of Atkore International.
 - c. Electri-Flex Company.
 - d. FSR Inc.
 - e. O-Z/Gedney; a brand of Emerson Industrial Automation.

2. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 3. GRC: Comply with ANSI C80.1 and UL 6.
 4. PVC-Coated Steel Conduit: PVC-coated rigid steel conduit.
 - a. Comply with NEMA RN 1.
 - b. Coating Thickness: 0.040 inch (1 mm), minimum.
 5. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.
- B. Metal Fittings: Comply with NEMA FB 1 and UL 514B.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. AFC Cable Systems; a part of Atkore International.
 - b. Allied Tube & Conduit; a part of Atkore International.
 - c. Electri-Flex Company.
 - d. FSR Inc.
 - e. O-Z/Gedney; a brand of Emerson Industrial Automation.
 2. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
 3. Fittings, General: Listed and labeled for type of conduit, location, and use.
 4. Conduit Fittings for Hazardous (Classified) Locations: Comply with UL 1203 and NFPA 70.
 5. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.
 6. Coating for Fittings for PVC-Coated Conduit: Minimum thickness of 0.040 inch (1 mm), with overlapping sleeves protecting threaded joints.
- C. Joint Compound for GRC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 METAL WIREWAYS AND AUXILIARY GUTTERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. B-line, an Eaton business.
 2. Hoffman; a brand of Pentair Equipment Protection.
 3. MonoSystems, Inc.
 4. Square D.
- B. Description: Sheet metal, complying with UL 870 and NEMA 250, Type 3R unless otherwise indicated, and sized according to NFPA 70.
1. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

- C. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

2.3 BOXES, ENCLOSURES, AND CABINETS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Adalet.
 - 2. Hoffman; a brand of Pentair Equipment Protection.
 - 3. Hubbell Incorporated.
 - 4. Thomas & Betts Corporation; A Member of the ABB Group.
 - 5. Wiremold / Legrand.General
- B. General Requirements for for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations
- C. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.
- D. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- E. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
- F. Device Box Dimensions: 4 inches square by 2-1/8 inches deep (100 mm square by 60 mm deep).
- G. Hazardous areas: NEMA OS 7.
- H. Gangable boxes are allowed.
- I. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 4X with continuous-hinge cover with flush latch unless otherwise indicated.
 - 1. Metal Enclosures: Stainless Steel, finished inside and out with manufacturer's standard enamel.
 - 2. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

- A. Indoors: Apply raceway products as specified below unless otherwise indicated.
 - 1. Exposed, Not Subject to Physical Damage: GRC.
 - 2. Exposed, Not Subject to Severe Physical Damage: GRC.
 - 3. Exposed and Subject to Severe Physical Damage: GRC. Raceway locations include the following:

- a. Mechanical rooms.
 4. Concealed in Ceilings and Interior Walls and Partitions: RNC, Type EPC-40-PVC.
 5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
 6. Damp or Wet Locations: GRC.
 7. Wet, corrosive, hazardous Locations: PVC coated GRC.
 8. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in institutional and commercial kitchens and damp or wet locations. NEMA 7 is hazardous locations.
- B. Minimum Raceway Size: 3/4-inch (21-mm) trade size.
- C. Raceway Fittings: Compatible with raceways and suitable for use and location.
 1. Rigid Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
 2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
 3. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.
- D. Install surface raceways only where indicated on Drawings.

3.2 INSTALLATION

- A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.
- B. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.
- D. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction.
- E. Support conduit within 12 inches ((300 mm)) of enclosures to which attached.
- F. Threaded Conduit Joints, Exposed to Wet, Damp, or Corrosive: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- G. Coat field-cut threads on PVC-coated raceway with a corrosion-preventing conductive compound prior to assembly.

- H. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.
- I. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch (35-mm) trade size and insulated throat metal bushings on 1-1/2-inch (41-mm) trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.
- J. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.
- K. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces.
- L. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:
 - 1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
 - 2. Where otherwise required by NFPA 70.
- M. Expansion-Joint Fittings:
 - 1. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:
 - 2. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per degree F (0.06 mm per meter of length of straight run per degree C) of temperature change for PVC conduits.
 - 3. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
 - 4. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.
- N. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.
- O. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.
- P. Locate boxes so that cover or plate will not span different building finishes.
- Q. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.
- R. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

3.3 PROTECTION

- A. Protect coatings, finishes, and cabinets from damage and deterioration.
 - 1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
 - 2. Repair damage to PVC coatings or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Color and legend requirements for raceways, conductors, and warning labels and signs.
 - 2. Labels.
 - 3. Bands and tubes.
 - 4. Tapes and stencils.
 - 5. Cable ties.
 - 6. Paint for identification.
 - 7. Fasteners for labels and signs.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of label and sign to illustrate composition, size, colors, lettering style, mounting provisions, and graphic features of identification products.
- C. Delegated-Design Submittal: For arc-flash hazard study.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with ASME A13.1
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.
- F. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 COLOR AND LEGEND REQUIREMENTS

- A. Raceways and Cables Carrying Circuits at 600 V or Less:
1. Black letters on an orange field.
 2. Legend: Indicate voltage and system or service type.
- B. Color-Coding for Phase- and Voltage-Level Identification, 600 V or Less: Use colors listed below for ungrounded feeder and branch-circuit conductors.
1. Color shall be factory applied or field applied for sizes larger than No. 8 AWG if authorities having jurisdiction permit.
 2. Colors for 208/120-V Circuits:
 - a. Phase A: Black.
 - b. Phase B: Red.
 - c. Phase C: Blue.
 3. Colors for 480/277-V Circuits:
 - a. Phase A: Brown.
 - b. Phase B: Orange.
 - c. Phase C: Yellow.
 4. Color for Neutral: White.
 5. Color for Equipment Grounds: Green.
- C. Warning Label Colors:
1. Identify system voltage with black letters on an orange background.
- D. Warning labels and signs shall include, but are not limited to, the following legends:
1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES (915 MM)."
- E. Equipment Identification Labels:
1. Black letters on a white field.

2.3 LABELS

- A. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Brady Corporation.
 - b. Champion America.
 - c. emedco.
- B. Snap-around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameters sized to suit diameter and that stay in place by gripping action.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. HellermannTyton.
 - c. Marking Services, Inc.
- C. Self-Adhesive Wraparound Labels: Preprinted, 3-mil- (0.08-mm-) thick, vinyl flexible label with acrylic pressure-sensitive adhesive.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. A'n D Cable Products.
 - b. Brady Corporation.
 - c. Brother International Corporation.
 2. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating, protective shield over the legend. Labels sized such that the clear shield overlaps the entire printed legend.
 3. Marker for Labels: Permanent, waterproof, black ink marker recommended by tag manufacturer.
 4. Marker for Labels: Machine-printed, permanent, waterproof, black ink recommended by printer manufacturer.
- D. Self-Adhesive Labels: Vinyl, thermal, transfer-printed, 3-mil- (0.08-mm-) thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. A'n D Cable Products.
 - b. Brady Corporation.
 - c. Brother International Corporation.
 2. Minimum Nominal Size:
 - a. 1-1/2 by 6 inches (37 by 150 mm)for raceway and conductors.
 - b. 3-1/2 by 5 inches (76 by 127 mm)for equipment.
 - c. As required by authorities having jurisdiction.

2.4 BANDS AND TUBES

- A. Snap-around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeves, 2 inches (50 mm) long, with diameters sized to suit diameter and that stay in place by gripping action.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. HellermannTyton.
 - c. Marking Services, Inc.
- B. Heat-Shrink Preprinted Tubes: Flame-retardant polyolefin tubes with machine-printed identification labels, sized to suit diameters of and shrunk to fit firmly around item being identified. Full shrink recovery occurs at a maximum of 200 deg F (93 deg C). Comply with UL 224.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. Panduit Corp.

2.5 TAPES AND STENCILS

- A. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Carlton Industries, LP.
 - b. Champion America.
 - c. HellermannTyton.
- B. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide; compounded for outdoor use.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Brady Corporation.
 - b. Carlton Industries, LP.
 - c. emedco.

2.6 CABLE TIES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. HellermannTyton.

2. Ideal Industries, Inc.
3. Marking Services, Inc.

- B. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.
1. Minimum Width: 3/16 inch (5 mm).
 2. Tensile Strength at 73 Deg F (23 Deg C) according to ASTM D 638: 12,000 psi (82.7 MPa).
 3. Temperature Range: Minus 40 to plus 185 deg F (Minus 40 to plus 85 deg C).
 4. Color: Black, except where used for color-coding.

2.7 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.
- B. Verify identity of each item before installing identification products.
- C. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.
- D. Apply identification devices to surfaces that require finish after completing finish work.
- E. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.
- F. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.
- G. System Identification for Raceways and Cables under 600 V: Identification shall completely encircle cable or conduit. Place identification of two-color markings in contact, side by side.
1. Secure tight to surface of conductor, cable, or raceway.

- H. System Identification for Raceways and Cables over 600 V: Identification shall completely encircle cable or conduit. Place adjacent identification of two-color markings in contact, side by side.
 - 1. Secure tight to surface of conductor, cable, or raceway.
- I. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
- J. Elevated Components: Increase sizes of labels, signs, and letters to those appropriate for viewing from the floor.
- K. Accessible Fittings for Raceways: Identify the covers of each junction and pull box of the following systems with the wiring system legend and system voltage. System legends shall be as follows:
 - 1. "EMERGENCY POWER."
 - 2. "POWER."
 - 3. "UPS."
- L. Vinyl Wraparound Labels:
 - 1. Secure tight to surface at a location with high visibility and accessibility.
 - 2. Attach labels that are not self-adhesive type with clear vinyl tape, with adhesive appropriate to the location and substrate.
- M. Snap-around Labels: Secure tight to surface at a location with high visibility and accessibility.
- N. Self-Adhesive Wraparound Labels: Secure tight to surface of raceway or cable at a location with high visibility and accessibility.
- O. Self-Adhesive Labels:
 - 1. On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual.
 - 2. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on 1-1/2-inch- (38-mm-) high label; where two lines of text are required, use labels 2 inches (50 mm) high.
- P. Snap-around Color-Coding Bands: Secure tight to surface at a location with high visibility and accessibility.
- Q. Heat-Shrink, Preprinted Tubes: Secure tight to surface at a location with high visibility and accessibility.
- R. Self-Adhesive Vinyl Tape: Secure tight to surface at a location with high visibility and accessibility.
 - 1. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding.
- S. Tape and Stencil: Comply with requirements in painting Sections for surface preparation and paint application.

T. Baked-Enamel Signs:

1. Attach signs that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
2. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on minimum 1-1/2-inch- (38-mm-) high sign; where two lines of text are required, use signs minimum 2 inches (50 mm) high.

U. Metal-Backed Butyrate Signs:

1. Attach signs that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
2. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on minimum 1-1/2-inch- (38-mm-) high sign; where two lines of text are required, use signs minimum 2 inches (50 mm) high.

V. Cable Ties: General purpose, for attaching tags, except as listed below:

1. Outdoors: UV-stabilized nylon.
2. In Spaces Handling Environmental Air: Plenum rated.

3.2 IDENTIFICATION SCHEDULE

A. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment. Install access doors or panels to provide view of identifying devices.

B. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, pull points, and locations of high visibility. Identify by system and circuit designation.

C. Accessible Raceways and Metal-Clad Cables, 600 V or Less, for Service, Feeder, and Branch Circuits, More Than 30 A and 120 V to Ground: Identify with self-adhesive labels.

1. Locate identification at changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas.

D. Accessible Fittings for Raceways and Cables within Buildings: Identify the covers of each junction and pull box of the following systems with self-adhesive labels containing the wiring system legend and system voltage. System legends shall be as follows:

1. "EMERGENCY POWER."
2. "POWER."
3. "UPS."

E. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use self-adhesive wraparound labels to identify the phase.

1. Locate identification at changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas.

- F. Control-Circuit Conductor Identification: For conductors and cables in pull and junction boxes, manholes, and handholes, use self-adhesive wraparound labels with the conductor or cable designation, origin, and destination.
- G. Control-Circuit Conductor Termination Identification: For identification at terminations, provide self-adhesive wraparound labels with the conductor designation.
- H. Auxiliary Electrical Systems Conductor Identification: Self-adhesive vinyl tape that is uniform and consistent with system used by manufacturer for factory-installed connections.
 - 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
- I. Instructional Signs: Self-adhesive labels, including the color code for grounded and ungrounded conductors.
- J. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power: Self-adhesive equipment labels.
 - 1. Apply to exterior of door, cover, or other access.
 - 2. For equipment with multiple power or control sources, apply to door or cover of equipment, including, but not limited to, the following:
 - a. Controls with external control power connections.
- K. Equipment Identification Labels:
 - 1. Indoor Equipment: Baked-enamel signs.

END OF SECTION

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Provide retrofill motor control center buckets furnished and installed as shown on the Contract Drawings. Retrofill buckets shall be new. Refurbished or remanufactured buckets are not acceptable.

1.02 RELATED SECTIONS

- A. Section 260500 – General Electrical Requirements

1.03 REFERENCES

- A. Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified.
 - 1. NFPA 70 – National Electrical Code
 - 2. UL 198C – High-Interrupting Capacity Fuses; Current Limiting Type
 - 3. UL 198E – Class R Fuses
 - 4. NEMA AB 1 – Molded Case Circuit Breakers
 - 5. NEMA ICS 2 – Industrial Control Devices, Controllers, and Assemblies
 - 6. NEMA ICS 2.3 – Instructions for the Handling, Installation, Operation, and Maintenance of Motor Control Centers
 - 7. NEMA ICS 2 – Industrial Control Devices Controllers and Assemblies
 - 8. ANSI Z55.1 – Gray Finishes for Industrial Apparatus and Equipment

1.04 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Shop Drawings - neutral, and ground; electrical characteristics including voltage, frame size and trip ratings, withstand ratings, and time/current curves of all equipment and components; factory elementaries for each compartment.
- C. Samples shall be submitted as may be requested by the Engineer.
- D. Test Reports - Indicate field test and inspection procedures and test results.
- E. The Contractor shall furnish a reproducible copy and four prints of the approved as-built wiring diagrams showing all wiring in the distribution and control center.

- F. Manufacturer's Installation Instructions - Indicate application conditions and limitations of use stipulated by product testing agency specified under Article 1.08. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.

1.05 OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of Section 017823.
- B. Maintenance Data - Include spare parts data listing; source and current prices of replacement parts and supplies; and recommended manufacturer maintenance procedures and intervals.

1.06 QUALITY ASSURANCE

- A. Perform work in accordance with NEMA ICS 2.3.
- B. Maintain one copy of each document on site.

1.07 QUALIFICATIONS

- A. Manufacturer - Company specializing in manufacturing the products specified in this section with minimum three years' documented experience.

1.08 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70, Underwriters Laboratories Publication UL-845, and NEMA Publication ICS-2.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. testing firm acceptable to authority having jurisdiction as suitable for purpose specified and indicated.

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect, and handle products to site as recommended by the manufacturer.
- B. Deliver in 60-inch maximum width shipping splits, individually wrapped for protection, and mounted on shipping skids.
- C. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- D. Handle in accordance with NEMA ICS 2.3. Lift only with lugs provided for the purpose. Handle carefully to avoid damage to motor control center components, enclosure, and finish.

1.10 ENVIRONMENTAL REQUIREMENTS

- A. Conform to NEMA ICS 2 service conditions during and after installation of motor control centers' compartments.

1.11 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on shop drawings.

1.12 EXTRA MATERIALS

- A. Provide the following materials, each tagged or conspicuously marked or labeled with the manufacturer's name, part number and name. All parts shall appear on a typed list showing the above plus quantity and location.
 - 1. One box (minimum 10) of each size control power fuses furnished.
 - 2. One set of starter contacts for every two starters or fraction thereof of each NEMA size installed.
 - 3. One starter coil for every five NEMA size starters installed (all starters are full sized NEMA).
 - 4. One control potential transformer for each size installed.
 - 5. Two control relays, timing relays and motor timing relays of each type used.
 - 8. Six sets of each N.O. and N.C. starter auxiliary contacts for each size starter provided.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Existing MCCs are General Electric GE 7700 series, ratings as shown on the drawings.
- B. Retrofill Buckets: shall be compatible with original equipment manufacturer, type and ratings.
 - 1. ABB (formerly General Electric).
 - 2. Eaton.
 - 3. Square D.

2.02 GENERAL

- A. Provide motor control centers compartments as shown on the Drawings.
- B. Motor Control Center Compartments - NEMA ICS 2, Class I II, Type A wiring, B wiring with terminal blocks mounted on lift out brackets in the vertical wire trough units.
- C. Terminals - Accept all control and power wiring through Size 2.

- D. Voltage Rating – 208 or 480 volts, three phase, four wire, 60 Hertz as indicated on the drawings.
- E. Integrated Equipment Short Circuit Rating - 65,000 amperes rms symmetrical at 480 volts.
- F. Configuration - Units front mounting only, accessible from the front only.
- G. Enclosure - NEMA ICS 6, Type 12 with gasketed doors.
- H. Dimensions
 - 1. Depth - 20 inches or match existing.
 - 2. Vertical Sections - 6-1/2 space factors of unit mounting space or match existing.
 - 3. Height - 90 inches.
- I. Material
 - 1. Exterior Frame - Fabricated from copper bearing reinforced steel plate construction.
- J. Bus Barriers
 - 1. Permit unit plug-on contacts to pass through and engage the vertical bus bars.
 - 2. Unused Plug-On Openings - Provide plastic closing plates.
- K. Plug-On Connections
 - 1. Two-point connection to tighten around the vertical bus bar.
 - 2. Material - Silver plated.
 - 3. Cable Connections to the Plug-On Connections - Bolted type.
- L. Bucket Alignment - Guide rails within the structure for horizontal and vertical alignment.

2.03 AUTOMATIC CONTROLLERS

- A. Magnetic Motor Controllers - NEMA ICS 2, AC general purpose Class A magnetic controller for induction motors rated in horsepower. Minimum NEMA Size 1.
- B. Reversing Controllers - Include electrical interlock and integral time delay transition between Forward and Reverse rotation.
- C. Two-Speed Controllers - Include integral time delay transition between Fast and Slow speeds.
- D. Coil Operating Voltage - 120, 60 Hertz.

- E. Overload Relay - NEMA ICS; melting alloy.

2.04 PRODUCT OPTIONS AND FEATURES

- A. Auxiliary Contacts - NEMA ICS 2, 2 each normally open and closed contacts in addition to seal-in contact.
- B. Cover Mounted Pilot Devices - NEMA ICS 2, heavy duty oiltight type. See Section 16900.
- C. Pilot Device Contacts - NEMA ICS 2, Form Z, rated A150.
- D. Refer to Section 407000 for pushbuttons, indicating lights, selector switches, relays, and control power transformers.
- E. Metering
 - 1. Ammeter Switches, Volt Meters Switches
 - a. Maintained contact type for use with all classes of instruments, relays, meters, and for performing various circuit coordination.
 - b. Panel mounting.
 - c. Large pistol grips.
 - 2. Ammeter and Volt Meters
 - a. 1 percent of full scale.
 - b. Taut-band design type.
 - c. 4-1/2-inch rectangular type.
 - 3. Meter Test Switch(es) - Provide on all switches or group-mounted switches.

2.05 DISCONNECTS

- A. Combination Controllers - Combine motor controllers with thermal magnetic circuit breakers disconnect in common enclosure. Provide means for locking disconnect handle, and means for defeating cover interlock.
- B. Motor Circuit Protector - NEMA AB 1, circuit breakers with integral instantaneous magnetic trip in each pole.
- C. Disconnect Operator - All circuit disconnecting means shall be handle operated through approximately an 180 degree arc to open or close the device. With labeled and color coded

“On,” “Off,” and “Tripped” position indicators. Provide means of locking disconnect in the “Off” position.

2.06 FUSES

- A. In conformance with Section 407000.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify conditions under the provisions of Section 260500.
- B. Verify that surface is suitable for motor control center compartments installation.
- C. The manufacturer of this equipment will be permitted to arrange his equipment to the best advantage and will be required to furnish at least the spare compartments as noted on the Drawings.

3.02 INSTALLATION

- A. Install motor control center retrofit buckets in accordance with manufacturer’s instructions.
- B. Tighten accessible bus connections and mechanical fasteners after placing motor control center.
- C. Install fuses in fusible switches.
- D. Select and install heater elements in motor starters to match installed motor characteristics.
- E. Provide engraved plastic nameplates.
- F. Motor Data - Provide neatly typed label inside each motor starter door identifying motor served, nameplate horsepower, full load amperes, code letter, service factor, and voltage/phase rating.
- G. Wiring Diagrams - Elementary diagram shall be glued inside each compartment door housing a motor controller, relay, or similar equipment. Other compartments shall also have approved final unit wiring diagrams glued on the inside face of door as well as a heater selection table. Compartments containing panelboards shall have a circuit directory mounted inside the door. All diagrams shall reflect all field modifications.
- H. Motor control centers shall be mounted on raised concrete bases unless noted otherwise. Connections to external equipment and connections of the incoming services shall be as shown or as required by the equipment manufacturer.

3.04 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 260500.
- B. Inspect each controller to NEMA ICS 2.

3.05 LABELING AND IDENTIFICATION

- A. All interior relays, timers or other control devices shall be labeled according to its designation on the elementary diagram.
- B. Each control center compartment (bucket) shall have its own identification nameplate fastened to the unit saddle. These nameplates shall have suitable references to factory records for efficient communication with supplier or manufacturer.

3.06 TESTING

- A. Prior to connection of any external feeder or load circuits, MCC breakers shall be electrically tested per Section 260500.
- B. Make all connections in accordance with the torquing specifications provided by the manufacturer.
- C. All connections shall be given an infrared thermograph scan after the unit is operational and with each unit operating at as near full load as possible.
- D. Contractor shall retorque or redo connections identified as potential problems.
- E. Contractor shall individually adjust all trip units for the specific requirements of each device.
- F. Contractor shall submit a letter of certification that all of the above have been done, are correct, and are fully operational.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Straight-blade convenience receptacles.
 - 2. GFCI receptacles.
 - 3. Wall plates.

1.2 DEFINITIONS

- A. Abbreviations of Manufacturers' Names:
 - 1. Cooper: Copper Wiring Devices; Division of Cooper Industries, Inc.
 - 2. Hubbell: Hubbell Incorporated: Wiring Devices-Kellems.
 - 3. Leviton: Leviton Mfg. Company, Inc.
 - 4. Pass & Seymour: Pass& Seymour/Legrand.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: List of legends and description of materials and process used for premarking wall plates.
- C. Samples: One for each type of device and wall plate specified, in each color specified.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

PART 2 - PRODUCTS

2.1 GENERAL WIRING-DEVICE REQUIREMENTS

- A. Wiring Devices, Components, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NFPA 70.
- C. Devices that are manufactured for use with modular plug-in connectors may be substituted under the following conditions:

1. Connectors shall comply with UL 2459 and shall be made with stranding building wire.
2. Devices shall comply with the requirements in this Section.

D. Devices for Owner-Furnished Equipment:

1. Receptacles: Match plug configurations.

E. Source Limitations: Obtain each type of wiring device and associated wall plate from single source from single manufacturer.

2.2 STRAIGHT-BLADE RECEPTACLES

A. Duplex Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, and FS W-C-596.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Eaton (Arrow Hart).
 - b. Hubbell Incorporated; Wiring Device-Kellems.
 - c. Leviton Manufacturing Co., Inc.
 - d. Pass & Seymour/Legrand (Pass & Seymour).

2.3 GFCI RECEPTACLES

A. General Description:

1. 125 V, 20 A, straight blade, feed-through type.
2. Comply with NEMA WD 1, NEMA WD 6 Configuration 5-20R, UL 498, UL 943 Class A, and FS W-C-596.
3. Include indicator light that shows when the GFCI has malfunctioned and no longer provides proper GFCI protection.

2.4 WALL PLATES

A. Single and combination types shall match corresponding wiring devices.

1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: 0.035-inch-thick, satin-finished, Type 302 stainless steel.
3. Material for Unfinished Spaces: Galvanized steel.
4. Material for Damp Locations: Galvanized steel with spring-loaded lift cover and listed and labeled for use in wet and damp locations.

B. Wet-Location, Weatherproof Cover Plates: NEMA 250, complying with Type 3R, weather-resistant with lockable cover.

2.5 FINISHES

A. Device Color:

1. Wiring Devices Connected to Normal Power System: As selected by Architect unless otherwise indicated or required by NFPA 70 or device listing.
2. Wiring Devices Connected to Emergency Power System: Red.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with NECA 1, including mounting heights listed in that standard, unless otherwise indicated.
- B. Coordination with Other Trades:
 1. Protect installed devices and their boxes. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of boxes.
 2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
 3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
 4. Install wiring devices after all wall preparation, including painting, is complete.
- C. Conductors:
 1. Do not strip insulation from conductors until right before they are spliced or terminated on devices.
 2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
 3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
 4. Existing Conductors:
 - a. Cut back and pigtail, or replace all damaged conductors.
 - b. Straighten conductors that remain and remove corrosion and foreign matter.
 - c. Pigtailing existing conductors is permitted, provided the outlet box is large enough.
- D. Device Installation:
 1. Replace devices that have been in temporary use during construction and that were installed before building finishing operations were complete.
 2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
 3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
 4. Connect devices to branch circuits using pigtails that are not less than 6 inches in length.
 5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, two-thirds to three-fourths of the way around terminal screw.
 6. Use a torque screwdriver when a torque is recommended or required by manufacturer.
 7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
 8. Tighten unused terminal screws on the device.

9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device-mounting screws in yokes, allowing metal-to-metal contact.
- E. Receptacle Orientation:
 1. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the right.
- F. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.
- G. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.
- H. GFCI Receptacles: Install non-feed-through-type GFCI receptacles where protection of downstream receptacles is not required.

3.2 FIELD QUALITY CONTROL

- A. Test Instruments: Use instruments that comply with UL 1436.
- B. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated digital-display indicators of measurement.
- C. Perform the following tests and inspections:
 1. Tests for Convenience Receptacles:
 - a. Line Voltage: Acceptable range is 105 to 132 V.
 - b. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is unacceptable.
 - c. Ground Impedance: Values of up to 2 ohms are acceptable.
 - d. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
 - e. Using the test plug, verify that the device and its outlet box are securely mounted.
 - f. Tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.
- D. Wiring device will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

END OF SECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Nonfusible switches.
 - 2. Enclosures.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include nameplate ratings, dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.
 - 1. Include time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device. Provide in PDF electronic format.
- B. Shop Drawings: For enclosed switches and circuit breakers.
 - 1. Include plans, elevations, sections, details, and attachments to other work.
 - 2. Include wiring diagrams for power, signal, and control wiring.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Seismic Qualification Certificates: For enclosed switches and circuit breakers, accessories, and components, from manufacturer.
- C. Field quality-control reports.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Accredited by NETA.
 - 1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.

1.6 WARRANTY

- A. Manufacturer's Warranty: Manufacturer and Installer agree to repair or replace components that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: One year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Enclosed switches and circuit breakers shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

2.2 GENERAL REQUIREMENTS

- A. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single manufacturer.
- B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.
- D. Comply with NFPA 70.

2.3 NONFUSIBLE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Eaton.
 - 2. General Electric Company.
 - 3. SIEMENS Industry, Inc.; Energy Management Division.
 - 4. Square D; by Schneider Electric.
- B. Type HD, Heavy Duty, Three Pole, Single Throw, 600-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- C. Accessories:

1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
3. Isolated Ground Kit: Internally mounted; insulated, labeled for copper and aluminum neutral conductors.
4. Class R Fuse Kit: Provides rejection of other fuse types when Class R fuses are specified.

2.4 ENCLOSURES

- A. Enclosed Switches and Circuit Breakers: UL 489, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.
- B. Enclosure Finish: The enclosure shall be a brush finish on Type 304 stainless steel (NEMA 250 Type 4-4X stainless steel).
- C. Conduit Entry: NEMA 250 Types 4, 4X, and 12 enclosures shall contain no knockouts. NEMA 250 Types 7 and 9 enclosures shall be provided with threaded conduit openings in both endwalls.
- D. Operating Mechanism: The circuit-breaker operating handle shall be externally operable with the operating mechanism being an integral part of the box, not the cover. The cover interlock mechanism shall have an externally operated override. The override shall not permanently disable the interlock mechanism, which shall return to the locked position once the override is released. The tool used to override the cover interlock mechanism shall not be required to enter the enclosure in order to override the interlock.
- E. Enclosures designated as NEMA 250 Type 4, 4X stainless steel, 12, or 12K shall have a dual cover interlock mechanism to prevent unintentional opening of the enclosure cover when the circuit breaker is ON and to prevent turning the circuit breaker ON when the enclosure cover is open.
- F. NEMA 250 Type 7/9 enclosures shall be furnished with a breather and drain kit to allow their use in outdoor and wet location applications.

PART 3 - EXECUTION

3.1 ENCLOSURE ENVIRONMENTAL RATING APPLICATIONS

- A. Enclosed Switches and Circuit Breakers: Provide enclosures at installed locations with the following environmental ratings.
 1. Indoor, Dry and Clean Locations: NEMA 250, Type 4X, stainless steel.
 2. Other Wet or Damp, Indoor Locations: NEMA 250, Type 4X, stainless steel.
 3. Indoor Locations Subject to Dust, Falling Dirt, and Dripping Noncorrosive Liquids: NEMA 250, Type 12.
 4. Hazardous Areas Indicated on Drawings: NEMA 250, Type 7 with cover attached by Type 316 stainless steel bolts.

3.2 INSTALLATION

- A. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:
 - 1. Notify Owner no fewer than seven days in advance of proposed interruption of electric service.
 - 2. Indicate method of providing temporary electric service.
 - 3. Do not proceed with interruption of electric service without Owner's written permission.
 - 4. Comply with NFPA 70E.
- B. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.
- C. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
- D. Temporary Lifting Provisions: Remove temporary lifting of eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
- E. Install fuses in fusible devices.
- F. Comply with NFPA 70 and NECA 1.

3.3 IDENTIFICATION

- A. Comply with requirements in Section 260553 "Identification for Electrical Systems."
 - 1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
 - 2. Label each enclosure with engraved metal or laminated-plastic nameplate.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Perform tests and inspections.
- C. Tests and Inspections for Switches:
 - 1. Visual and Mechanical Inspection:
 - a. Inspect physical and mechanical condition.
 - b. Inspect anchorage, alignment, grounding, and clearances.
 - c. Verify that the unit is clean.
 - d. Verify blade alignment, blade penetration, travel stops, and mechanical operation.
 - e. Verify that fuse sizes and types match the Specifications and Drawings.
 - f. Verify that each fuse has adequate mechanical support and contact integrity.

- g. Inspect bolted electrical connections for high resistance using one of the two following methods:
 - 1) Use a low-resistance ohmmeter.
 - a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of the lowest value.
 - 2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.
 - a) Bolt-torque levels shall be in accordance with manufacturer's published data. In the absence of manufacturer's published data, use NETA ATS Table 100.12.
 - h. Verify that operation and sequencing of interlocking systems is as described in the Specifications and shown on the Drawings.
 - i. Verify correct phase barrier installation.
 - j. Verify lubrication of moving current-carrying parts and moving and sliding surfaces.
2. Electrical Tests:
- a. Perform resistance measurements through bolted connections with a low-resistance ohmmeter. Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
 - b. Measure contact resistance across each switchblade fuseholder. Drop values shall not exceed the high level of the manufacturer's published data. If manufacturer's published data are not available, investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
 - c. Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with switch closed, and across each open pole. Apply voltage in accordance with manufacturer's published data. In the absence of manufacturer's published data, use Table 100.1 from the NETA ATS. Investigate values of insulation resistance less than those published in Table 100.1 or as recommended in manufacturer's published data.
 - d. Measure fuse resistance. Investigate fuse-resistance values that deviate from each other by more than 15 percent.
 - e. Perform ground fault test according to NETA ATS 7.14 "Ground Fault Protection Systems, Low-Voltage."
- D. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.
- E. Prepare test and inspection reports.
- 1. Test procedures used.
 - 2. Include identification of each enclosed switch and circuit breaker tested and describe test results.
 - 3. List deficiencies detected, remedial action taken, and observations after remedial action.

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Butterfly valves
- B. Plug valves
- C. Butterfly and plug valve worm gear actuators
- D. Grooved end stainless steel butterfly valves
- E. Swing Check Valves

1.02 – GENERAL INFORMATION

- A. All valves installed in pipelines where the pipe is specified or shown to be any grade or diameter of stainless steel, regardless of end connection style, shall also be stainless steel.
- B. All valves installed in pipelines where the pipe is specified or shown to be any diameter of ductile iron, regardless of end connection style, shall be cast iron body style valve.
- C. For the purposes of this specification, large diameter piping shall be considered pipe with a diameter equal to or greater than 3 inches nominal diameter.

1.03 - RELATED SECTIONS

- A. Section 016500 – Product Delivery, Storage and Handling
- B. Section 220529 – Hangers and Supports for Plumbing Piping and Equipment
- C. Section 402336 – Air and Water Process Piping

1.04 - REFERENCES

- A. ANSI/AWWA C111- Rubber Gasket Joints for Ductile Iron and Grey Iron Pressure Pipe and Fittings.
- B. ANSI/AWWA C151 - Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids.
- C. ANSI/AWWA C504 - Rubber - Seated Butterfly Valves.
- D. AWWA C507 – Ball Valves, 6 in. through 48 in.

- E. AWWA C508 - Swing - Check Valves for Water Works Service, 2 in. through 24 in.
- F. ANSI/AWWA C600 - Installation of Ductile Iron Water Mains and Appurtenances.
- G. AWWA C606 – Grooved and Shouldered Joints
- H. ASTM A351 – Austenitic Gray Iron Castings
- I. ASTM A436 – Austenitic Gray Iron Castings
- J. ASTM A744 – Specifications for Castings, Iron-Chromium-Nickel, Corrosion Resistant for Severe Service
- K. ASTM A743 – Castings, Iron Chromium, Iron-Chromium-Nickel, Corrosion Resistant for General Application
- L. ASTM A126 – Gray Iron Castings for Valves, Flanges and Pipe Fittings

1.05 - SUBMITTALS

- A. The Contractor shall submit separate valve schedules for each valve type (or style) that shall form the index of the shop drawing submittal. Each valve schedule shall provide the following information in tabular form and the Engineer reserves the right not to review the submittal until such time as all of the specified information is provided without claims for delay:
 - 1. Shop drawing reference number
 - 2. Manufacturer's valve tag designation
 - 3. Abbreviated process piping application as shown on Contract Drawing PD-1, if shown.
 - 4. Quantity
 - 5. Diameter
 - 6. End connection
 - 7. Packing
 - 8. Actuator type
 - 9. Accessories
 - 10. List of AWWA, ANSI, and ASTM applicable standards
 - 11. Body material
 - 12. Stem material
 - 13. Gasket material to be used with the valve (if applicable)
- B. The remaining shop drawing submittal package shall include the following and be submitted in accordance with the requirements contained in Section 013300:

1. Dimensional prints valves and actuators.
 2. Valve specifications including materials of construction and features of design.
 3. Shop drawings for extension rods and guides indicating diameter, length, and material.
 4. Drawings for installation and support of guides.
 5. Catalog cuts and dimensional data for floor stands.
 6. Catalog cuts for valve boxes with cover casting indicated.
 7. Painting system catalog cuts.
- C. Installation, operations and maintenance instructions for each type valve prepared in accordance with the requirements contained in Section 017823.
- D. Product Data: Provide data on pipe materials, pipe fitting, valves and accessories.
- E. A Warranty Certificate as specified herein shall be provided from each valve manufacturer.

1.06 - PROJECT RECORD DOCUMENTS

- A. Submit product data under provisions of Section 017839.
- B. Accurately record actual locations of piping mains, valves, connections, and invert elevations.

1.07 - QUALITY ASSURANCE

- A. Perform work in accordance with the local utility company requirements.
- B. Valves: Manufacturer's name and pressure rating marked on valve body.
- C. Affidavit of Compliance: The Contractor shall have the manufacturer provide an affidavit directly to the Engineer that all valves supplied on this project comply with all applicable provisions of AWWA Specification C509-94, and that each valve was subjected to and passed the 500 psi hydrostatic test without leakage. No final payment for valves will be made until this Affidavit of Compliance is received by the Engineer.
- D. All brass valves and fittings installed on a potable water supply line shall be made of "low-lead" materials and have a maximum lead content of 0.25 percent by weight. All low lead brass fittings shall be stamped or embossed with a mark indicating that the product is manufactured from low-lead alloys.

1.08 – FIELD SERVICES

- A. Supply and credit to the Owner the costs for field services as specified in Section 014500 - Quality Control.

- B. The following field services shall be provided as a minimum in accordance with the requirements contained in Section 017500 - Starting and Adjusting:
 - 1. One (1) day totaling one (1) trip by each valve manufacturer for providing installation instruction to the Contractor. The Contractor shall be responsible for all costs associated with having the manufacturer present should the Contractor require more days of installation instruction.
 - 2. One (1) day totaling one (1) trip by each valve manufacturer to field check the completed installation and verify proper operation during normal facility operating conditions.

1.09 - DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Sections 016100 and 016500.
- B. Deliver and store valves in shipping containers with labeling in place.
- C. Completely follow the manufacturer's recommended short and long term storage procedures. Partial payment requests for valves delivered to the site, but not yet installed, will not be processed if valve deliveries and storage requirements of the manufacturer are not followed.
- D. Deliver and store valves in shipping containers with labeling in place until the time that the valve is to be installed.

1.10 – WARRANTY

- A. The manufacturer shall guarantee all valve components to be free from defects in design, materials and workmanship for a period of one (1) year commencing on the date the valve was placed into permanent and consistent operation.
- B. During the guarantee period, if any part or equipment component is defective or fails to perform when operating at design conditions and if the equipment has been installed and is being operated and maintained in accordance with the written instructions provided by the manufacturer, the manufacturer shall repair or exchange at the discretion of the Owner such defective part(s) free of any and all charges. The manufacturer will be responsible for the cost of labor and all other expenses resulting from the repair or replacement of the defective part(s) and from installation of part(s) furnished by this Warranty.

PART 2 - PRODUCTS

2.01 –BUTTERFLY VALVES

A. Exposed and Buried Flanged Valve Construction – Cast Iron Body:

1. Flanged end butterfly valves - 2-1/2 inch and larger shall be of the EPDM-seated, tight closing type, with cast body and disc, and 150 psi working pressure. Valves shall conform to the requirements specified in AWWA C504 Standard for Rubber-Seated Butterfly Valves.
2. Valve body shall be cast iron per ASTM A-126, Class B, with integrally cast hubs for shaft bearing housing, and 125 pound flanged ends faced and drilled in accordance with ANSI B16.1, Standard for Cast Iron Flanges.
3. Valve disc shall be symmetrical about the shaft axis with no external ribs, cast of alloy cast iron per Military Specification MIL 6-858a, Class I. Valve shaft shall be of a solid one-piece design of center less ground 18-8 stainless steel or high strength steel (70,000 psi) completely isolated from line fluid. Disc movement shall be 90 degrees open to closed.
4. The valve shall be field repairable and may be disassembled in the field for seat replacement. Rubber seats mounted on the disc shall be clamped thereon. Rubber seats mounted on valve bodies shall be cemented and clamped, bonded or vulcanized to the valve body. Rubber seats shall be made of EPDM material.
5. Taper pins, lock washers and nuts shall be 18-8 stainless steel. Valve seat shall be of molded natural rubber, recess mounted, bonded and mechanically secured to the valve body or disc. Seat shall provide leak free shutoff at 150-psi differential. Sleeve type bearings of self-lubricating material shall be installed in the hubs of the valve body, designed for maximum load of 2,500 psi or one-fifth the compressive strength of the material, whichever is highest.
6. A shaft seal shall be provided in the valve body hub where the shaft extends through it. The one-piece cast gland follower studs and nuts shall be bronze. Packing shall be self-adjusting split "V" type, or triple "O" ring.

B. Grooved Valve Construction – Cast Iron Body:

1. Grooved end valves shall be provided in conformance with pipe and coupling specified in specification section 402336 – Air and Water Process Piping.
2. Grooved end butterfly valves - 2-1/2 inch and larger shall be of the EPDM-seated, tight closing type, with cast body and disc, and 175 psi working pressure. Valves shall conform to the requirements specified in AWWA C504 Standard for Rubber-Seated Butterfly Valves.
3. Valve body shall be ductile iron per ASTM A-536.

4. Valve disc shall be narrow profile type and offset about the shaft. Disc shall ride on stainless steel upper and lower stems. Valve disc shall be of ductile iron construction, black PPS coated. Disc movement shall be 90 degrees open to closed.
- C. Manual Valve Operators
1. Manual operators shall be of the worm and gear type and shall be self-locking. The gear operators shall be permanently lubricated, totally enclosed, with adjustable stops for the open and closed position, and valve disc position indicator. The operator shall be designed so that a pull of not more than 80 pounds will produce an output torque sufficient to operate the valve under actual line pressures and velocities.
 2. Valves shall be equipped with hand wheels and position indicators.
- D. All wetted parts shall be 304 stainless steel.
- E. Manufacturers: Dezurik, Crane or Victaulic

2.02 – PLUG VALVES

- A. Exposed and Buried Valves – Flanged / Mechanical Joint Ends:
1. Valves shall be of the non-lubricated eccentric type equipped with resilient faced, balanced plugs and shall be furnished with end connections as specified below.
 2. Port area for valves less than 6-inch diameter shall be at least 80% of full pipe area. Port areas of 6 inch and larger valves shall be at least 100% of full pipe area.
 3. Valve bodies shall be of ASTM A126, Class B, and cast iron. All exposed nuts, bolts, springs, washers, etc., shall be stainless steel. Resilient plug facings shall be of Nitrile Butadiene suitable for use with septic sewage (hydrogen sulfide).
 4. Valves shall be furnished with corrosive resistant seats. Seats in 3-inch diameter and larger valves shall have a welded-in overlay of high nickel content on all surfaces containing the plug face.
 5. Valves shall be furnished with replaceable, permanently lubricated, stainless steel sleeve-type bearings in the upper and lower journals.
 6. Valve pressure ratings shall be as follows and shall be established by hydrostatic tests as specified by ANSI Standard B16.1. Pressure ratings shall be 175 psi for valves through 12-inch diameter, 150 psi for valves in sizes 14 inch through 36-inch diameter. Valves shall provide drip-tight shutoff up to the full pressure ratings. Valves shall be capable of providing drip-tight shutoff up to the full valve rating with pressure in either direction.

7. Valve shaft seals, bearings and seats shall comply with applicable portions of AWWA C504 and C507.
8. Valve actuator shall operate valve at a pressure differential up to 50 psi.
9. Buried: Mechanical Joint, gear actuator and enclosure for buried installation.
10. Exposed: Flanged joint, gear actuator with handwheel.
11. Manufacturer: Dezurik or Clow

B. Exposed Valves – Grooved Ends:

1. Circular port area shall allow for pigging of lines. Port areas of 6 inch and larger valves shall be at least 100% of full pipe area.
2. Valve bodies shall be of AWWA C-606 and C509 cast iron, coated with alkyd enamel. All exposed nuts, bolts, springs, washers, etc., shall be stainless steel. Eccentric resilient plug facings shall be of Nitrile Butadiene suitable for use with septic sewage (hydrogen sulfide).
3. Valves shall be furnished with corrosive resistant seats. Seats in 3-inch diameter and larger valves shall have a welded-in overlay of high nickel content on all surfaces containing the plug face.
4. Valves shall be furnished with replaceable, permanently lubricated, stainless steel sleeve-type bearings in the upper and lower journals.
5. Valve pressure ratings shall be as follows and shall be established by hydrostatic tests as specified by ANSI Standard B16.1. Pressure ratings shall be 175 psi for valves through 12-inch diameter, 150 psi for valves in sizes 14 inch through 18-inch diameter. Valves shall provide drip-tight shutoff up to the full pressure ratings. Valves shall be capable of providing drip-tight shutoff up to the full valve rating with pressure in either direction.
6. Exposed valves by Victaulic with grooved ends: 6-inch diameter and larger, with gear operator with handwheel. Valve actuator shall operate valve at a pressure differential up to 50 psi. Smaller than 6" diameter shall be provided with handle operator and required stem extension unless stated otherwise.

C. Submerged Service:

1. All plug valves located below water level shall be furnished with a side mounted gear actuator, square nut extension rod, manufacturer's stainless steel valve stem guide, and floor stand (if Shown on the Contract Drawings).

2. Extension rods: Type 304 stainless steel
3. Manufacturer: Dezurik, Trumbull or Clow

2.03 – DUPLEX BASKET STRAINER

- A. High pressure washdown system shall include a dual basket strainer, Eaton Model 53BTX or equal.
- B. Strainer shall be ANSI 125 flanged, and shall be rated at a pressure drop of 0.5 PSI at rated system capacity through a clean basket.
- C. Duplex basket strainer shall include a gear operator to shift between baskets. The idle basket shall not be pressurized. Shifting between baskets shall be accomplished using dual included ball valves.
- D. All parts of the basket strainer shall be accessible for service without removing the strainer from the line.
- E. Stainless steel baskets shall include 1/8" perforations to protect the pumps from particles of larger size.
- F. Basket access shall be through quick release covers, held in place with knob type nuts or bolts.
- G. Pressure gauges with isolation ball valves shall be provided to be installed before/after the strainer to determine if the strainer is becoming plugged.

2.04 – BUTTERFLY AND PLUG VALVE - WORM GEAR OPERATORS

- A. Worm gear operators shall be required on all exposed valves that are 6" nominal size and larger and shall be self-locking as noted on the contract plans. Valves less than 6" nominal diameter shall be provided with lever type manual operators unless otherwise indicated. All operators shall be provided with memory stops. The gear operators shall be permanently lubricated, totally enclosed, with adjustable stops for the open and closed position, and valve disc position indicator. The operator shall be designed so that a pull of not more than 80 pounds will produce an output torque sufficient to operate the valve under actual line pressures and velocities.
- B. Valves shall be equipped with hand wheels and position indicators.
- C. Valves installed six (6) feet above finished floor or higher shall be provided with chainwheel operators and stainless steel chain.
- D. Actuators shall be manufactured by the valve manufacturer.

2.05 – GROOVED END STAINLESS STEEL VALVES

- A. All valves installed in pipelines where the pipe is specified or shown to be any grade or diameter of stainless steel, regardless of end connection style, shall also be stainless steel.
- B. Body and disc: Grade CF8M stainless steel conforming to ASTM A351, A743, and A744.
- C. Stems and hardware: Type 316 stainless steel.
- D. Bearings: PTFE impregnated glass fabric with 316 stainless steel backing and/or PEEK.
- E. Handle: 316 stainless steel.
- F. Gear Operator: 300 series stainless steel housing with aluminum bronze quadrant and steel worm gear. All valves with a diameter of 6-inches and greater shall be provided with a gear operator. All valves with a diameter less than 6-inches shall be provided with a lever lock handle.
- G. Disc seal: Grade “L” silicone compound (red color coded) for all air service applications; EPDM (green color coded) for all other service applications.
- H. Valves shall be manufactured by Victaulic.

2.06 – SWING CHECK VALVE

- A. Manufacturers: Val-Matic Swing-Flex, Flomatic Flo-Flex #745, or approved equal.
- B. Check valves shall be of the full body type with a domed access cover and only two moving parts, the flexible disc and the disc accelerator. The top access port shall be full size, allowing removal of the disc without removing the valve from the line.
- C. The valves shall be provided with ANSI B16.1 Class 125 ductile iron flanges.
- D. The valve body shall be constructed of ASTM A536 Grade 65-45-12 ductile iron. The valve body shall be full flow equal to nominal pipe diameter at all points through the valve.
- E. The disc shall be one-piece construction, precision molded with an integral o-ring type sealing surface, and contain alloy steel and nylon reinforcement in the flexible hinge area. Non-Slam closing characteristics shall be provided through a short 35 degree disc stroke and a disc accelerator to provide a cracking pressure of 0.3 PSIG.
- F. A mechanical indicator shall have continuous contact with the disc under all operating conditions to assure accurate disc indication.

- G. Provide a bottom mounted oil dashpot (oil cushion) to provide hydraulic control of the final 10% of valve closure and reduce valve slam and water hammer normally associated with rapid flow reversal conditions on pump shutdown where required on the Plans.
- H. The valve shall be hydrostatically tested at 1.5 times its rated cold working pressure. The valve interior and exterior shall be coated with an ANSI/NSF 61 certified epoxy coating.
- I. A SCADA compatible, Nema-4 heavy duty, UL listed limit switch with DPDT contacts shall be provided, where required on Plans. The switch shall be activated by the external position indicator.

PART 3 - EXECUTION

3.01 - GENERAL

- A. Valves and valve accessories shall be installed by workers thoroughly experienced in such work and all valve work shall be properly supported and aligned and present a neat and workmanlike appearance.

3.02 - INSTALLATION

- A. All valves and valve accessories shall be installed by workers thoroughly experienced in such work and all valve work shall be properly supported and aligned and present a neat and workmanlike appearance. All other required temporary or permanent supports for the valves shall be included in this contract to the approval of the Engineer.
- B. Set valves in a plumb or level position, as applicable.
- C. Install check valves for proper direction of flow. Adjust cushion chamber check valve to prevent water hammer at service conditions.
- D. Assemble flanged joints by sequencing bolt tightening to make initial contact of flanges and gaskets as flat and parallel as possible. Use suitable lubricants on bolt threads. Tighten bolts gradually and uniformly with a torque wrench.

3.03 - PREPARATION

- A. Remove scale and dirt, on inside and outside, before assembly. Inspection, Handling and Storage:
 - 1. Valves and boxes found to be either defective or damaged shall be rejected and immediately removed from the job site.

2. Handling - Valves and boxes shall be loaded and unloaded by lifting with hoists or skidding under control with ropes in order to avoid shock or damage. Valves and boxes shall not be dropped.
 3. Storage - Valves, floor stands, joint accessories and valve boxes, if stored, shall be kept safe from damage. The interior of the valve and the joint accessories shall be kept free from dirt or foreign matter at all times.
- B. Ream pipe and tube ends and remove burrs.
- C. Perform operating tests on valves as per the manufacturers recommendations as may to determine they are in satisfactory operating condition and do not leak. All valves upon completion of the work shall be checked to determine they are in an open position, unless otherwise indicated.

3.04 - FIELD QUALITY CONTROL

- A. Leakage testing shall be in accordance with ANSI/AWWA C600.
- B. If tests indicate work does not meet specified requirements, remove work, replace and retest at no cost to Owner.

END OF SECTION

PART 1 - GENERAL

1.01 - SECTION INCLUDES

- A. Work of this Section includes all labor, materials, and equipment necessary to furnish and install air and water process piping under pressure.
- B. Work includes exposed piping as shown on the Drawings.
- C. BID NOTES (Grooved Piping Option):
 - 1. Included in the as-bid price, and at the Contractor's option, groove ended pipe and fittings may be used in lieu of flanged pipe and fittings in locations where ductile iron pipe is indicated on the Drawings or in lieu of butt-welded fittings for areas where stainless steel pipe is indicated on the Drawings, with the following provisions or except as stated herein.
 - 2. Equipment with flanged outlets and inlets, pumps, constant head boxes, valves, flow meters, and other in-line process equipment, shown on the Drawings as flanged, shall remain flanged.
 - 3. Provide and install flanged by groove ended pipe adapters for all plug, check, and butterfly valves to mate groove ended joints to flanged fittings and equipment. Groove ended valves will not be permitted on this project.
 - 4. Provide a flanged by groove ended spool piece to make joints for equipment, pumps, constant head boxes, flow meters, and other in-line equipment. Spool pieces shall be at least equal to five (5) times the pipe diameter. Adapters will not be permitted in this instance.
 - 5. Where the specifications call for flanged pipe as being packaged with system equipment, this pipe shall remain as flanged.
 - 6. Groove ended stainless steel fittings will be permitted for use on compressed air lines unless otherwise noted on the Drawings. All buried and exposed stainless steel piping shall be butt-welded.
 - 7. Joint restraint using rodding, specified on the Drawings, need not be provided for groove ended pipe and fittings.
 - 8. Concrete thrust blocking, pipe restraining fittings and support piers, where shown for exposed pipe, shall be installed for either piping system.

9. All costs associated with installing piping shall be included in the bid price.

1.02 - REFERENCES

- A. ANSI B16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
- B. ANSI B36.19M – Stainless Steel Pipe
- C. ANSI/AWWA C104 - Cement-Mortar Lining for Ductile Iron Pipe and Fittings for Water.
- D. ANSI/AWWA C110 - Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water and Other Liquids.
- E. ANSI/AWWA - C115/A21.15 - American National Standard for Flanged Ductile Iron Pipe with Threaded Flanges.
- F. ANSI/AWWA C150/A21.50 - American National Standard for Thickness Design of Ductile Iron Pipe.
- G. ANSI/AWWA C600-93 - Installation of Ductile Iron Water Mains and Appurtenances.
- H. ANSI B18.2.1 - Square and Hex Bolts and Screws Inch Series Including Hex Cap Screws and Lag Screws.
- I. ANSI B18.2.2 - Square and Hex Nuts (Inch Series).
- J. ASTM A307 - Carbon Steel Bolts and Studs, 60,000 psi Tensile Strength.
- K. AWWA C606-87 – Grooved and Shouldered Joints.
- L. AWS D10.4 – Recommended Practices for Welding Austenitic Chromium Nickel Stainless Steel Piping
- M. ASTM A312/A312M – Seamless and Welded Austenitic Stainless Pipes

1.03 - SUBMITTALS

- A. Submit information in accordance with Section 013300.
- B. Prepare a schedule for each service classification specified herein listing the pipe, fitting, lining, coating and joint type proposed for the project.

- C. Provide data on pipe material, coatings, linings, pipe fittings, dimensions and accessories. Provide manufacturer's catalog information.
- D. Piping shop drawings shall be provided. Field measurement then fabrication of pipe will not be permitted. All exposed pipe shall be delivered to the site cut to exact layout dimensions.
- E. Manufacturer's installation instructions for each pipe type.
- F. Foundry Records and Tests for ductile iron pipe: Written transcripts of the test results shall be delivered directly to the Engineer within one week of the shipment of pipe with the date of the tests as close to the date of manufacture as practical. For ductile iron pipe, written transcripts shall be furnished directly to the Engineer in accordance with applicable sections of AWWA C151 and ANSI A21.51:

Transcripts & Certification: 51-5.2

Group Tests Required: Hydrostatic Test (51-9)
Tensile Test (51-12.1)
Impact Test (51-12.2)

Low Temperature Impact Test (51-13)

Number of Specific Group Tests

Required in Addition to General

Certification: One (1) per pipe size per 2,000 linear feet of pipe.

- G. Certifications for stainless steel piping specified in the following documents:
 - 1. ASTM A403, paragraph 14.1
 - 2. ASTM A774, paragraph 14.1
 - 3. ASTM A778, paragraph 14.1
 - 4. ASTM A409, paragraph 17.1
- H. Names and qualification records of proposed welders.
- I. Other data necessary to show conformance of the stainless steel piping system to these specifications.

1.04 - QUALITY ASSURANCE

- A. All piping manufacturers shall meet ISO 9001:2000.
- B. Ductile iron pipe manufacturer shall be a member of the Ductile Iron Pipe Research Association.
- C. Ductile iron pipe shall be marked with the manufacturer's name, classification, or nominal thickness and "DI" or "Ductile Iron".
- D. Stainless steel pipe shall be marked with manufacturer's name, gauge, or nominal thickness and heat rating.
- E. All shop fabricated stainless steel pipe and fittings shall be furnished by a single manufacturer who is experienced and qualified in the manufacture and fabrication of the items to be furnished.
- F. The pipe and fittings shall be shop-fabricated and field-installed in accordance with common industry wide practices and methods and shall comply with these specifications.
- G. Only weld procedures which have been qualified under ASME Section IX and only welders who have successfully completed performance qualification tests per ASME Section IX on these qualified procedures shall be utilized.
- H. The stainless steel piping supplier and the Contractor shall use extreme care to avoid the contact of any ferrous materials with the stainless steel piping during manufacturing, fabricating, handling, and installation stages.
- I. All saws, drills, files, and wire brushes shall be used for stainless steel piping only. Pipe storage and fabrication racks shall be nonferrous, stainless steel, or rubber-lined.
- J. Nylon slings or straps shall be used for handling stainless steel piping. After installation, the Contractor shall wash and rinse all foreign matter from the piping surface.
- K. All welded joints shall be treated with a pickling solution, brushed with stainless steel wire brushes, and rinsed clean. If rusting of embedded iron occurs, the Contractor shall pickle the affected surface with Oakite Deoxidizer SS, or equal, scrub with stainless steel brushes, and rinse clean.
- L. Factory testing of stainless steel piping shall conform to the requirements of ASTM A312, ASTM A409 HT-0, or ASTM A778, depending on the size and type of stainless steel pipe provided.

1.05 - DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect, and handle products in accordance with manufacturer's instructions.

- B. Fabricated piping shall have openings plugged and flanges secured for storage or transport after fabrication.
- C. Fabricated piping shall be piece-marked with identifying numbers or codes which correspond to the Contractor's layout and installation drawings. The marks shall be located on the spools at opposite ends and 180° (degrees) apart.
- D. Pipe spools shall be loaded, blocked, and lagged as necessary to ensure protection from damage during shipping.
- E. Stainless steel pipe and fittings shall be stored per manufacturer's recommendation.
- F. Dents, gouges, and scratches in stainless steel pipe and fittings are not acceptable and are reason for rejecting pipe and fittings.
- G. Protect products from entry of foreign materials.

PART 2 - PRODUCTS

2.01 - DUCTILE IRON PIPE AND FITTINGS – BURIED AND EXPOSED

- A. Ductile iron pipe shall be centrifugally cast with primary graphite in nodular form or spherulitic and conform to AWWA C151.
 - 1. All buried and exposed (dry and submerged service) shall be thickness Class 53.
 - 2. Grooved end ductile iron pipe shall conform to AWWA C606-87 and be manufactured to rigid groove dimensions.
 - 3. All buried and exposed ductile iron pipe and fittings shall be cement lined in accordance with AWWA C104 for liquid carrying service, double thickness, minimum $\frac{3}{16}$ " for pipe and standard thickness for fittings. Air piping shall be unlined.
 - 4. All exposed (dry and immersion service) ductile iron pipe shall be provided with an interior seal coat in accordance with AWWA C106. The exterior of all exposed ductile iron pipe shall be factory primed using a high solids epoxy system with a shop coat thickness of 3.0-8.0 mils DFT. The primer shall be manufactured by Tnemec Company or equal and be red oxide in color. Field paint exposed ductile iron pipe (dry and immersion service) as specified in Section 099100.
- B. Fittings: Comply with AWWA C110 for center-to-center end dimensions.

1. Exposed:
 - a. Ductile iron flanged fittings shall match those of Class 125 flanges in accordance with ANSI B16.1 with 1/8-inch full-face plain rubber SBR (Styrene Butadiene Copolymer) gaskets for sewage and water service.
 - b. Ductile iron grooved fittings shall comply with AWWA C606 rigid radius grooving dimensions. Fittings shall be ductile conforming to ASTM A-536.
- C. Joints:
 1. Exposed Piping:
 - a. Flanged: shall be as specified above for fittings.
 - b. Grooved: shall be Victaulic Style 31 or equal, cast of ductile iron conforming to ASTM A-536 with alkyd-phenolic primer coating with a synthetic rubber gasket suitable for the intended service. Gasket shall be specially compounded to conform to ductile iron pipe surfaces with a short center leg that shall bridge the pipe ends offering an initial seal on the leading edge of the pipe ends.
- D. Exposed and Buried Service Bolts and Nuts: Nuts and bolts shall be alloy steel conforming to the physical properties of ASTM A563. Bolts shall conform to ANSI B18.2.1. Nuts shall conform to ANSI B18.2.2. Bolts and nuts for grooved pipe shall be heat-treated plated carbon steel, track head, conforming to the physical properties of ASTM A183. Paint exposed and buried bolts and nuts in accordance with Section 099100.
- E. Lubricant for Joints: Shall have no deteriorating effects on gasket or pipe material and shall be supplied by the pipe manufacturer or joint manufacturer in sufficient quantity.
- F. Manufacturer: American Ductile Iron Pipe, U.S. Pipe & Foundry Co. or equal.
- G. Flanged Adapters: Dismantling joint Smith Blair, Inc., Model 975 or equal for plain end steel or cast iron pipe with all bolts, rings, gaskets and accessories.
- H. Couplings: Smith Blair, Inc., Model 411 or equal for plain end steel or cast iron pipe with all bolts, rings, gaskets and accessories.
- I. Restrained Joint Fittings: Ford Meter Box Co., Inc., UNI-FLANGE "BlockBuster" series 13100, 1400 & 1500 for PVC, ductile iron and steel piping.

2.02 – STAINLESS STEEL PIPE AND FITTINGS – EXPOSED

- A. Stainless steel pipe shall be Type 304L stainless steel, with 2D finish in compliance with AISI 304L and ASTM A240. Pipe shall be manufactured to nominal pipe sizes as listed in ANSI B36.19 and shall have nominal wall thicknesses corresponding to schedule 10 for above grade and schedule 40 for below grade. Only extra-low carbon (ELC) materials with 0.030% maximum carbon shall be used.
- B. All connections shall be welded in compliance with AWS D10.4, except as otherwise shown on Drawings.
- C. Fittings:
 - 1. Unless otherwise specified, stainless steel fittings 3-inch and larger: butt weld type manufactured in accordance with ASTM A774 of the same material and in the same thicknesses as the pipe. Long radius elbows less than 24-inches in diameter shall be smooth flow. All short radius, special radius, reducing, and long radius elbows 24-inches and greater in diameter shall be of mitered construction. Reducers shall be straight tapered cone type. Tees, crosses, laterals, and wyes shall be shop-fabricated from pipe.
 - 2. Flanged fittings: match those of Class 125 flanges in accordance with ANSI B16.1.
 - 3. Gaskets: EPDM (Ethylene Propylene Diene Monomer) with a temperature capability of 250 deg. F.
 - a. For air piping, gaskets shall be Viton with temperature capability of 350 deg. F.
 - 4. Bolts nuts and washers for stainless steel flange assemblies: Type 316 stainless steel with bolts and nuts conforming to ASTM A193 Grade B8M.
- D. Pipe support systems: include all hangers, rods, structural attachments, and other components of support systems for stainless steel pipe shall be of the same materials as the pipe.
- E. Finishing: After all shop operations have been completed, pipe and fittings shall be pickled and passivated in the manufacturer's plant, and scrubbed and washed until discoloration and possible iron picked up from manufacturing process are removed. The standard finish for 16-gauge through 8-gauge material shall be No. 1 or 2B per ASTM A480; 3/16-inch and heavier plate material shall be No. 1-mil finish or better per ASTM A480.

PART 3 - EXECUTION

3.01 – STAINLESS STEEL PIPE INSTALLATION – GENERAL

- A. Piping with wall thickness up to 11-gauge (0.120-inch): welded with the TIG (GTAW) process. Unless otherwise specified, heavier walls shall be properly beveled and have a root pass with the TIG (GTAW) process followed by subsequent passes with the TIG (GTAW), MIG (GMAW), or Metallic Arc (SMAW) process. Filler wire of ELC grades only shall be added to all welds to provide a cross section at the weld equal to or greater than the parent metal. Weld deposit shall be smooth and evenly distributed and have a crown of no more than 1/16-inch on the I.D. and 3/32-inch on the O.D. of the piping. Concavity, undercut, cracks, or crevices shall not be allowed. Butt welds shall have full penetration to the interior surface, and inert gas shielding shall be provided to the interior and exterior of the joint. Excessive weld deposits, slag, spatter, and projections shall be removed by grinding. Welds on gasket surfaces shall be ground smooth.
- B. Field welding; minimized to the greatest extent possible by prefabrication of pipe systems at the factory. Pipe butt welds may be performed at the job site providing the butt welds are performed only with an inert gas shielded process and that other applicable specified welding requirements are rigidly adhered to. All residue, oxide, and heat stain is to be removed from any type of field weld and the affected adjacent areas by the use of stainless steel wire brushes. The field weld shall then be cleaned with an agent such as Eutectic Company's "Eucleen" or equal followed by complete removal of the agent.
- C. Preparation of Surfaces to Be Welded shall be free from mill scale, slag, grease, oil, paint, rust, and other foreign material.
- D. Joints to be welded shall be wire-brushed with stainless steel wire brushes and precisely fitted before welding.
- E. Welding shall be done only when the surfaces are completely free of any moisture. Welding of the pipe shall not be done during periods of high winds or rain unless the areas being welded are properly shielded.
- F. Nicks, gouges, notches, and depressions in the base metal in the area of the joint shall be repaired before the joint weld is made. Tack welds, clips, and other attachments shall be removed and defects repaired, except where the tack welds occur within the weld area and these tack welds do not exceed the size of the completed weld. Cracked tack welds shall be removed. Areas to be repaired shall be ground to clean metal and then repaired by building up with weld metal. The repaired areas shall be ground smooth to form a plane surface with the base metal.

- G. Welds with cracks, slag inclusions, porosity, undercutting, incomplete penetration, or which are otherwise deficient in quality or made contrary to any provisions of these specifications shall be removed by chipping or grinding throughout their depth to clean base metal. Calking or peening of welds to correct defects shall not be done. Welds found deficient in dimension but not in quality shall be enlarged by additional welding after thoroughly cleaning the surface of previously deposited metal and the adjoining plate. Weld deposits, slag, weld spatter, and projections into the interior of the pipe shall be removed by grinding.

3.02 - EXPOSED PIPING

- A. Flanged: Clean face of flange of all sand, grease, grit or other foreign matter. Center gasket before assembling joints. After alignment has been completed insert bolts and hand tighten nuts. Keep gap between flanges approximately uniform while tightening. Tighten bolts to required torque in several steps, alternating from one side to the other.
- B. Grooved:
 - 1. Pipe ends shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove for proper gasket sealing.
 - 2. A thin uniform coat of lubricant, provided by the joint manufacturer, shall be applied to the gasket, coupling or housing using a clean brush.
 - 3. The gasket and coupling housing shall be installed as contained in the manufacturer's written instructions.
- C. Install flanged adapters and couplings in accordance with manufacturer's installation instructions.

3.03 - RECHECKING AND REPAIRING

- A. Pressure test all exposed and underground pipe in accordance with the requirements contained in Division 1. Before piping is concealed, recheck for leaks.
- B. Rework or replace defective and leaking joints, and joints that are otherwise unsatisfactory. Peening, caulking and doping are not permitted.

3.04 - FIELD QUALITY CONTROL

- A. Conduct pressure testing in accordance with AWWA C600 and Division 01 requirements.

- B. Blow out all dirt, debris and foreign material in all aeration process piping before placing the aeration system diffusers on-line. Do not use water to flush out material. The use of the supplied air compressors may be used if approved by the Engineer.

END OF SECTION

PART 1: GENERAL

1.01 DESCRIPTION

- A. Provide all labor, materials, equipment and incidentals as shown, specified and required to furnish, install, calibrate, test, start-up and place in satisfactory operation a complete and operating:
 - 1. Secondary Plant Water System
 - 2. Secondary Plant Effluent Water Cooling Water Pumps
 - 3. Secondary Plant Effluent Water Automatic Strainers
 - 4. High Pressure Washdown System
 - 5. Secondary Plant Compressed Air System
- B. To include all instrumentation, controls, and integration into the existing Plant-wide SCADA system that will require new SCADA screen development.
- C. The Work includes, but is not limited to, the following:
 - 1. Provision and installation of a new skid-based Plant Water system with air-break tank and integration into the existing SCADA system to include its own SCADA screen for monitoring operating status and alarms.
 - 2. Provision and installation of five (5) new Plant Effluent Water cooling pumps with one (1) local control panel controlling all five (5) pumps and five (5) E-stop buttons (one local to each pump) and integration into the existing SCADA system to include their own SCADA screen for monitoring operating status, and alarms.
 - 3. Provision and installation of two (2) new Plant Effluent Water Automatic Strainers including backwash systems with one (1) local control panel for each strainer (Two (2) panels) and integration into the existing SCADA system to include their own SCADA screen for each strainer for monitoring strainer operating status, backwash status and alarms.
 - 4. Provision and installation of a new skid-based High Pressure Washdown System with two (2) separate bladder tanks and integration into the existing SCADA system to include its own SCADA screen for monitoring operating status and alarms.
 - 5. Provision and installation of a new Secondary Compressed Air System to include two (2) compressors, two (2) wet tanks, one (1) air dryer, and three (3) dry air tanks, one (1) regulator, and one (1) local control panel and associated instrumentation; and integration into the existing SCADA system to include its own SCADA screen for monitoring compressor status and alarms, as well as controller / dryer operating status and alarms.
- D. Work Not Included in This Section – Fabrication of the control panels that shall be supplied by the equipment manufacturers.
- E. Contractor shall guarantee and be the source of information on all equipment, materials, and appurtenances furnished regardless of the manufacturing and supply source of the equipment.
- F. The specification sections listed below are an integral part of this equipment specification. Provide these sections to the equipment suppliers:
 - 1. Section 013300 - SUBMITTALS
 - 2. Section 016100 – BASIC PRODUCT REQUIREMENTS

3. Section 019113 – GENERAL COMMISSIONING REQUIREMENTS
 4. Section 221329 – SANITARY SEWERAGE PUMPS
 5. Section 221326 – PACKAGED, WASTEWATER PUMP UNITS
 6. Section 221519 – GENERAL SERVICE PACKAGE AIR COMPRESSORS AND RECEIVERS
 7. Section 466173 – AUTOMATIC STRAINER EQUIPMENT
- D. All equipment, materials, and appurtenances, as well as all signal, communications, and power wiring and cable runs and interconnections, shall be in strict accordance with the requirements of Division 26, Electrical, and in accordance with the manufacturer's recommendations, unless specified otherwise herein.

1.02 REFERENCES

- A. Standards referenced in this Section are listed below:
1. American National Standards Institute, (ANSI).
 2. American Water Works Association (AWWA) .
 3. Environmental Protection Agency (EPA) .
 4. Institute of Electrical and Electronic Engineers (IEEE) .
 5. The International Society of Automation (ISA) .
 6. National Electrical Code (NEC).
 7. National Electrical Manufacturers' Association (NEMA) .
 8. National Fire Protection Association (NFPA) .
 9. Occupational Safety and Health Administration (OSHA) .
 10. Underwriters Laboratories, Incorporated (UL).
 11. Local and State Building Codes and Ordinances.

1.03 QUALITY ASSURANCE

- A. General - All equipment integration shall be furnished by a single Supplier who shall assume the responsibility for adequacy and performance of all programming and networking equipment.
- B. Supplier's Qualifications
1. Shall be a firm having at least five years' continuous experience in designing, implementing, supplying, integrating into SCADA and supporting instrumentation and control systems for water treatment facilities which are comparable to the Project in terms of hardware, software, cost and complexity.
 2. Shall have a demonstrated experience record of successful instrumentation and control system equipment installations.
 3. Shall have in existence at the time of bid advertisement, an experienced engineering and technical staff capable of designing, supplying, implementing and supporting the instrument and control system and handling the submittal and training requirements.
 4. Shall be capable of providing training for Owner's personnel in instrumentation and process control applications and in operation, programming and maintenance of the control system and equipment.

- C. Supplier's Responsibilities - Contractor shall retain the system supplier to assume the responsibilities specified below. However, execution of these specified duties by the system Supplier shall not relieve Contractor of the ultimate responsibility for providing fully functional instrumentation and control system equipment that meets all the requirements specified systems noted above.
1. Preparation, assembly and correction of all instrumentation and control equipment submittals in accordance with the Contract Documents and procedures.
 2. Proper interfacing of all instrumentation and control equipment, field equipment, instruments, devices and panels, including required interfacing with package control systems furnished by other equipment suppliers and with the plant electrical system.
 3. Review, approval and coordination with manufacturers, suppliers and other contracts of Shop Drawings for equipment, valves, and piping for the purpose of ensuring proper interface of hardware, locations and installation of in-line instruments and instrument taps.
 4. Direct, detailed supervision of the installation of the instruments, panels, wiring and other components as well as related wiring and piping connections.
 5. Calibration, testing (factory and field) and startup of the systems.
 6. Handling of all warranty obligations for the instrumentation and control system components of the new equipment.
 7. Training of Owner's personnel in operation and maintenance (including calibration and troubleshooting) of the instrumentation and control equipment.
- D. Provide only new, standard, first-grade materials throughout, conforming to standards established by Underwriter's Laboratories (UL), Inc., and so marked or labeled, together with Manufacturer's brand or trademark.

1.04 SUBMITTALS

- A. Integrator / Supplier Approval
1. Integrator / Supplier qualifications shall be submitted with Bidder's submittal.
 2. Qualification submitted shall show, explicitly, that the Integrator / Supplier has the organization and facilities to comply with paragraph 1.03.B above .
 3. The detailed presentation of the proposed supplier's qualifications shall conform to paragraph 1.03.B.
- B. Shop Drawings
1. General
 - a. Shop drawing submittals are to be in accordance with the requirements of the Contract Documents.
 - b. Shop drawings shall be submitted in complete packages grouped to permit review of related items.
 - c. Review of Shop drawings will be for conformance with Contract Documents and with regard to functions specified.
 - d. The controls and instrumentation portion of the shop drawings for the equipment systems listed in 1.01.A.2 above, shall include the requirements given below.

2. Product information for all sensors/ transducers and field and panel instruments provided by the system manufacturers. Include the following:
 - a. Manufacturer's product name and model number.
 - b. Instrument tag number from Contract Documents.
 - c. Manufacturer's standard catalog product data.
 - d. Description of construction features.
 - e. Performance and operation data.
 - f. Installation and mounting details, instructions, and recommendations.
 - g. Service requirements.
 - h. Dimensions.
 - i. Range of each device and calibration information.
 - j. Descriptions of materials of construction and a listing of NEMA ratings for all equipment.
3. Control System Information
 - a. System Description
 - i. Detailed block diagram showing system hardware configuration and identifying model numbers of system components.
 - ii. Software language and organization.
 - iii. Format, protocol and procedures for data highway communications and local communications with input/ output modules and peripheral devices.
 - iv. Man-machine interfacing details.
 - v. Control and failure modes.
 - vi. Online and off line capabilities for programming, system utilities and diagnostics.
 - vii. Input/output point listing with I/O module cross-reference identification for each distributed controller.
 - viii. Database listing including all input/output points.
 - ix. Suggested detailed format and configuration of all log reports, alarm summaries, printer outputs, CRT displays and graphics.
 - x. List of spare parts and test equipment.
 - b. Equipment Hardware
 - i. Layout drawings showing front, rear, end and plan views to scale of all processing equipment, I/O components, power supplies and peripheral devices.
 - ii. Construction details, features and procedures .
 - iii. Interconnection diagrams including termination details, cable identification list and cable length.
 - iv. Plans showing equipment layout in control panels.
 - v. Installation requirements, instructions and/or recommendations.

4. Panels, Consoles and Cabinets Information
 - a. Layout Drawings include the following:
 - i. Front, rear, and internal panel views to scale.
 - ii. Dimensional information.
 - iii. Tag number and functional name of components mounted in and on panel, console or cabinet.
 - iv. Product information on all panel components.
 - v. Nameplate location and legend including text, letter size and colors to be used.
 - vi. Location of anchoring connections and holes.
 - vii. Location of external wiring and/or piping connections.
 - viii. Mounting and installation details.
 - ix. Proposed layouts and sizes of graphic display panels.
 - x. Calculations for heating and cooling.
 - xi. Subpanel layouts and mounting details for all items located inside control panels.
 - b. Wiring and/or piping diagrams include the following:
 - i. Name of panel, console or cabinet.
 - ii. Wiring sizes and types .
 - iii. Piping sizes and types.
 - iv. Terminal strip numbers.
 - v. Color coding.
 - vi. Functional name and manufacturer's designation for components to which wiring and piping are connected.
 - c. Electrical control schematics in accordance with NFPA 79 Standards for all circuits indicated in the Contract Documents.No typical wiring diagrams will be acceptable and no tables or charts to describe wire numbers will be acceptable.
 - d. Stock list or Bill of Materials for each panel including tag number, functional name, manufacturer's name, model number and quantity for all components mounted in or on the panel or enclosure.
5. I/O Loop Wiring Diagrams - Prepare drawings on a module-by-module basis and include the following information:
 - a. Rack numbers, slot number, module type and module terminal point numbers. Also, include location and identification of all intermediate panel terminal block and strip numbers to which I/O wiring and power supply wiring is connected. Identify all power supply circuit numbers and ratings.
 - b. Wiring sizes, types, wire numbers and color- coding.
 - c. Location, functional name, tag numbers and manufacturer model numbers of panel and field devices and instruments to which I/O wiring is connected. For discrete I/O devices use NFPA 79 electrical symbols tagged with designation as shown.

- d. Interface and cable data .
 - e. Hardware manuals.
 - f. Electrical characteristics and protection provided for each component.
 - g. Indicated modularity of I/O modules.
6. Field piping diagrams include the following:
- a. Piping sizes and types .
 - b. Location, functional name and manufacturer's designation of items to which piping is connected.
7. Submit heat calculations for each panel or enclosure to verify that there is sufficient dissipation of generated heat to maintain interior panel temperatures within the maximum and minimum operating temperature of all panel components.
- a. Ambient temperatures shall be as follows:
 - i. Outdoor Locations -- 10 to 120 degrees F;
 - ii. Relative humidity = 100 percent maximum .
 - b. Assigned PLC register locations available for monitoring by the SCADA system.
- C. Control System Operation and Maintenance Manuals
1. Furnish operation and maintenance manuals in accordance with Section 017823 and the requirements below.
2. The operation and maintenance manuals shall include the following :
- a. Name, address and telephone number of the instrumentation and control system supplier's local service representative.
 - b. Copy of all approved submittal information and system shop drawings as specified herein with corrections made to reflect actual system as tested and delivered to the Site for installation. Half- size black line reproductions shall be provided for all shop drawings larger than 11 by 17 inches.
 - c. Complete up-to-date system software documentation.
 - d. Manufacturer's original copies of installation, assembly and operations manuals. Manuals shall include the following information:
 - i. General descriptive information covering the basic features of the equipment.
 - ii. Physical description covering layout and installation requirements and all environmental constraints.
 - iii. Functional and operational descriptions covering the procedures for operation, startup, and shutdown.
 - iv. Maintenance procedures covering checkout, troubleshooting, and servicing; checkout procedures shall provide the means to verify the satisfactory operation of equipment, troubleshooting procedures shall serve as a guide in determining faulty components and servicing procedure shall cover requirements and recommended time schedule for calibration, cleaning,

- lubrication and other housekeeping and Preventive Maintenance procedures.
 - v. Wiring, schematic and logic diagrams.
 - vi. Safety considerations relating to operation and maintenance procedures.
- D. Record Drawings and Documentation
- 1. Contractor and system Supplier shall revise all system shop drawing submittals to reflect as-built conditions in accordance with the requirements of the Contract Documents and the supplemental requirements below .
 - 2. Six copies of all revised shop drawings and documentation shall be submitted to the Engineer to replace out-dated drawings and documentation contained in the system operation and maintenance manuals. Half-size black line sets shall be provided for all drawings larger than 11 by 17-inches. Specific instructions for out-dated drawing removal and replacement shall be provided with the record drawing submittal.
 - 3. Half-size black line prints of wiring diagrams applicable to each control panel shall be placed inside a clear plastic envelope and stored in a suitable print pocket or container inside each control panel.
 - 4. Submit reproducible drawings of the point-to point interconnection wiring diagrams updated to reflect final as-built equipment information and as-installed field installation information.
- E. Reports - Two copies of the following reports shall be submitted to Engineer:
- 1. Factory test reports.
 - 2. Installation inspection, field calibration, and field testing reports .
- F. Compliance Certificates and Other Documents - Submit copies of harmonic analysis for the installation.

1.05 GENERAL DESIGN REQUIREMENTS

- A. Power Supplies
- 1. All electrically powered equipment and devices shall be suitable for operation on 115 volt ± 10 percent, 60 Hz +2 Hz power. If a different voltage or closer regulation is required, a suitable regulator or transformer shall be provided at no additional cost to the Owner.
 - 2. Appropriate power supplies shall be furnished by Contractor for all two- wire transmitters. Power supplies shall be mounted in enclosures and installed in the appropriate field panel, as shown.
 - 3. Design all power supplies for a minimum of 130 percent of the maximum simultaneous current draw.
 - 4. A power on-off switch or an air circuit breaker shall be furnished for each item requiring electrical power.
- B. Signal Requirements
- 1. The control system shall be designed to use 4 to 20 mA DC analog signals, unless otherwise specified .
 - 2. Signal converters and repeaters shall be provided where required. Power supplies shall be sized adequately for signal converter and repeater loads .

3. Signals shall be isolated from ground.
4. Signals shall not have a transient DC voltage exceeding 300 volts over one millisecond nor a DC component over 300 volts.

C. Miscellaneous

1. All instrumentation components shall be heavy-duty types, designed for continuous service . The system is to contain products of a single manufacturer, when possible, and to consist of equipment models which are currently in production. All equipment provided is to be of modular construction and be capable of field expansion through the installation of plug-in circuit cards and additional cabinets as necessary. Design all logic and control loops to fail-safe.
2. All instrumentation components shall be designed to return automatically to accurate measurement within 15 seconds upon restoration of power after a power failure or when transferred to standby power supply.
3. Surge Protection - Provide protection for the electronic instrumentation and control system from surges propagating along the signal and power supply lines . The protection systems shall be such that the protection level shall not interfere with normal operation, shall be lower than the instrument surge withstand level, and be maintenance free and self restoring. Instruments shall be housed in suitable metallic cases, properly grounded. Ground wires for all surge protectors shall be connected to a good earth ground and where practical each ground wire run individually and insulated from each other. These protectors shall be mounted within the instrument enclosure or a separate junction box (compatible with the area designation) coupled to the enclosure.
4. All field-mounted instruments and system components shall be designed for installation in humid and corrosive service conditions. All field-mounted instrument enclosures, junction boxes and appurtenances shall conform to NEMA 4X requirements, unless otherwise specified.
5. All relays with interconnections to field devices shall be wired through terminal blocks. Terminals as part of the relay base are not an acceptable alternate.
6. All panel-mounted instruments, switches, and other devices shall be selected and arranged to present a pleasing coordinated appearance. All front of panel mounted devices shall be of the same manufacturer and model line.
7. All components furnished, including field and rear of panel instruments, shall be tagged with the item number and nomenclature indicated in the Contract Documents and/or approved shop drawings .
8. Ranges and scales specified herein shall be coordinated to suit equipment actually furnished.
9. All electronic circuits are to be coated with an anti- fungus compound.

D. Environmental Conditions

1. The control system shall be designed and constructed for continuous operation under the following temperature and humidity conditions:
 - a. Indoor Locations for Instruments

- i. Ambient Temperature - 0 to 120 degrees F.
 - ii. Relative Humidity - 100 percent, maximum.
 - b. Outdoor Locations for Instrument
 - i. Ambient Temperature – -15 to 120 degrees F.
 - ii. Relative Humidity – 100 percent, maximum.
- 2. Any field instrument mounted outdoors shall be protected from direct sunlight by a sunshade. The sunshade shall be constructed out of non-corrosive material and shall withstand the maximum wind velocity expected in the area.

1.06 STORAGE AND HANDLING

- A. Each manufacturer or supplier securely attach the tag number and instructions for proper field handling and installation to each instrument prior to packaging.
- B. Each manufacturer or supplier package control cabinets and instrumentation to protect against shipping damage, dust, moisture, and atmospheric contaminants. Include a shipping label which contains the following information:
 - 1. Tag number, equipment number and description.
 - 2. Instructions for unloading transporting, storing and handling at the Site.
- C. Receive control cabinets and instrumentation at the Site. Inspect control cabinets and instrumentation for damage in shipment and return damaged control cabinets and instrumentation to the manufacturer.
- D. Do not store control cabinets and instrumentation out-of-doors. Provide dry, heated permanent storage facilities and pay storage costs.

PART 2 - PRODUCTS

2.01 PANELS

- A. General Construction Requirements
 - 1. Provide all electrical components and devices, support hardware, fasteners, interconnecting wiring and/or piping required to make the control panels complete and operational units.
 - 2. Locate and install all devices and components so that connections can be easily made and so that there is ample room for servicing each item.
 - 3. Adequately support and restrain all devices and components mounted on or within the panel to prevent any movement.
 - 4. Provide sub-panels for installation of all relays and other internally mounted components.
 - 5. All wiring to panel connections from field instruments, devices, and other panels shall be terminated at master numbered terminal strips, unless otherwise specified.
 - 6. Provide copper grounding studs for all panel equipment.
 - 7. Provide the following convenience accessories inside of each panel:
 - a. One 120 VAC, 20 A duplex, Ground-Fault Circuit Interrupting (GFCI), grounding type receptacle.

- b. One 120 VAC fluorescent light fixture with 20-watt lamp and protective plastic shield.
 - c. One 120 VAC, 20 A, snap switch, to turn on the light, mounted in an outlet box with a cover and located so that it is easily accessible from access door.
 - d. The service light with switch and duplex receptacle shall have its own circuit breaker.
8. All vendor panels shall conform to the requirements of this Section.
 9. Panels shall be equipped with doors for front of panel opening.
 10. A complete factory test for each panel shall be performed. All signals (both analog and digital) shall be simulated. Simulation devices shall be of suitable quality so as not to mask control panel defects. A successful test will be defined as all components within the respective control panel, being tested and certified for its intended function. Witnessing will be at the Engineer's option.
 11. Contractor shall be responsible for the detailed layout and design of the panels in accordance with standard practice and techniques. Cutouts and design are to be based on instrument supplier's requirements. The actual layout shall be subject to approval by Engineer.
 12. The bottom 12 inches of free-standing panels shall be free of all devices, including terminal strips, to provide ease of installation and testing.
 13. No device shall be mounted less than 36 inches above the operating floor level, unless otherwise specified.
 14. Panels shall be UL approved.
- B. Identification
1. Provide laminated plastic nameplates with 1/2-inch-high letter engravings for identification of panels and front of panel components. Refer to panel layouts and drawings. Use self-tapping stainless-steel screw for fastening.
 2. Tag all internally mounted components.
 3. Tag all electrical components and devices mounted within control panels with embossed plastic tape labels.
 4. Numerically code terminals on terminal strips.
 5. Color code and/or numerically code wiring as required by applicable standards. Wires shall be identified at each end with permanent number codes.
- C. Construction Features
1. Control panels located inside control or electrical room areas shall be NEMA 12 rated.
 - a. Fabricate enclosures using minimum 14 gage steel for wall or frame mounted enclosures and minimum 12 gage for free standing enclosures. Steel shall be free of pitting and surface blemishes.
 - b. Continuously weld all exterior seams and grind smooth. Also, surface grind complete removal of corrosion, burrs, sharp edges and mill scale.
 - c. Reinforce sheet steel with steel angles where necessary to adequately support equipment and ensure rigidity and to preclude resonant vibrations.

- d. Panel shall be flat within 1/16 inch over a 24-inch by 24-inch area, or flat within 1/8 inch for a larger surface. Flatness shall be checked by using a 72-inch-long straight edge. Out-of-flatness shall be gradual, in one direction only, and shall not consist of obvious depressions or a series of wavy sections.
 - e. Use pan-type construction for doors. Door widths shall not exceed 36 inches.
 - f. Mount doors with full length heavy duty piano hinge with stainless steel hinge pins.
 - g. Provide oil-resistant gasket completely around each door or opening.
 - h. Provide handle operated, oil-tight, key lockable three-point stainless steel latching system with rollers on latch-rods for easy door closing.
 - i. Use stainless steel fasteners throughout.
 - j. Provide interior mounting panels and shelves constructed of minimum 12 gage steel with a white enamel finish.
 - k. Provide steel print pocket with white enamel finish.
 - l. Provide enclosure mounting supports as required for floor, frame, or wall mounting.
 - m. Provide all holes and cutouts for installation of conduit and equipment. Cable and piping to enter the enclosure through the bottom unless otherwise noted. All conduit and piping openings and all conduits shall be sealed watertight.
 - n. Completely clean all interior and exterior surfaces, so they are free of corrosive residue, oil, grease, and dirt. Zinc phosphatize for corrosion protection.
 - o. One coat of primer shall be applied to all interior and exterior surfaces immediately after corrosion protection has been applied. Exterior surfaces shall then be given sufficient coats of primer surfacer, applied with sanding and cleaning between coats, until a Grade 1 finish can be produced on the finish coat.
 - p. All interior surfaces shall be painted with two coats of semi-gloss white polyurethane enamel.
 - q. All exterior surfaces shall be painted with a minimum of three finish coats of polyurethane enamel to ultimately produce a Grade 1 finish (super smooth; completely free of imperfections). Color to be selected by Engineer from complete selection of standard and custom color charts furnished by the manufacturer. Provide one extra quart of touch-up paint for each exterior finish color.
 - r. Primer and finish paint shall be compatible and shall be a low VOC, high solids polyurethane enamel, Hi-Solids Polyurethane B65 W300 Series as manufactured by Sherwin-Williams, Inc. or equal.
 - s. Provide one extra quart of touch-up paint for each exterior finish color.
2. Control panels located outside control room or electrical room areas shall be NEMA 4 rated.
- a. Panels shall be constructed of fiberglass mat- reinforced polyester resin, with a minimum thickness of 3/16-inch for all surfaces except those areas requiring reinforcement.
 - b. Panels shall be precision molded to form a one- pieced unit with all corners rounded.

- c. Exterior surfaces shall be gel-coated to provide a corrosion-resistant, maintenance-free satin finish which shall never require painting.
- d. Color pigments shall be molded into the resin.
- e. Color to be selected from color charts furnished by the Contractor.
- f. Panels shall have "half height" front access doors wherever rear access is not feasible; no devices to be mounted on doors.
- g. Provide a clear plastic, gasketed, hinged door to encompass all non-NEMA 4 front of panel instruments.
- h. All hardware, including hinge and means of locking shall be corrosion resistant.
- i. Provide 5/16-inch diameter copper ground studs which will be the ground connection points for all panel equipment.
- j. Floor Pad - Refer to Part 3 of this section.

D. Electrical Systems

1. Power Source and Internal Power Distribution

- a. General - Panel power supply source type, voltage, and circuit number shall be as shown.
- b. The panels shall be provided with an internal 120 VAC power distribution with separate circuit breakers, sized as required, to distribute power.
- c. Power Supply - Protection of all 120 VAC instrument power supply lines shall be provided. Cabinet(s) / panel(s) and the like shall be protected by isolation transformers and surge suppressors.

2. Electrical Systems

- a. Internal wiring shall be Type MTW and THW stranded copper wire with thermoplastic insulation rated for 600 V at 85 degrees C for single conductors, color coded and labeled with wire identification.
- b. For DC panel signal wiring, use No. 18 minimum AWG shielded. For DC field signal wiring, terminal strips shall be capable of handling No. 12 wiring (minimum).
- c. For AC power wiring, use No. 12 minimum AWG. For AC signal and control wiring, use No. 16 minimum AWG. For wiring carrying more than 15 amps, use sizes required by NEC and NFPA Standards.
- d. Separate and shield DC signal wiring from power and control wiring by a minimum of 6 inches.
- e. Group or bundle parallel runs of wire using covered troughs. Maximum bundle size shall be 1-inch. Troughs shall have 40 percent spare capacity.
- f. Install wire troughs along horizontal or vertical routes to present a neat appearance. Angled runs are not acceptable.
- g. Adequately support and restrain all wiring runs to prevent sagging or other movement.
- h. Terminate all field wiring using forked, insulated, crimp-on connectors (soldered type not acceptable) at 600 V rated barrier type terminal strips (mount on Din rails.)

with screwed connections and permanently affixed numeric identifiers beside each connection. Identifiers to be self-stick, plastic tape strips with permanent type, machine printed numbers. Provide Phoenix Contact or equal .

- i. All wiring shall be installed such that if wires are removed from any one device, power will not be disrupted to any other device.
- j. All alarms generated external to the panel, spare alarm, and repeat contacts shall be wired out to terminal blocks.
- k. For internal component-to-component wiring only, compression type terminal blocks (mounted on DIN rails) are acceptable. Provide Phoenix Contact or equal.
- l. Provide spare terminals equal in number to 20 percent of the terminals used for each type of wiring (e. g., DC signal and AC power).
- m. Provide a separate terminal for grounding each shielded cable.
- n. Use separate 5/16-inch diameter copper grounding studs for instrument signal cable shields and AC power.
- o. Where wires pass through panel walls, provide suitable bushings to prevent cutting or abrading of insulation.
- p. When DC power and/or low voltage AC power is required, provide, and install the necessary power supplies and transformers in the panel.
- q. Provide circuit breakers to protect each circuit, with no more than six instruments on a single circuit.
- r. Provide complete wiring diagram showing "as built" circuitry. Diagram shall be enclosed in transparent plastic and placed in easily accessible pocket built into panel door.

3. Surge Protection

- a. General - Surge protection shall be provided to protect the electronic instrumentation and control system from surges propagating along the signal and power supply lines. The protection systems shall be such that the protection level shall not interfere with normal operation, but shall be lower than the instrument surge withstand level, and be maintenance free and self restoring. Instruments shall be housed in suitable metallic cases, properly grounded . Ground wires for all surge protectors shall be connected to a good earth ground and where practical each ground wire run individually and insulated from each other. These protectors shall be mounted within the instrument enclosure or a separate junction box (compatible with the area designation) coupled to the enclosure .
- b. Surge suppression shall be provided for all circuits, AC and DC, running between or outside buildings.
- c. Surge suppression shall be installed at each end of circuit requiring surge suppression and at the entrance of power feed to all control panels.
- d. Power Circuits:

- i. Lightning and surge protection devices shall be standard manufactured products comprising multi-component networks or hybrid circuits. The units shall incorporate gas filled discharge tubes, and Zener diodes providing full protection from line to line and from line to ground. Units shall be din-rail mounted, rated for a IOKA maximum surge current and voltage suitable for the type of circuit being protected. Reaction time shall be in the order of nanoseconds.
- ii. The electrical power system shall be protected from voltage surges at the power service point, and other point within the electrical system as noted, in the form of a UL-1449 listed surge suppressor with a 25-year manufacturer's performance warranty.
- iii. Provide TVSS Series by Weidmuller or equal.

2.02 PUSHBUTTONS, SELECTOR SWITCHES, AND INDICATING LIGHTS

A. General

1. Pushbuttons, selector switches and indicating lights shall be supplied by one manufacturer and be of the same series or model type.
2. Contacts - Double break, silver contacts with movable contact blade providing scrubbing action; No. and arrangement as required to perform intended functions specified, plus a minimum of one spare single pole, double throw contact per relay function.
3. Type - Heavy duty, oil tight.
4. Provide legend plate for indication of pushbutton, switch or light function as shown.
5. Mounting - Flush mounted on control panel front.
6. NEMA rated to match panel in which mounted.

B. Pushbuttons (Standard)

1. Type - Provide unlighted, single pushbuttons as required to perform intended functions specified and shown.
2. Contacts - Comply with the requirements specified for selector switches.

C. Indicating Lights

1. Type - Indicating lights, compact, integral transformer type.
2. Lamps - LED; 6 volts, long life (20,000 hours minimum).
3. Common push to test circuitry shall be provided for each panel as shown to simultaneously test all indicating lights on the panel using a single pushbutton. On panels where pushbutton for common push to test circuitry is not shown, provide push-to-test indicating lights.

D. Button and Lens Colors

1. Green for Open; On; Running.
2. Red for Closed; Off; Stopped.
3. Amber for indication of equipment malfunction, process trouble and alarms (e.g., "HIGH LEVEL", "LOW LEVEL", etc.).
4. Blue for Electrical Control Power On.

E. Selector Switches

1. Provide number of positions/poles as required to perform functions shown and specified.
 2. Rating - AC or DC compatible - IOA resistive at 120 VAC or DC continuous minimum.
 3. Operator - Standard black knob.
- F. Products and Manufacturers - Provide one of the following:
1. Cutler-Hammer.
 2. Allen Bradley.
 3. Or equal.

2.03 DIGITAL INDICATOR

- A. Type - Digital panel meter, utilizing current to convert analog signal to LED readout . Indicator shall match in appearance other panel mounted instruments.
- B. Required Features
1. Accept 1 to 5 VDC or 4 to 20 mA DC input signal.
 2. Accuracy - ± 0.05 percent ± 2 counts.
 3. Zero and span adjustment/scaling.
 4. Display - 4-1/2 digits ($\pm 9,999$) minimum LED display. 5 . Mounting - Housing designed for front panel mounting. Provide NEMA 4X rated front when required.
 5. Power Supply - 120 VAC, 50/60 Hz.
 6. Resistors - Provide 1 percent precision resistors for 4 to 20 mA DC input signal conversion where required .
 7. Display Segment Size - 0.56 inches (minimum) .
 8. Range and Scale - As specified in instrument schedule for associated signal transmitter.
 9. Loop Power - Built-in 24 VDC power supply available for two wire transmitter.
- C. Products and Manufacturers - Provide one of the following:
1. Model PD650, Precision Digital.
 2. or equal.

2.04 CONTROL RELAYS

- A. Type - General purpose, plug-in type rated for continuous duty.
- B. Construction Features
1. Coil Voltages - 24 VDC and 120 VAC, as required .
 2. Contacts
 - a. Silver cadmium oxide, gold flashed except in cases for switching low energy circuits (less than 200 ma) where fine silver, gold flashed contacts shall be provided.
 - b. Rating - Compatible with AC or DC throughout voltage and current of devices simultaneously operated by contacts, but not less than the following:
 - i. Silver cadmium oxide, gold flashed not less than five amperes resistive at 120 VAC or 28 VDC continuous.
 - ii. Fine silver, gold flashed not less than three amperes resistive at 120 VAC or 28 VDC continuous.

- iii. Relays shall have clear plastic dust cover.
 - iv. Relays shall be UL recognized.
- C. Products and Manufacturers - Provide one of the following:
- 1. Type R and/or Type K, as manufactured by Square D Company.
 - 2. Or equal.

2.05 POWER SUPPLIES

- A. General - Single unit and multiple unit power supplies, located in field panels as required.
- B. Multiple Unit Required Features
- 1. Solid-state circuitry
 - 2. Standard 19-inch RETMA (EIA) rail mounting
 - 3. Input Power - 120 VAC \pm 10 percent, 60 Hz
 - 4. Output Power - 24 VDC
 - 5. Polarity - Floating output
 - 6. Ambient Temperature - -10 to +55 degrees C
 - 7. Response Time - $<20\mu$ S
 - 8. Include overvoltage protection and output current limiting protection
 - 9. Connections
 - 10. Twist lock AC power connector
 - 11. DC power terminal strip
 - 12. Products and Manufacturers - Provide one of the following:
 - a. CP-SNT-70W-24V-3A
 - b. Weidmuller
 - c. Or approved equal.

2.06 AUDIBLE AND VISUAL INDICATION

- A. Horn:
- 1. General - The horn shall be of the multi-tone electronic audible type.
 - 2. Required Features
 - a. Internal volume control. Db range
 - b. Field selection of up to 16 different tones.
 - c. Power - 48 vd-c (provide power supply as required).
 - d. Operating Temperature - 32 to 120 degrees F.
 - 3. Manufacturer - Provide electronic horn of one of the following:
 - a. Panalarm
 - b. or equal
- B. Strobe Light:
- 1. General - The strobe shall be LED type.
 - 2. Required Features
 - a. Size: 85mm
 - b. Color: red

- c. Power: 12/24 VDC
- 3. Manufacturer - Provide electronic horn of one of the following:
 - a. Federal Signal
 - b. Werma
 - c. or equal

2.07 OPERATOR INTERFACE TERMINAL (OIT)

- A. The OIT shall provide a means of communicating with the local PLC. The OIT shall continue to function in the event of a failure of the Plant's SCADA system.
- B. The OIT shall meet the requirements of the individual sections where specified, as applicable.

2.08 CATEGORY 6 DATA CABLE

- A. The cable shall be 23 AWG solid bare copper, 4 pair conductors. FEP insulation suitable for outdoor installation, -55 to +150 degrees C.
- B. Product and Manufacturers
 - 1. Belden Cable and Wire, Trade No. 7931A
 - 2. Or equal

2.09 CATEGORY 6 DATA CABLE SURGE PROTECTION

- A. General - DIN-rail mountable RJ45 attachment plug with surge protection for Cat 6 cable.
- B. Required Features
 - 1. Total surge current (8/20) μ s - 10 kA.
 - 2. Ambient temperature (operation) - -40 to 85 degrees C.
 - 3. Response time tA (Core-Core) -1 ns.
 - 4. Response time tA (Core-Earth) -100 ns.
 - 5. Number of positions – 8
 - 6. Degree of protection - IP20
 - 7. Direction of action - Line-Ground/Shield & Line-Line.
 - 8. Connection type IN - RJ45 female connector.
 - 9. Connection type OUT - RJ45 female connector.
 - 10. Standards/regulations - IEC 61643-21; EN 50173-1; ISO/IEC 11801-Am
- C. Product and Manufacturers
 - 1. DATATRAB DT-LAN-CAT.6+by Phoenix Contact
 - 2. Or equal

2.10 AREA PROCESS ETHERNET SWITCH

- A. General - Provide an Ethernet switch for segment connection of the network, as shown on the Drawings.
- B. Required Features
 - 1. Minimum of 6 10/100 Base TX (RJ45) ports.
 - 2. Minimum of 2 dual-purpose uplinks.
 - a. 1 10/100/1000 Ethernet port

- b. 1 SFP-based Gigabit Ethernet port, 1 port active
- 3. Per-port Status Indicators
 - a. Link Integrity
 - b. Disabled
 - c. Activity
 - d. Speed
 - e. Full/Half Duplex
- 4. Management Console Port
 - a. RJ-45 jack with RS232 interface
 - b. Asynchronous serial DTE
 - c. Communications speed of 9.8 to 115.2 Kbps
- 5. Switch Fabric - Shared medium.
- 6. Shared Memory - Minimum 4 Mbytes.
- 7. Bandwidth of Switch Fabric - Minimum 3.2 Gbps Full Duplex.
- 8. Forwarding Rate - Minimum 3.0 Mpps (64 byte packets).
- 9. Forwarding Bandwidth - Minimum 1.6 Gbps.
- 10. Forwarding Mode - Store-and-Forward.
- 11. Power Supplies
 - a. 115 VAC +10 percent, 50 to 60 Hz.
 - b. Size each supply to individually support the load plus 25 percent reserve capacity.
- 12. Self-healing with automatic fail over to eliminate any single point of failure .
- 13. Support ring topology.
- 14. Support Simple Network Management Protocol (SNMP) and Remote Monitoring (RMON) control.
- 15. Switch Management
 - a. SNMP
 - b. Bridging Management Information Base.
 - c. RMON control.
- 16. Comply to IEEE 802.3x Full Duplex on IOBaseT and IOOBaseT.
- 17. Units shall be stackable for expansion as needed.
- 18. Full performance from 32 to 122 degrees F, 10 to 85 percent humidity non-condensing.
- C. Product Manufacturer and Model
 - 1. Cisco IE-3000-8TC.
 - 2. Or equal.

2.11 PROGRAMMABLE AUTOMATION CONTROLLER

- A. General
 - 1. Provide programmable automation controller (PAC) system with all necessary components
 - 2. The PAC shall be configured by others to perform functions shown and specified. Coordinate and obtain from all equipment suppliers PAC systems of the same manufacturer and series.
 - 3. Functions to be performed by the PAC include but are not necessarily limited to the following:

- a. Alarm and status indication.
 - b. PID control and arithmetic functions.
 - c. Interlock and sequential logic control of processes and equipment operations.
 - d. Collection and transmission of data and control parameters to and from other PLCs.
 - e. Provide a dry contact rated 2 amperes at 120 volts a-c for remote indication of processor failure .
4. The PAC shall be electronic type furnished with all necessary relays, timers, counters, and latches as data manipulative functions and arranged into the format required to accomplish the functions shown and specified .
 5. The PAC shall be designed and constructed for the demanding requirements of real time process management and control on a continuous basis for use in a waste treatment plant .
 6. The manipulative functions shall have the capability of being rearranged into any desired format while the controller is performing other control tasks.
 7. Expansion of the controller by the input/output points, internal data manipulative functions, and relays, timers and counters shall be accomplished by reprogramming.
 8. The control programs and applications memory of the PAC shall be capable of being remotely (off line) and locally (on line) monitored, programmed, modified and displayed by use of a personal computer and documentation software which shall be provided as part of this contract .
 9. The logic shall be entered and displayed in ladder diagram and functional block format.
The ladder diagram format shall contain a complete cross reference with each coil referred to in logic and identified as normally open or normally closed. Mnemonic information shall be added to each coil and to both real and internal I/O points. Alphanumeric titles and descriptions shall appear on the screen .
 10. Any restructuring of the control logic shall be done at the PAC installation and shall not necessitate any removal of the mainframe to another location.
 11. The controller mainframe shall be arranged in modular type design. All inputs, outputs, and logic control interface units shall be easily removed for ease in replacement or restructuring the hardware arrangement. Shut down of the processor control logic (halting of program scan) shall not occur when remote input/output modules are removed.
 12. In the event of a power failure or malfunction of the logic hardware, the controller shall provide dry, Form C contact closures for remote and local indication and alarming.
 13. A self diagnostics package to determine proper processor operation shall be included. Diagnostic LED shall be provided in clear view on the front of the PLC enclosure.
 14. Changing an on line control logic process operation shall not necessitate the halting of the processor.
 15. Burn in for all printed circuit boards and modules shall be performed at the factory .
 16. Equipment shall conform to NEMA ICS 3 304.

17. The primary interface to the process equipment and field devices shall be provided by the input/output system consisting of I/O modules installed in mounting racks. The input/output system hardware shall be designed with the following features :

- a. Noise immunity and filtering .
- b. IEEE surge withstand rating to IEEE 472.
- c. Optical isolation for all inputs and outputs to provide controller logic protection.
- d. No on board pots requiring adjustment or maintenance .
- e. Any card, any slot, plug in packaging, with locking bars and/or screws to hold I/O modules in place.
- f. 300 Volt, screw type, field wiring terminal strips sized to accommodate a minimum of two No. 14 AWG wires per terminal. Terminal strip design shall allow I/O module removal and replacement without disturbing wiring connections.
- g. Front of module LED status indicators for each individual input and output point to indicate when power is applied at I/O terminals.
- h. Individually fused output circuits for all output modules. Fuses shall be capable of being inspected without removal of and replaced without disassembly of the output module. For individually isolated output modules, front of module blown fuse LED status indicators shall be provided for each output point . For non isolated (common output power source) output modules, common blown fuse LED status indicators shall be provided for a maximum of every four points.
- i. All outputs for contactors and relays shall be rated for a minimum of 2.0 amps continuous at 120 vac. Higher rated outputs and/or interposing relays inside the control center shall be provided in order to assure that ratings of the output contacts are not exceeded. Coordinate with equipment being controlled by the respective outputs.
- j. For outputs to motor contactors and other equipment type load relays, provide transient and inrush surge suppressor connected across the output contact terminal and the neutral common terminal inside the control center to suppress the switching surge transient to lower than the continuous rating of the output contacts.
- k. The maximum number of points per I/O module shall be as follows:
 - i. Discrete - 16.
 - ii. Analog - 8.
- l. The following types of I/O modules shall be provided for use with the supplied PLC System:
 - i. Analog Inputs (12 bits minimum.
 - a) 0 10 vd-c.
 - b) 1 5 vd-c .
 - c) 4 20 made (250 ohms maximum impedance).
 - d) Millivolt signals.
 - ii. Analog Outputs (12 bits minimum)

- a) 4 20 made (load of 750 ohms minimum).
- b) 0 10 vd-c.
- c) 1 5 vd-c.
- iii. Register Inputs and Outputs (16 bit)
 - a) Single BCD .
 - b) Multiplexed BCD.
- iv. Discrete Inputs
 - a) 5, 12, 24, 48 vd-c and 120 va-c in both isolated and common circuit types.
 - b) TTL Logic.
- v. Discrete Outputs
 - a) 120 va-c in both isolated and common circuit types.
 - b) 12 120 vd-c.
 - c) Form C Relay Contacts.
 - d) TTL Logic.
- vi. High Speed Encoder/Counter
 - a) Accept and count pulse inputs independently and unaffected by I/O scan or program scan.
 - b) Minimum pulse rate of 50 Khz.

B. Required Features

1. Construction - Modular printed circuit boards .
2. Type - Electronic components with central processing unit and software reprogramming capabilities.
3. Memory
 - a. System Memory - Electrically Erasable Non volatile type (EEPROM) or Lithium battery backed RAM with minimum retention time of 2 years under worst case conditions.
 - b. Application Memory
 - i. Type - Lithium Battery backed RAM with minimum retention time of 2 years under worst case conditions, or RAM with EEPROM or NOVRAM backup modules.
 - ii. Size - As required for present and dedicated future I/O capacity and for performance of the specified functional requirements plus 25 percent spare capacity as a minimum.
4. Language Format - Ladder-type diagrams and functional blocks.
5. Provide type and quantity of I/O as required to perform the operational and functional requirements plus 50 percent spare for each type of I/O module used. Spare points shall be mounted and wired ready for use and shall require only field wiring connections and software configuration to place the point in service.

6. Internal Functions - Relays, timers, counters, latches, internal storage registers, and other functions as required to perform specified functional requirements plus 25 percent spare capacity.
7. Report Generation - Processor shall have the capability to store and automatically communicate up to 198 ASCII status/ alarm/diagnostic type messages to a peripheral display device via the RS 232C output port at rates up to 19.2 K bits/second.
8. Security Features - Key switch interlock on PLC and/or security password protection through system programmer terminal to prevent tampering of logic sequences and unauthorized programming.
9. Processor Scan Time - 2 ms per 1 K bytes of memory typical.
10. Operating Temperature - 32 to 140 degrees F.
11. Storage Temperature - -40 to 160 degrees F.
12. Power Supply - 120 va-c, ± 10 percent with fuse or circuit breaker protection. Supplies shall be sized for a minimum of 130 percent of maximum simultaneous current draw .
13. Data Communications - The PLCs provided shall be capable of peer to peer communications with other PLCs of the same and different types by means of manufacturer standard data highway system. Highway system design shall be a token-passing, masterless, high throughput serial communication bus which connects the PLCs by means of intelligent network interface modules at the highway drops. Minimum local highway speed shall be 50 K baud and highway system design shall be upwardly compatible with the MAP standard. The PLC shall also be provided with an Ethernet module allowing the assignment of an IP address for the PLC and communications with SCADA computer.
14. Clock -Battery-backed clock with typical variation of ± 20 seconds per month.
15. Provide PLC programming/documentation software package shall be fully menu-driven and self-prompting. Package shall provide fully integrated ladder diagram programming and documentation. The package shall allow three lines of mnemonics per ladder element with six characters per line minimum. It shall also provide for the inclusion of the following documentation information for ladder diagram contacts and coils:
 - a. Panel I/O wiring list.
 - b. Rack number.
 - c. Module position slot number.
 - d. I/O module type.
 - e. Terminal number and wire number.
 - f. Electrical and Mechanical Drawing Reference Number.
 - g. Description of up to 240 characters in length for each element .
 - i. The programming/documentation software displays shall allow the user to flip between documentation and the uncommented rung as it resides in the controller. Software shall also allow selection of single rung and continuous ladder diagram printouts.

C. Product and Manufacturer

1. PAC Systems, as manufactured by General Electric (Owner Standard).

2.12 SPARE PARTS AND TEST EQUIPMENT

- A. Furnish and deliver the spare parts and test equipment as outlined below, all of which shall be identical and interchangeable with similar parts furnished under this section.
- B. Spare parts shall be packed in containers suitable for long-term storage, bearing labels clearly designating the contents and the pieces of equipment for which they are intended.
- C. The following shall constitute the minimum spare parts:
 1. Five of each type input-output relay for each 40 or less furnished for this Contract
 2. One replacement power supply for each type and size furnished for this contract.
 3. A one year supply of all expendable materials.
 4. One per five of gages, indicators and/or switches used in field complete with diaphragm seals, filled and ready for use.
 5. Provide one per ten, or part thereof, per range of field instruments including all insertion type instruments. No spares are required for in-line instruments such as magnetic flow meters and venturis that include flow tubes through which the flow passes.
 6. One dozen of each type and size of fuse used in instruments.
- D. All spare parts shall have been operated and tested in the factory as part of factory testing prior to shipment of the control system.
- E. For process sensors and all other analog instruments, the supplier shall submit a separate quotation for a recommended list of spare parts and test equipment. Each item recommended shall be listed and priced separately. The spare parts quotation shall contain a statement that the prices quoted are firm for a period of one year from the installation date of the equipment, and that the supplier understand that the Owner reserves the right to purchase none, any, or all of the parts quoted. The supplier is required to show that a stock of spare parts and test-equipment is obtainable within a 48-hour period.

2.13 CONTROL DESCRIPTIONS - GENERAL

- A. The overall operation and control description of the various systems is included in their respective Sections:
 1. Section 221329 – SANITARY SEWERAGE PUMPS
 2. Section 221326 – PACKAGED, WASTEWATER PUMP UNITS
 3. Section 221519 – GENERAL SERVICE PACKAGE AIR COMPRESSORS AND RECEIVERS
 4. Section 466173 – AUTOMATIC STRAINER EQUIPMENT
- B. All process integration and SCADA programming will be performed by the Contractor's Integrator / Supplier. The Contractor shall implement all control strategies noted in these Sections.
- C. Detailed SCADA descriptions are not provided herein. A workshop meeting between the Contractor's Integrator / Supplier and the County Operations Staff will be required prior to finalizing the SCADA integration plan. All control capabilities noted herein for monitoring and control will apply to SCADA as well.

- D. New SCADA screens will be developed and integrated into the County existing plant SCADA system by the Contractor's Integrator / Supplier.
- E. All alarms will be configured for display and annunciation at SCADA.

PART 3 EXECUTION

3.01 INSPECTION

- A. The Contractor shall examine the conditions under which the Work is to be installed and notify the Engineer in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected.

3.02 EQUIPMENT INSTALLATION

- A. Environmental Requirements
 - 1. No instrument shall be scheduled to be installed in an area where active construction may cause it to be damaged, unless Contractor provides adequate protection for said instrument.
 - 2. Miscellaneous hardware such as fittings, fasteners, screws, etc., shall be of Type 316 stainless steel and shall be suitable for the service intended. Pipe stands shall be provided for fastening of instruments, as required. They shall be pipe threaded with flange bolted to slab. Use carbon steel piping and flanges with epoxy painting.
- B. Installation of Instrumentation
 - 1. Field-mounted instruments shall be secured to stands or brackets in accordance with the manufacturer's recommendations and the approved Shop Drawings:
 - 2. Sensors shall be located generally where shown. Exact locations shall be confirmed in the field.
 - 3. All devices shall be installed such that they are readily accessible for service and do not cause potential tripping hazards.
- C. Material of Construction - All cable, conduits, stands, supports and appurtenances shall be in accordance with manufacturer's recommendations, approved Shop Drawings and as shown.

3.03 FACTORY TESTING

- A. General
 - 1. Contractor shall submit information on factory testing procedures to verify that testing shall fulfill the requirements as specified herein.
 - 2. Owner and Engineer may elect to be present at Contractor's facilities during operational test of system equipment, either for individual units or as an integrated system. Presence of Owner and Engineer during testing does not relieve Contractor from conforming to the requirements of the Contract Documents and shall in no way imply acceptance of the equipment.
 - 3. When the factory tests have been successfully completed, a factory test report shall be submitted to Engineer. The equipment shall not be shipped until Notice of Acceptance of the test is received by the Contractor.

- B. Inspection - All panels, consoles and cabinets shall be inspected. Inspection shall include, but not be limited to the following:
 - 1. Nameplates and tags.
 - 2. Wire sizes and color coding.
 - 3. Terminal block contact ratings and numbers.
 - 4. Annunciator and terminal block spares.
 - 5. Proper wiring practices and grounding.
 - 6. Enclosure flatness, finish and color.
- C. System Operational Testing
 - 1. All input/output devices and components shall be tested to verify operability and basic calibration.
 - 2. All system hardware components equipment shall be tested to verify proper operation of the equipment as stand alone units. Test shall include, but not be limited to, the following :
 - a. AC/DC power checks.
 - b. Power fail/restart tests.
 - c. Diagnostics checks.
 - d. Test demonstrating that all specified equipment functional capabilities are working properly.
 - 3. All system components shall be tested to verify that communication between units is working properly.
 - 4. An integrated system test with all system equipment and simulated inputs/outputs connected shall be performed to verify that all equipment is performing properly as an integrated system.

3.04 CALIBRATION, STARTUP, AND TESTING

- A. Field verify the operation and performance of each instrument and vendor panel prior to start-up of the associated equipment, and document on a separate sheet for each. For each certification sheet, include the following information:
 - 1. Project name.
 - 2. Tag or panel number/name and description.
 - 3. Manufacturer or vendor.
 - 4. Model and serial number (if applicable).
 - 5. Date, time and person who performed calibration or panel vendor checkout .
 - 6. Calibration data to include.
 - a. Input, output, and error at 0, 25, 75, and 100 percent of span for analog instruments.
 - b. Switch setting, contact action and deadband, if applicable, for discrete elements.
 - 7. Space for comments.
 - 8. Space for sign off and date.
- B. System Check-Out and Startup Responsibilities
 - 1. Contractor shall retain the services of the system supplier to supervise and/or perform check out and start up of all system components. As part of these services, the system supplier shall

include, for those equipment items not manufactured by him, the services of an authorized manufacturer's representative to check the equipment installation and place the equipment in operation. The manufacturer's representative shall be thoroughly knowledgeable about the installation, operation and maintenance of the equipment.

2. Check and approve the installation of all instrumentation and control system components and all cable and wiring connections between the various system components prior to placing the various processes and equipment into operation .
3. Conduct a complete system checkout and adjustment, including calibration of all instruments, tuning of control loops , checking operation functions, and testing of final control actions. All problems encountered shall be promptly corrected to prevent any delays in start up of the various unit processes.
4. Contractor shall provide all test equipment necessary to perform the testing during system checkout and start up.
5. Contractor and system supplier shall be responsible for initial operation of monitoring and control system and shall make any required changes, adjustment or replacements for operation, monitoring and control of the various processes and equipment necessary to perform the functions intended.
6. Contractor shall furnish Engineer an Installation Inspection Report certifying that all equipment has been installed correctly and is operating properly. The report shall be signed by authorized representatives of both Contractor and the system supplier.

3.05 TRAINING

A. General

1. Contractor shall retain the services of the system supplier to provide operation and maintenance training for all instrumentation and control system equipment as specified herein.
2. For equipment items not manufactured by the system supplier, he shall provide for on-site training by an authorized representative of the equipment manufacturer as part of his services. The manufacturer's representative shall be fully knowledgeable in the operation and maintenance of the equipment .
3. Contractor shall be responsible for all costs associated with training and shall provide all required materials, texts and required supplies.
4. Training shall conform to the requirements of Section 017900.

B. On-Site Training

1. Primary Sensors and Field Instruments - Provide on site operation and maintenance training by system supplier and the equipment manufacturer representatives prior to placing the equipment in continuous operation. The services of equipment manufacturer's representatives shall be provided for a minimum of four hours for each type of instrument .
2. Training shall accomplish the following:
 - a. Provide instruction covering use and operation of the equipment to perform the intended functions.

- b. Provide instruction covering procedures for routine, preventive and troubleshooting maintenance, including equipment calibration.
- c. Explain procedures for placing the equipment in and out of operation and explain necessary actions and precautions to be taken regarding the overall plant monitoring and control system.
- d. Provide field training as to how to change process control and alarm set points in all microprocessor based controllers and transmitters. Maintenance personnel shall be trained to enter passwords, programming or configuration data, etc.

END OF SECTION

PART 1: GENERAL

1.01 DESCRIPTION

- A. To provide a single source responsibility for the manufacture, warranty, service and operation of automatic, self-cleaning strainers.
- B. Terminal connections, installation of junction boxes, local disconnect switches, connection to the MCC and SCADA RTU, and integration into the existing Plant-wide SCADA system shall be the work of the Contractor under this Section. All strainer and backwash system power and control cables shall be brought to a junction box at the pump and temporarily secured in place by the Contractor for final electrical terminations by his Electrical subcontractor and/or Integrator.

1.02 RELATED SECTIONS

- A. The specification sections listed below are an integral part of this equipment specification, and the Contractor shall be responsible for providing these sections to the equipment suppliers:
 - 1. Section 013100 - Project Management and Coordination
 - 2. Section 013300 – Submittal Procedures
 - 3. Section 014500 - Quality Requirements
 - 4. Section 016500 - Product Delivery, Storage and Handling
 - 5. Section 017900 – Demonstration and Training
 - 6. Section 017823 - Operating and Maintenance Data
 - 7. Section 407000 – Instrumentation for Process Systems

1.03 SUBMITTALS

- A. Provide submittals (per Section 013300), with a detailed table of contents, including no less than the following:
 - 1. Full set of mechanical drawings including dimensioning, connection dimensions, anchor bolt location and typical installation, and equipment / accessory layout, all to scale
 - 2. Full electrical schematic, including three-line power schematic, control ladder logic, PLC and SCADA system interface, labeled as to identification and function so as to be easily understood.
 - 3. Properly indicated backwash pump curves, whose total dynamic head includes pumping system internal losses, manufacturer's name (other than pumping system manufacturer), pump model number, and motor type, RPM and horsepower.
 - 4. Properly marked cut sheets for each major component of the strainer system, both mechanical and electrical.
 - 5. Copies of UL and ETL authorizations for control panels, and for complete pumping system.
 - 6. Manufacturer's current ISO9001 certificate.
 - 7. Complete description of the system including:
 - a. Submittal schedule,

- b. Shipment schedule after receipt of approved submittals,
- c. Specification section number relevant to the submittal,
- d. Technical information
 - 1. system model number,
 - 2. design capacity,
 - 3. backwash capacity,
 - 4. voltage phase and frequency of required power,
 - 5. system approximate dry weight
 - 6. system footprint
- e. Operation sequence,
- f. Alarm sequence,
- g. Manufacturer recommended spare parts list,
- h. SCADA interface, via Ethernet,
- i. Post-production features,
- j. Owner's manual description,
- k. Shipment method and carrier type,
- l. Notes clarification and exceptions,
- m. Receiving instructions,
- n. Storage instructions
- o. Warranty statement

1.04 OWNER'S MANUALS

- A. Operation and maintenance manual shall be provided as an electronic file (PDF File) to the contractor, suitable for inclusion into the Yonkers JWWTP Online O&M Manual.
- B. Operation and maintenance manual shall have been prepared for this specific project, based on the reviewed submittal, and shall not be a general manual applicable to many systems. Manufacturers' technical manuals shall be included for each piece of equipment that is field serviceable.
- C. Manuals shall include the approved submittal and shall be produced in the same format as the submittal, bound in a three-ring binder, with tabbed sections, including as built drawings, schematics and PLC & OIT programs.
- D. Manufacturer's manuals shall be included after the submittal pages for each field serviceable device.
- E. Manufacturer's manuals shall include a comprehensive troubleshooting guide applicable to the specific system.

1.05 REFERENCES

- A. American Water Works Association (AWWA)
- B. American National Standards (ANSI)
- C. American Standards for Testing Materials (ASTM)
- D. Hydraulic Institute
- E. American Society of Mechanical Engineers (ASME)

1.06 INDUSTRY CODES

- A. Pumping system shall be UL and ETL listed as finally assembled.
- B. Control panel with controls shall be built in accordance to NEC, and UL and ETL standards.
 - 1. Electrical components and enclosure shall be labeled as a complete UL and ETL listed industrial control panel assembly.
 - 2. Manufacturer's UL and ETL labels shall be applied to the door.

1.07 SEQUENCE OF OPERATION

- A. Plant Effluent Water strainers shall provide solids removal to 0.063-inch through wedgewire screens.
- B. At a pre-set pressure differential across the screen, the system shall clean itself automatically by means of an installed backwash system.
- C. At the completion of the backwash cycle, the unit shall automatically be set back to normal forward flow for solids removal.

1.08 CONTROLS REQUIREMENTS

- A. Manufacturer's controls shall be authorized by Underwriters' Laboratories to label its manufactured control panels as UL Listed under category NITW/NITW7.
- B. Manufacturer shall conform to NFPA 70 in the manufacturing of its control panels.
- C. All control panels and instrumentation must meet requirements of Section 407000 Instrumentation for Process Systems.

1.09 WARRANTY

- A. Provide a Warranty Certificate from the manufacturer typed on company letterhead and signed by an authorized officer of the manufacturer. The certificate shall be witnessed by a notary public in the state in which the company headquarters is located.
- B. (Manufacturer) guarantees that the system to be free from defects in design, materials and workmanship for a period of two (2) years commencing on the date the system was permanently placed on – line and the equipment functions without flaw. During the guarantee period if any part or equipment component is defective or fails to perform when operating at design conditions and if the equipment has been installed and is being operated and maintained in accordance with the written instruction we provided then we shall repair or exchange such defective part(s). The cost of shipping to return defective part(s) and to deliver replacement part(s) shall be borne by the manufacturer.
- C. If the manufacturer fails to repair or exchange such defective part(s) within 30 calendar days “grace period” of receiving either notification of warranty repair/replacement by the owner or delivery of the defective part(s) to the manufacturer’s designated service center, if required then the guarantee period shall be extended by a period of time equal to the total period of time needed to satisfy the warranty repair or replacement delivered to the site, including the 30 day grace period. The extended guarantee period shall pertain to all of the manufacturers equipment placed “out of service” due to defective part/component. This provision will hold true regardless of the number of times covered equipment

requires warranty repair during warranty period, original or extended.

PART 2 - PRODUCTS

2.01 FULLY AUTOMATIC SECONDARY PLANT EFFLUENT WATER STRAINERS

- A. Materials, equipment, and accessories specified shall be products of R. P. Adams, or approved equal.
- B. The Engineer must approve, as equal, other manufacturers. The alternative supplier must have a minimum of ten years manufacturing experience and provide a reference list of other similar installations, including contact names and telephone numbers. Any costs due to piping modifications necessary to accommodate an alternate will be the responsibility of the Contractor.

2.02 EQUIPMENT DESCRIPTION

- A. Design Capacity – Strainer capacity shall be greater than / equal to the flow rates specified.
- B. Pressure Drop - Pressure drop at the design capacity shall not exceed 2.0 PSID even when the strainer surface media is seventy five percent (75%) clogged. The maximum pressure drop at the time of backwash shall not exceed 4.0 PSID.
- C. Design Pressure - Strainer shall be capable of operating with an influent pressure of 150 PSIG.
- D. Strainer Media - Strainer media shall be multi-tube wedgewire element design that is capable of withstanding a differential pressure of 150 PSIG without bursting, distortion, or being damaged. Screwed on cone or disc type media is prohibited since it can become dislodged rendering the strainer ineffective. Single basket or other designs where the back wash mechanism is in close proximity to the straining media are not acceptable. The backwash arm shall be separated from the straining media by a substantial tube sheet.
- E. Level of Separation - Strainer media shall be capable of removing substantially all material larger than 0.063 inches (1,600 micron) in diameter.
- F. Backwash Mechanism – The backwash mechanism shall not come in contact with the strainer media to prevent damage to the media from large objects or high solids loadings. Also, the backwash mechanism shall be designed with shear key protection to prevent mechanical damage should a large object enter the strainer.
- G. Backwash Flow - The average percentage of effluent required for backwashing the strainer should not exceed five percent (5%) of the strainer influent over a twenty-four hour period.
- H. Backwash Assist Pump – A cast iron self-priming centrifugal pump complete with 3Ph / 60 hz / 460 VAC TEFC electric motor and 3” inlet/outlet connections shall be supplied to assist flushing accumulated solids from the straining elements.
- I. Connections - Process connections shall be 150# ANSI raised faced flanges.

- J. Inspection Port – An inspection opening in the body of the strainer is required to permit inspection of the strainer’s raw water chamber and to allow for removal of any oversize solids, which may have entered into the strainer.
- K. Materials of Construction – Materials of construction for the automatic self-cleaning strainer shall be as follows:

| <u>COMPONENT</u> | <u>MATERIAL OF CONSTRUCTION</u> |
|--------------------------|---|
| a. Strainer Body & Cover | Welded carbon steel or cast iron with internal epoxy lining |
| b. Strainer Elements | 304 stainless steel |
| c. Backwash Assembly | 304 stainless steel |
| d. Tubesheet | Cast ductile iron |
| e. Seal Plate | Bronze |
| f. Internal Fasteners | 316 stainless steel |

- L. Drive Mechanism - The strainer’s backwash mechanism shall be driven by an enclosed type gear reducer using a 460 volt, 3 phase, 60 Hz, TEFC motor. The motor Service Factor shall be a minimum of 1.15.

2.03 COATING SYSTEM

- A. Coating system shall be equivalent to the ISO 12944 coating system C4 for medium corrosive environment application where high humidity and some air pollution may occur.
- B. All steel surfaces shall be prepared to at least SSPC-SP6, abrasive blast cleaning.
- C. Upon completion of preparation, all steel surfaces must be immediately coated with PPG’s Amercoat 385PA red primer containing zinc phosphate, or equivalent by Tnemec or Sherwin Williams, to a DFT of 4.0-8.0 mils.
- D. Primer shall be oven cured after application to improve adhesion.
- E. Intermediate coat shall be PPG’s Amercoat 450HAcrrylic Aliphatic Polyurethane, or equivalent by Tnemec or Sherwin Williams, applied to a DFT of 2.0-5.0 mils.
- F. Intermediate coat shall be oven cured after application to improve adhesion.
- G. Cover coat shall be PPG’s Amercoat 450HAcrrylic Aliphatic Polyurethane, or equivalent by Tnemec or Sherwin Williams, applied to a DFT of 2.0-5.0 mils.
- H. Cover coat shall be oven cured after application to improve adhesion.
- I. Each coat shall be of a color different than the previous color, to make holidays in the coating obvious. Finish coat shall be manufacturers standard.

2.04 BOLTS

- A. All bolts and nuts used in the assembly of the pumping system shall be stainless steel grade 8. As required in specific locations to protect the finish and prevent loosening, bolts shall be provided with washers and lock washers.

2.05 CONTROLS

- A. The strainer shall be provided with a NEMA-4X Control Panel suitable for wall mounting. The panel shall include the backwash drive motor starter and overloads, Hand/Off/Auto selector switch, backwash run light, control transformer, adjustable timers (0-1440 minutes) for backwash initiation and backwash duration. The panel shall control the motor and automatic backwash valve. Backwash will be initiated by time unless overridden by a differential pressure switch mounted on the strainer.
- B. Control functions to include Hand/Off/Auto control of the strainer. In the Auto mode, the automatic backwash shall be pressure differential controlled with adjustable timer override. In Hand mode, the strainer's drive motor shall be energized and the backwash valve shall be open until the controls are returned to either the Off or Auto position.
- C. Provide a NEMA-4X adjustable dual set point differential pressure switch complete with connecting tubing, fittings, and isolation valves.
- D. Provide a backwash ball valve with a NEMA-4X electric actuator, complete with piping connection to the strainer, Worcester Actuation Systems Series 75 by Floserve, or equal.
- E. Furnish pressure gauges, +/- 1% percent accuracy, 0 - 160 PSIG range, for local indication of pressure at the inlet and outlet of the strainer.

2.06 CONTROL ENCLOSURE

- A. Controls shall be housed in a NEMA 4X enclosure.
- B. The control enclosure shall be constructed of 12-gauge 316 stainless steel and the back-plate assembly shall be constructed of 12 gauge 316 stainless steel.
- C. All indicating lights, reset buttons, selector switches and the operator interface device (OIT) shall be mounted on enclosure door and shall be rated NEMA 4X.
- D. All internal components shall be mounted and secured to the removable back plate assembly. All equipment and wiring shall be mounted within the enclosure and labeled for proper identification.
- E. All adjustments and maintenance shall be able to be done from the front of the control enclosure.
- F. A complete wiring circuit and legend with all terminals, components, and wiring identification shall be provided.
- G. Equipment shall be provided within the controls enclosure to assure compliance with current NEC and UL codes.
- H. A dedicated terminal strip shall be provided near the bottom of the enclosure to which shall be connected the remote signals for the Yonkers Plant-wide SCADA system.

2.07 LIGHTNING AND SURGE ARRESTOR

- A. Electrical equipment shall be protected by a U.L. 1449 Fifth Edition Listed SPD to suppress voltage surges on incoming power.
- B. SPD shall be connected to the line side of the pumping system landing lugs and shall be properly grounded.

- C. The device shall be rated according to IEEE C62.41.1-2002, C62.41.2-2002, and C63.45-2002 to provide a surge capacity of no less than 50kA per phase.
- D. Response time shall not be greater than 1 nanosecond.
- E. SPD shall withstand no less than 5000 3kA impulses, 8x20µs, or 1000 10kA impulses, 8x20µs.
- F. Manufacturer of SPD shall be ISO 9001:2015 certified, and shall have an ISO 17025:2017 test lab.

2.08 CIRCUIT BREAKER MAIN DISCONNECT

- A. A circuit breaker main disconnect shall be provided to isolate all controls and motor starting equipment from incoming power.
- B. UL/CSA short-circuit interrupting capacity rating of the circuit breaker shall be not less than 25,000 amps.
- C. Main disconnect shall have a through the door operator, and shall be sized in accordance with current NFPA 70 and UL requirements.
- D. Disconnect shall be as manufactured by Eaton or Schneider Electric.
- E. Disconnect's short circuit rating shall not be less than 25,000 amps.

2.09 CONTROL POWER

- A. Power for the controls shall be provided by a control power transformer which shall provide 120 volt, single phase power for the pumping system control operation.
- B. Control power transformer shall not be used for any load other than controls.
- C. The control power transformer shall be protected on the primary side by control limiting fuses of adequate size and voltage rating.
- D. All control components on the load side of the transformer shall be protected by time delay circuit breakers of adequate size.
- E. The control power transformer shall be as manufactured by Micron Industries or pre-approved equal.

2.10 MOTOR STARTING EQUIPMENT WITH CIRCUIT BREAKER SHORT CIRCUIT PROTECTION

- A. Motor starters for the strainers shall be mounted in the single NEMA 4X enclosure as specified above.
- B. Full voltage motor starters:
 - 1. Motor starters 30 hp and smaller shall meet I.E.C. standards and shall be rated for a minimum of 1,250,000 operations.
 - 2. Motor overload relays shall be I.E.C. rated class 10 ambient compensated.
 - 3. A circuit breaker disconnect shall be provided to isolate motor starter from incoming power.
 - 4. UL/CSA short-circuit interrupting capacity rating of the circuit breaker shall be not less than 65,000 amps.
 - 5. Motor disconnect shall have a through the door operator, and shall be sized in accordance with current NFPA 70 and UL requirements.
 - 6. Circuit breaker shall be as manufactured by Eaton or Square D.
 - 7. Disconnects short circuit rating shall not be less than 25,000 amps.

2.11 MICROPROCESSOR CONTROLS

- A. All control logic shall be handled by an industrial microprocessor logic controller accessible through a 7" high definition widescreen graphic operator interface which shall provide data entry and read-out capabilities.
- B. PLC shall be of the PAC Systems family as manufactured by General Electric (GE), and shall be capable of Ethernet interface to a variety of SCADA platforms, via 2 serial ports with F1/DH485/Modbus RTU/DNP3/ASCII protocol support and a built-in Ethernet port, which shall support Ethernet/IP peer-to-peer messaging.
- C. OIT shall be a Maple Systems HMI5070NL color touch screen, or equal.

2.12 SCADA INTERFACE

- A. Space shall be provided near the control enclosure for the mounting of the RTU.
- B. RTU shall be provided by the strainer system manufacturer of this specification Section.
- C. Fabrication requirements provide in Section 407000 INSTRUMENTATION FOR PROCESS SYSTEMS.
- D. Panel status and alarms shall be integrated into the Plant's SCADA system by the Contractor to include new SCADA screen development and navigation button modifications to the existing screens.
- E. SCADA system's RTU shall be connected to the dedicated terminal strip within the controls enclosure. RTU shall be provided, installed, and connected to the terminal strip on site by the strainer controls manufacturer.
- F. Set of auxiliary contacts including:
 - 1. Backwash Pump Call (DI)
 - 2. Backwash Pump Running (DO)
 - 3. Backwash Pump Fault (DO)
 - 4. Low Backwash Inlet Pressure (DO)
 - 5. Low Backwash Discharge Pressure (DO)
 - 6. High Backwash Discharge Pressure (DO)
 - 7. Irregular Power (DO)
 - 8. Each Pressure Transmitter Signal Failure (DO)

2.13 ACCESSORIES

- A. Identification Plate – Sixteen-gauge stainless steel identification nameplate shall be securely mounted on the equipment in a readily visible location. The plate shall bear the ¼ inch die stamped equipment identification number specified herein and shown of the drawings.
- B. Anchor Bolts – Stainless Steel anchor bolts to be supplied and installed by the Contractor.

2.14 SPARE PARTS

- A. Furnish, tag, and box for shipment and storage the following spare parts per size strainer for future maintenance:

| <u>ITEM</u> | <u>QUANTITY</u> |
|----------------------------|-----------------|
| Cover gasket(s) | One set |
| Inspection opening gasket | One |
| Spare shear-key | One |
| Seal-plate O-ring | One set |
| Drive shaft packing | One set |
| Gear Motor Seals (O-rings) | One |
| Drive shaft gasket | One |

PART 3 EXECUTION

3.01 GENERAL

- A. Contractor shall be responsible for providing all materials, equipment, and labor necessary to install, connect, and integrate the strainer systems into the Plant-wide SCADA system.

3.02 SYSTEM FACTORY PRESSURE TEST

- A. Prior to shipment, the manufacturer shall perform, record and certify a hydrostatic pressure test to ensure pressure vessel integrity, and a mechanical function test to ensure proper operation of the strainer. Certified results shall be submitted to the engineer prior to shipment.

3.03 PREPARATION FOR SHIPMENT

- A. Insofar as practical, the equipment specified herein shall be factory assembled. The parts and assemblies that are of necessity shipped unassembled shall be packaged and tagged in a manner that will protect the equipment from damage and facilitate the final assembly in the field. Generally machined and unpainted parts shall be protected from damage by the elements with the application of a strippable protective coating.

3.04 INSTALLATION

- A. The equipment specified herein shall be located as shown in the contract drawings and installed in conformance with the manufacturers recommended methods.
- B. Provide leveling shims and dry pack non-shrink grout to result in a level and plumb installation without strain on the inlet and outlet piping.

3.05 START UP

- A. When discharge piping, electrical connections, and electrical inspection have been completed, the strainer system manufacturer shall be contacted for start-up and testing.
- B. A minimum one-week notice shall be given to manufacturer prior to scheduled start up date.
- C. Field testing:

1. During start up, the complete strainer / backwash system shall be inspected for proper installation and shall be given a running test of normal start and stop, and fully loaded operating conditions.
 2. During this test, each strainer shall demonstrate its general fitness for service.
 3. All defects shall be corrected, and adjustments made at the expense of the strainer system manufacturer.
 4. Test shall be repeated until satisfactory results are obtained.
- D. Start up assistance shall be limited to two (2) days, per strainer.
- E. After the strainer startup has been completed, but before the technician leaves the job site, a training session shall be given to the owner and/or the owner's representative to familiarize them with the strainer system operation, maintenance and adjustments.

PLANT EFFLUENT STRAINER SCHEDULE:

| <u>Service:</u> | <u>Size:</u> | <u>Flowrate (GPM)</u> | <u>Operating / Design Pressure (PSIG)</u> | <u>Required Solids Removal Size:</u> |
|-------------------------------------|--------------|-----------------------|---|--------------------------------------|
| Plant Effluent Water Strainer No. 1 | 12" | up to 3,900 | >15 / 150 | 0.063 inch |
| Plant Effluent Water Strainer No. 2 | 14" | up to 5,000 | >15 / 150 | 0.063 inch |

END OF SECTION

QuES&T

Quality Environmental Solutions & Technologies, Inc.

May 23, 2016

H2M Architects and Engineers
139 Lafayette Avenue
Suffern, NY 10901

ATTN: David Leun

Via E-mail: dleun@h2m.com

Re: Yonkers Joint Waste Water Treatment Plant – Secondary System Rehabilitation Project
Limited XRF Lead Testing
QuES&T Project #Q16-0481

Dear Mr. Leun,

Quality Environmental Solutions & Technologies, Inc. (**QuES&T**) was retained by H2M Architects and Engineers to complete limited Lead-Based Paint Testing, utilizing X-Ray Fluorescence Technology (XRF), of accessible, representative exterior building components included within the above-referenced project at Yonkers Joint Waste Water Treatment Plant, located at 1 Fernbrook Street, Yonkers, NY. The limited XRF Lead-Based Paint Testing was performed on specific accessible interior and exterior building components, as directed by Mr. David Leun, of H2M Architects and Engineers.

Buildings included within this limited XRF Lead-Based Paint Testing at Yonkers Joint Waste Water Treatment Plant:

- 1) **Blower and Administration Building (Interiors)**
- 2) **Thickener Building (Interiors)**
- 3) **Aeration and Final Tank Farm Area (Exteriors)**

Niton-certified XRF Technician(s), EPA Lead Inspector and EPA Lead Risk Assessor Mr. Todd J. McAfee, of **QuES&T**, collected a total of one hundred thirty-nine (**139**) samples (including calibrations) on May 16, 2016.

Based on review of the data generated by the Niton XLp-300A XRF Spectrum Analyzer, the following surfaces tested were identified as lead-based as defined by HUD/EPA (equal to or in excess of 1.0 milligram per square centimeter):

BLOWER AND ADMINISTRATION BUILDING – INTERIORS

| Location of Identified LBP | LBP Component | Substrate | Color | LBP Condition | Approx. Qty. |
|---|----------------------|------------------|--------------|----------------------|---------------------|
| Equipment Area, Room B-02, Throughout (Area 2) | Piping | Metal | Gray | Fair | 300 LF |
| Meter Vault, Room B-13, Throughout (Area 4) | Piping | Metal | Gray | Fair | 200 LF |

Additionally, it should be noted that a few components tested did in fact contain minimal lead-levels below the EPA threshold level of 1.0 mg/sq. cm for classification as Lead-Based Paint (LBP) and are considered lead-containing coatings by the OSHA Regulation, “Lead Exposure in Construction” (29 CFR 1926.62). OSHA does not recognize a minimum limit for lead concentrations in paint for the purposes of disturbance. Monitoring of workers performing demolition/cleaning/disturbance of painted surfaces shall be completed to document personnel occupational exposure. Items containing any amount of lead concentration are considered lead-containing coatings per 29 CFR 1926.62, OSHA Lead Exposure in Construction.

THICKENER BUILDING - INTERIORS

| Location of Identified LBP | LBP Component | Substrate | Color | LBP Condition | Approx. Qty. |
|-----------------------------------|----------------------|------------------|--------------|----------------------|---------------------|
|-----------------------------------|----------------------|------------------|--------------|----------------------|---------------------|

NO Lead-Based Paints identified above EPA/HUD standards of samples collected.

However, it should be noted that a few components tested did in fact contain minimal lead-levels below the EPA threshold level of 1.0 mg/sq. cm for classification as Lead-Based Paint (LBP) and are considered lead-containing coatings by the OSHA Regulation, “Lead Exposure in Construction” (29 CFR 1926.62). OSHA does not recognize a minimum limit for lead concentrations in paint for the purposes of disturbance. Monitoring of workers performing demolition/cleaning/disturbance of painted surfaces shall be completed to document personnel occupational exposure. Items containing any amount of lead concentration are considered lead-containing coatings per 29 CFR 1926.62, OSHA Lead Exposure in Construction.

TANK FARM – EXTERIORS

| Location of Identified LBP | LBP Component | Substrate | Color | LBP Condition | Approx. Qty. |
|--|----------------------|------------------|--------------|----------------------|---------------------|
| Aeration Tank Farm, Between Tanks 2A-2B | Aeration Pipe* | Metal | Green | Fair | 400 SF |

Additionally, it should be noted that a few components tested did in fact contain minimal lead-levels below the EPA threshold level of 1.0 mg/sq. cm for classification as Lead-Based Paint (LBP) and are considered lead-containing coatings by the OSHA Regulation, “Lead Exposure in Construction” (29 CFR 1926.62). OSHA does not recognize a minimum limit for lead concentrations in paint for the purposes of disturbance. Monitoring of workers performing demolition/cleaning/disturbance of painted surfaces shall be completed to document personnel occupational exposure. Items containing any amount of lead concentration are considered lead-containing coatings per 29 CFR 1926.62, OSHA Lead Exposure in Construction.

***Note:** Positive sample reading collected on a welded seam. All other samples collected from Aerations Pipes throughout were below the EPA threshold of 1 mg/cm².

It should be noted that the information contained within this report is based upon observation and test results provided by **QuES&T**. These observations and results are time dependent, subject to changing site conditions and revisions to Federal, State, and Local regulations. **QuES&T** warrants that these findings have been promulgated after being prepared in general accordance with generally accepted practices in the abatement industries. **QuES&T** also recognizes that raw testing data is not usually sufficient to make all abatement and management decisions. No other warranties are expressed or implied.

Should you wish to discuss this matter further or require additional information concerning this transmittal, feel free to contact us at (845) 298-6031. **QuES&T** greatly appreciates the opportunity to assist H2M Architects and Engineers in the environmental services area and we look forward to working again with you in the future.

Sincerely,



Todd J. McAfee

Field & Technical Services
NYS/AHERA Inspector
Cert. #AH 12-10881
EPA Lead Inspector/Lead Risk Assessor

Cc: QuES&T File



Quality Environmental Solutions & Technologies, Inc.

Appendix A: ANALYTICAL DATA

Quality Environmental Solutions
& Technologies, Inc.
1376 Route 9
Wappingers Falls, NY 12590
(845) 298-6031

Limited XRF Lead Survey

H2M Architects and Engineers
139 Lafayette Ave
Suffern, NY 10901
QUES&T Project #Q16-0638

| <u>Sample</u> | <u>Building/Address</u> | <u>Interior/Exterior</u> | <u>Floor</u> | <u>Space/Room/Description</u> | <u>Object</u> | <u>Component</u> | <u>Substrate</u> | <u>Color</u> | <u>Condition</u> | <u>Result</u> | <u>Pb Concentration</u> (mg/cm ²) | <u>Pb Error</u> (mg/cm ²) |
|---------------|--------------------------------|--------------------------|-----------------|-------------------------------|--------------------|------------------|------------------|--------------|------------------|-----------------|--|--|
| 1 | Shutter Calibration | | | | | | | | | Negative | 0 | 0.02 |
| 2 | NIST (<0.01) | | | | | | | | | Positive | 1.1 | 0.1 |
| 3 | NIST (1.04 +/- 0.06) | | | | | | | | | Negative | 0 | 0.02 |
| 4 | Administration / Blower | Interior | Basement | Gallery South - B12 | Compressor | Casing | Metal | Gold | Intact | Negative | 0 | 0.02 |
| 5 | Administration / Blower | Interior | Basement | Gallery South - B12 | Compressor | Motor | Metal | Green | Intact | Negative | 0 | 0.02 |
| 6 | Administration / Blower | Interior | Basement | Gallery South - B12 | Floor | Pad | Concrete | Gray | Poor | Negative | 0.01 | 0.02 |
| 7 | Administration / Blower | Interior | Basement | Gallery South - B12 | Floor | | Concrete | Gray | Poor | Negative | 0 | 0.02 |
| 8 | Administration / Blower | Interior | Basement | Gallery South - B12 | Air Tank | | Metal | White | Fair | Negative | 0.6 | 0.4 |
| 9 | Administration / Blower | Interior | Basement | Gallery South - B12 | Air Tank | | Metal | White | Fair | Negative | 0.5 | 0.4 |
| 10 | Administration / Blower | Interior | Basement | Gallery South - B12 | Air Tank | | Metal | White | Fair | Negative | 0.5 | 0.5 |
| 11 | Administration / Blower | Interior | Basement | Gallery South - B12 | Wall | | Concrete | White | Fair | Negative | 0.02 | 0.05 |
| 12 | Administration / Blower | Interior | Basement | Gallery South - B12 | Ceiling | | Concrete | White | Fair | Negative | 0.01 | 0.02 |
| 13 | Administration / Blower | Interior | Basement | Gallery South - B12 | Wall | | CMU | White | Fair | Negative | 0 | 0.02 |
| 14 | Administration / Blower | Interior | Basement | Gallery South - B12 | Pipe | | Metal | Gray | Poor | Negative | 0.03 | 0.09 |
| 15 | Administration / Blower | Interior | Basement | Gallery South - B12 | Pipe | | Metal | Green | Poor | Negative | 0.12 | 0.31 |
| 16 | Administration / Blower | Interior | Basement | Gallery South - B12 | Filteration System | | Metal | Green | Intact | Negative | 0 | 0.02 |
| 17 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Floor | | Concrete | Gray | Fair | Negative | 0 | 0.02 |
| 18 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Floor | | Concrete | Gray | Fair | Negative | 0.01 | 0.02 |
| 19 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Wall | Pad | Concrete | Gray | Fair | Negative | 0.6 | 0.1 |
| 20 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Wall | | Concrete | Gray | Fair | Negative | 0 | 0.02 |
| 21 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Pipe | | Metal | Gray | Fair | Negative | 0.11 | 0.25 |
| 22 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Pipe | Tapered | Metal | Gray | Fair | Positive | 2.7 | 1.4 |
| 23 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Pipe | Tapered | Metal | Gray | Fair | Positive | 3.9 | 2.9 |
| 24 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Pipe | | Metal | Gray | Fair | Negative | 0 | 0.02 |
| 25 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Pipe | | Metal | Red | Fair | Negative | 0.7 | 0.3 |
| 26 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Pipe | | Metal | Blue | Fair | Negative | 0 | 0.02 |
| 27 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Tank | | Metal | Gray | Fair | Negative | 0 | 0.02 |
| 28 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Pump | | Metal | Gray | Fair | Negative | 0.01 | 0.04 |
| 29 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Pump | Dunnage | Metal | Gray | Fair | Negative | 0 | 0.02 |
| 30 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Pipe | Elbow | Metal | Gray | Fair | Positive | 2.2 | 1.1 |
| 31 | Administration / Blower | Interior | Basement | Meter Vault - B13 | Pipe | Tee Int. | Metal | Gray | Fair | Positive | 3.3 | 1.8 |
| 32 | Administration / Blower | Interior | Basement | Boiler Room - B03 | Pipe | Elbow | Metal | Gray | Fair | Negative | 0.02 | 0.06 |
| 33 | Administration / Blower | Interior | Basement | Boiler Room - B03 | Pipe | Elbow | Metal | Gray | Fair | Negative | 0.07 | 0.16 |
| 34 | Administration / Blower | Interior | Basement | Boiler Room - B03 | Pipe | | Metal | Gray | Fair | Negative | 0.06 | 0.16 |
| 35 | Administration / Blower | Interior | Basement | Boiler Room - B03 | Pipe | | Metal | Gray | Fair | Negative | 0.03 | 0.1 |
| 36 | Administration / Blower | Interior | Basement | Boiler Room - B03 | Pipe | Straight Run | Metal | Gray | Fair | Negative | 0.26 | 0.39 |
| 37 | Administration / Blower | Interior | Basement | Boiler Room - B03 | Pump | Straight Run | Metal | Gray | Fair | Negative | 0.03 | 0.17 |
| 38 | Administration / Blower | Interior | Basement | Boiler Room - B03 | Pump | Dunnage | Metal | Gray | Fair | Negative | 0.02 | 0.09 |
| 39 | Administration / Blower | Interior | Basement | Boiler Room - B03 | Wall | | Concrete | Tan | Poor | Negative | 0.01 | 0.02 |
| 40 | Administration / Blower | Interior | Basement | Boiler Room - B03 | Floor | | Concrete | Gray | Poor | Negative | 0 | 0.02 |
| 41 | Administration / Blower | Interior | Basement | Boiler Room - B03 | Floor | Pad | Concrete | Yellow | Poor | Negative | 0.1 | 0.05 |
| 42 | Administration / Blower | Interior | Basement | Equipment Area - B02 | Floor | | Concrete | Gray | Fair | Negative | 0.01 | 0.02 |
| 43 | Administration / Blower | Interior | Basement | Equipment Area - B02 | Wall | | Concrete | Beige | Fair | Negative | 0 | 0.02 |

Niton Technician(s): Todd J. McAfee
Conducted: May 16, 2016

Limited XRF Lead Survey

| | | | | | | | | | | | | |
|----|--------------------------------|-----------------|-----------------|------------------------------|-------------|-----------------|--------------|-------------|-------------|-----------------|-------------|-------------|
| 44 | Administration / Blower | Interior | Basement | Equipment Area - B02 | Floor | Pad | Concrete | White | Fair | Negative | 0 | 0.02 |
| 45 | Administration / Blower | Interior | Basement | Equipment Area - B02 | Floor | Pad | Concrete | Gray | Fair | Negative | 0 | 0.02 |
| 46 | Administration / Blower | Interior | Basement | Equipment Area - B02 | Pipe | Straight Run | Metal | Gray | Fair | Negative | 0.13 | 0.46 |
| 47 | Administration / Blower | Interior | Basement | Equipment Area - B02 | Pipe | Straight Run | Metal | Gray | Fair | Negative | 0.06 | 0.14 |
| 48 | <u>Administration / Blower</u> | <u>Interior</u> | <u>Basement</u> | <u>Equipment Area - B02</u> | <u>Pipe</u> | <u>Elbow</u> | <u>Metal</u> | <u>Gray</u> | <u>Fair</u> | <u>Positive</u> | <u>2.2</u> | <u>1.1</u> |
| 49 | <u>Administration / Blower</u> | <u>Interior</u> | <u>Basement</u> | <u>Equipment Area - B02</u> | <u>Pipe</u> | <u>Elbow</u> | <u>Metal</u> | <u>Gray</u> | <u>Fair</u> | <u>Positive</u> | <u>2.7</u> | <u>1.3</u> |
| 50 | <u>Administration / Blower</u> | <u>Interior</u> | <u>Basement</u> | <u>Equipment Area - B02</u> | <u>Pipe</u> | <u>Tee Int.</u> | <u>Metal</u> | <u>Gray</u> | <u>Fair</u> | <u>Negative</u> | <u>0.11</u> | <u>0.21</u> |
| 51 | <u>Administration / Blower</u> | <u>Interior</u> | <u>Basement</u> | <u>Equipment Area - B02</u> | <u>Pipe</u> | <u>Tee Int.</u> | <u>Metal</u> | <u>Gray</u> | <u>Fair</u> | <u>Positive</u> | <u>2.8</u> | <u>1.5</u> |
| 52 | Administration / Blower | Interior | Basement | Equipment Area - B02 | Pump | | Metal | Gray | Fair | Negative | 0 | 0.02 |
| 53 | Administration / Blower | Interior | Basement | Equipment Area - B02 | Pump | | Metal | Gray | Fair | Negative | 0 | 0.02 |
| 54 | Administration / Blower | Interior | Basement | Sprinkler Pipe Area | Pipe | | Metal | Blue | Intact | Negative | 0 | 0.02 |
| 55 | Administration / Blower | Interior | Basement | Sprinkler Pipe Area | Pipe | Valve | Metal | Red | Intact | Negative | 0.01 | 0.07 |
| 56 | Administration / Blower | Interior | 1st | Sprinkler Room | Wall | | Glazed Block | White | Intact | Negative | 0 | 0.02 |
| 57 | Administration / Blower | Interior | 1st | Sprinkler Room | Floor | Grate | Metal | Red | Fair | Negative | 0 | 0.02 |
| 58 | Administration / Blower | Interior | 1st | Sprinkler Room | Railing | | Metal | Yellow | Intact | Negative | 0 | 0.02 |
| 59 | Administration / Blower | Interior | 1st | Sprinkler Room | Pipe | | Metal | Black | Poor | Negative | 0 | 0.06 |
| 60 | Administration / Blower | Interior | 1st | Sprinkler Room | Pipe | Valve | Metal | Red | Poor | Negative | 0 | 0.02 |
| 61 | Administration / Blower | Interior | 1st | Sprinkler Room | Tank | | Metal | Red | Intact | Negative | 0 | 0.02 |
| 62 | Thickener Building | Interior | Basement | Secondary Plant Water System | Floor | | Concrete | Gray | Fair | Negative | 0 | 0.02 |
| 63 | Thickener Building | Interior | Basement | Secondary Plant Water System | Floor | Pad | Concrete | Gray | Fair | Negative | 0.01 | 0.05 |
| 64 | Thickener Building | Interior | Basement | Secondary Plant Water System | Wall | | Concrete | Beige | Fair | Negative | 0.02 | 0.02 |
| 65 | Thickener Building | Interior | Basement | Secondary Plant Water System | Pump | | Metal | Blue | Fair | Negative | 0.01 | 0.03 |
| 66 | Thickener Building | Interior | Basement | Secondary Plant Water System | Pipe | | Metal | Blue | Fair | Negative | 0 | 0.03 |
| 67 | Thickener Building | Interior | Basement | Secondary Plant Water System | Pipe | Elbow | Metal | Brown | Fair | Negative | 0 | 0.02 |
| 68 | Thickener Building | Interior | Basement | Secondary Plant Water System | Pipe | | Metal | Black | Fair | Negative | 0 | 0.02 |
| 69 | Thickener Building | Interior | Basement | Secondary Plant Water System | Pump | | Metal | Blue | Poor | Negative | 0.16 | 0.36 |
| 70 | Thickener Building | Interior | Basement | Secondary Plant Water System | Pump | | Metal | Gray | Intact | Negative | 0.4 | 0.4 |
| 71 | Thickener Building | Interior | Basement | Secondary Plant Water System | Tank | | Metal | Red | Fair | Negative | 0 | 0.02 |
| 72 | Thickener Building | Interior | Basement | Secondary Plant Water System | Pipe | | Metal | Red | Fair | Negative | 0.05 | 0.1 |
| 73 | Thickener Building | Interior | Basement | Elevator Area | Floor | | Concrete | Gray | Poor | Negative | 0.4 | 0.3 |
| 74 | Thickener Building | Interior | Basement | Elevator Area | Wall | | Concrete | Tan | Poor | Negative | 0 | 0.02 |
| 75 | Thickener Building | Interior | Basement | Elevator Area | Wall | | CMU | Tan | Poor | Negative | 0 | 0.02 |
| 76 | Thickener Building | Interior | Basement | Elevator Cab | Wall | | Metal | Blue | Poor | Negative | 0 | 0.02 |
| 77 | Thickener Building | Interior | Basement | Elevator Cab | Wall | | Metal | Green | Poor | Negative | 0.02 | 0.06 |
| 78 | Thickener Building | Interior | Basement | Elevator Cab | Ceiling | | Metal | White | Poor | Negative | 0.01 | 0.04 |
| 79 | Thickener Building | Interior | Basement | Elevator Area | Door | Casing | Metal | Red | Poor | Negative | 0.01 | 0.04 |
| 80 | Thickener Building | Interior | Basement | Elevator Area | Door | | Metal | Red | Poor | Negative | 0.05 | 0.1 |
| 81 | Thickener Building | Interior | Basement | Elevator Pump Room | Wall | | CMU | Beige | Poor | Negative | 0.07 | 0.12 |
| 82 | Thickener Building | Interior | Basement | Elevator Pump Room | Wall | | Concrete | Beige | Poor | Negative | 0.08 | 0.07 |
| 83 | Thickener Building | Interior | Basement | Elevator Pump Room | Floor | | Concrete | Gray | Poor | Negative | 0.01 | 0.02 |
| 84 | Thickener Building | Interior | Basement | Elevator Pump Room | Panel | | Metal | Green | Poor | Negative | 0 | 0.03 |
| 85 | Thickener Building | Interior | Basement | Elevator Pump Room | Pump | | Metal | Blue | Poor | Negative | 0.02 | 0.11 |
| 86 | Thickener Building | Interior | Basement | Elevator Pump Room | Pipe | | Metal | Blue | Poor | Negative | 0.4 | 0.4 |
| 87 | Thickener Building | Interior | Basement | Elevator Pump Room | Door | | Metal | Brown | Poor | Negative | 0.24 | 0.28 |

Limited XRF Lead Survey

| | | | | | | | | | | | |
|-----|------------------------------|----------|----------------------------|---------------|--------|--------------|--------------|-------------|-----------------|------------|------------|
| 88 | Thickener Building | Basement | Elevator Pump Room | Door | Casing | Metal | Brown | Poor | Negative | 0.08 | 0.15 |
| 89 | Thickener Building | 1st | Elevator Area | Door | Casing | Metal | Brown | Poor | Negative | 0.15 | 0.21 |
| 90 | Thickener Building | 1st | Elevator Area | Door | Casing | Metal | Brown | Poor | Negative | 0.03 | 0.09 |
| 91 | Thickener Building | 1st | Elevator Area | Wall | | Brick | Natural | Intact | Negative | 0.05 | 0.11 |
| 92 | Thickener Building | 2nd | Elevator Area | Door | | Metal | Gray | Poor | Negative | 0.01 | 0.02 |
| 93 | Thickener Building | 2nd | Elevator Area | Door | | Metal | Gray | Poor | Negative | 0.06 | 0.18 |
| 94 | Thickener Building | 2nd | Elevator Area | Wall | | Brick | Natural | Intact | Negative | 0.07 | 0.17 |
| 95 | Open Area - Tank Farm | Ground | Aeration Tank 1D | Railing | | Metal | Brown | Poor | Negative | 0.01 | 0.04 |
| 96 | Open Area - Tank Farm | Ground | Aeration Tank 1D | Valve | | Metal | Blue | Poor | Negative | 0.01 | 0.02 |
| 97 | Open Area - Tank Farm | Ground | Aeration Tank 1D | Valve | | Metal | Brown | Poor | Negative | 0 | 0.02 |
| 98 | Open Area - Tank Farm | Ground | Aeration Tank 1C | Railing | | Metal | Brown | Poor | Negative | 0.14 | 0.44 |
| 99 | Open Area - Tank Farm | Ground | Aeration Tank 1B | Railing | | Metal | Brown | Poor | Negative | 0.05 | 0.02 |
| 100 | Open Area - Tank Farm | Ground | Aeration Tank 1A | Railing | | Metal | Brown | Poor | Negative | 0.03 | 0.02 |
| 101 | Open Area - Tank Farm | Ground | Aeration Tank 1B | Valve | | Metal | Blue | Poor | Negative | 0.02 | 0.02 |
| 102 | Open Area - Tank Farm | Ground | Aeration Tank 1B | Valve | | Metal | Gray | Poor | Negative | 0 | 0.02 |
| 103 | Open Area - Tank Farm | Ground | Aeration Tank 1A-1B | Aeration Pipe | | Metal | Green | Poor | Negative | 0 | 0.02 |
| 104 | Open Area - Tank Farm | Ground | Aeration Tank 2B | Railing | | Metal | Brown | Poor | Negative | 0 | 0.03 |
| 105 | Open Area - Tank Farm | Ground | Aeration Tank 2D | Railing | | Metal | Brown | Poor | Negative | 0.05 | 0.03 |
| 106 | <u>Open Area - Tank Farm</u> | Ground | <u>Aeration Tank 2A-2B</u> | <u>Weld</u> | | <u>Metal</u> | <u>Green</u> | <u>Poor</u> | <u>Positive</u> | <u>3.7</u> | <u>2.5</u> |
| 107 | Open Area - Tank Farm | Ground | Aeration Tank 2A-2B | Aeration Pipe | | Metal | Green | Poor | Negative | 0.05 | 0.03 |
| 108 | Open Area - Tank Farm | Ground | Aeration Tank 3A | Railing | | Metal | Brown | Poor | Negative | 0.11 | 0.04 |
| 109 | Open Area - Tank Farm | Ground | Aeration Tank 3C | Railing | | Metal | Brown | Poor | Negative | 0.08 | 0.04 |
| 110 | Open Area - Tank Farm | Ground | Aeration Tank 3C-3D | Aeration Pipe | | Metal | Green | Poor | Negative | 0 | 0.02 |
| 111 | Open Area - Tank Farm | Ground | Aeration Tank 4A-4B | Aeration Pipe | | Metal | Green | Poor | Negative | 0.05 | 0.24 |
| 112 | Open Area - Tank Farm | Ground | Aeration Tank 4B | Railing | | Metal | Green | Poor | Negative | 0.03 | 0.02 |
| 113 | Open Area - Tank Farm | Ground | Aeration Tank 4D | Railing | | Metal | Brown | Poor | Negative | 0.03 | 0.02 |
| 114 | Open Area - Tank Farm | Ground | Aeration Tank 4C-4D | Aeration Pipe | | Metal | Brown | Poor | Negative | 0.04 | 0.04 |
| 115 | Open Area - Tank Farm | Ground | Aeration Tank 5A-5B | Aeration Pipe | | Metal | Green | Poor | Negative | 0 | 0.03 |
| 116 | Open Area - Tank Farm | Ground | Aeration Tank 5A | Railing | | Metal | Green | Poor | Negative | 0 | 0.03 |
| 117 | Open Area - Tank Farm | Ground | Aeration Tank 5D | Railing | | Metal | Brown | Poor | Negative | 0.03 | 0.04 |
| 118 | Open Area - Tank Farm | Ground | Aeration Tank 5D | Valve | | Metal | Brown | Poor | Negative | 0.05 | 0.03 |
| 119 | Open Area - Tank Farm | Ground | Aeration Tank 6A | Railing | | Metal | Brown | Poor | Negative | 0.24 | 0.41 |
| 120 | Open Area - Tank Farm | Ground | Aeration Tank 6C | Railing | | Metal | Brown | Poor | Negative | 0.04 | 0.04 |
| 121 | Open Area - Tank Farm | Ground | Aeration Tank 6C | Railing | | Metal | Brown | Poor | Negative | 0.03 | 0.02 |
| 122 | Open Area - Tank Farm | Ground | Aeration Tank 6A-6B | Aeration Pipe | | Metal | Green | Poor | Negative | 0.01 | 0.08 |
| 123 | Open Area - Tank Farm | Ground | Final Tank 9A | Railing | | Metal | Brown | Poor | Negative | 0.04 | 0.03 |
| 124 | Open Area - Tank Farm | Ground | Final Tank 8C | Railing | | Metal | Brown | Poor | Negative | 0.12 | 0.05 |
| 125 | Open Area - Tank Farm | Ground | Final Tank 7D | Railing | | Metal | Brown | Poor | Negative | 0.11 | 0.05 |
| 126 | Open Area - Tank Farm | Ground | Final Tank 7A | Railing | | Metal | Brown | Poor | Negative | 0.17 | 0.05 |
| 127 | Open Area - Tank Farm | Ground | Final Tank 6B | Railing | | Metal | Brown | Poor | Negative | 0.09 | 0.04 |
| 128 | Open Area - Tank Farm | Ground | Final Tank 5A | Railing | | Metal | Brown | Poor | Negative | 0.12 | 0.08 |
| 129 | Open Area - Tank Farm | Ground | Final Tank 4B | Railing | | Metal | Brown | Poor | Negative | 0.08 | 0.04 |
| 130 | Open Area - Tank Farm | Ground | Final Tank 3C | Railing | | Metal | Brown | Poor | Negative | 0.09 | 0.07 |
| | | | Final Tank 2B | Railing | | Metal | Brown | Poor | Negative | 0.07 | 0.08 |

Quality Environmental Solutions
& Technologies, Inc.
1376 Route 9
Wappingers Falls, NY 12590
(845) 298-6031

Limited XRF Lead Survey

H2M Architects and Engineers
139 Lafayette Ave
Suffern, NY 10901
QUES&T Project #Q16-0638

| | | | | | | | | | | | |
|-----|-----------------------------|----------|--------|------------------------|---------------|----------|---------|--------|-----------------|------------|------------|
| 131 | Open Area - Tank Farm | Exterior | Ground | Final Tank 1C | Railing | Metal | Brown | Poor | Negative | 0.17 | 0.55 |
| 132 | Open Area - Tank Farm | Exterior | Ground | Final Tank 1B | Railing | Metal | Brown | Poor | Negative | 0 | 0.02 |
| 133 | Open Area - Tank Farm | Exterior | Upper | Central Raised Walkway | Floor | Concrete | Green | Poor | Negative | 0 | 0.02 |
| 134 | Open Area - Tank Farm | Exterior | Upper | Central Raised Walkway | Aeration Pipe | Metal | Green | Fair | Negative | 0 | 0.02 |
| 135 | Open Area - Tank Farm | Exterior | Upper | Central Raised Walkway | Aeration Pipe | Metal | Green | Fair | Negative | 0 | 0.03 |
| 136 | Open Area - Tank Farm | Exterior | Upper | Central Raised Walkway | Railing | Metal | Natural | Intact | Negative | 0.01 | 0.02 |
| 137 | Building 1 | Interior | 2nd | Stairwell | Ceiling | Plaster | White | Fair | Negative | 0 | 0.02 |
| 138 | NIST (<0.01) | | | | | | | | Negative | 0 | 0.02 |
| 139 | <u>NIST (1.04 +/- 0.06)</u> | | | | | | | | Positive | 1.1 | 0.1 |



Quality Environmental Solutions & Technologies, Inc.

**Appendix B:
RADIATION, XRF SPECTRUM ANALYZER
& PERSONNEL CERTIFICATIONS**

United States Environmental Protection Agency

This is to certify that



Quality Environmental Solution & Technologies, Inc

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint renovation, repair, and painting activities pursuant to 40 CFR Part 745.89

In the Jurisdiction of:

All EPA Administered States, Tribes, and Territories

This certification is valid from the date of issuance and expires December 1, 2016

NAT-119213-1

Certification #

November 17, 2011

Issued On

A handwritten signature in black ink that reads "Michelle Price".

Michelle Price, Chief

Lead, Heavy Metals, and Inorganics Branch





Andrew M. Cuomo
Governor

Department of Health

Howard A. Zucker, M.D., J.D.
Commissioner

Sally Dreslin, M.S., R.N.
Executive Deputy Commissioner

March 9, 2016

VINCENT R LANDER* / RSO
QUALITY ENVIRONMENTAL SOLUTIONS
AND TECHNOLOGIES, INC.
1376 ROUTE 9
WAPPINGERS FALLS NY 12590

**RE: Timely Renewal for
License Number C2939**

Dear Radiation Safety Officer:

This letter acknowledges receipt of your application for renewal of New York State Department of Health Radioactive Materials License Number C2939. The application has been deemed "timely", allowing License Number C2939 to remain active until issuance of the renewal from this office.

As a reminder, DH Number **2016-0001** has been assigned to your renewal as a tracking number. Please refer to this number in any correspondence or telephone calls regarding your renewal.

For inquiries regarding renewal status, call the Radioactive Materials Section at (518) 402-7590 and a secretary can assist you. For inquiries that are technical in nature, please call the same phone number, and a secretary can direct you to the Radiological Health Specialist assigned to your renewal. You may also e-mail inquiries to berp@health.ny.gov

All written correspondence should be addressed to:

New York State Department of Health
Bureau of Environmental Radiation Protection
Radioactive Materials Section
Empire State Plaza, Corning Tower, 12th floor
Albany, NY 12237

Sincerely,

Robert E. Dansereau, Assistant Director
Bureau of Environmental Radiation Protection



NEW YORK STATE DEPARTMENT OF HEALTH
RADIOACTIVE MATERIALS LICENSE

Pursuant to the Public Health Law, Part 16 of the New York State Sanitary Code, Industrial Code Rule 38, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing radioactive material(s) for the purpose(s), and at the place(s) designated below. The license is subject to all applicable rules, regulations, and orders now or hereafter in effect of all appropriate regulatory agencies and to any conditions specified below.

| | | | |
|---|----------------------|-----------------------|------------------|
| 1. NAME OF LICENSEE | | 3. LICENSE NUMBER | |
| | FEIN 14-18000797 | C2939 | |
| Quality Environmental Solutions and Technologies, Inc. | | 4. EXPIRATION DATE | |
| | Phone (845) 298-6031 | March 27, 2016 | |
| 2. ADDRESS OF LICENSEE | | 5a. REFERENCE | b. AMENDMENT NO. |
| 1376 Route 9 Wappingers Falls, New York 12590 | | DH 11-1070 | 4 |

- | | | |
|---|-------------------------------------|---|
| 6. Radioactive Materials (elements in mass number) | 7. Chemical and/or physical form | 8. Maximum quantity licensee may possess at any one time |
| B. Cadmium 109 | B. Sealed source | B. 28 millicuries |

9. Authorized use.
Conditions 6.A. and 6.B.:
- A. The licensee is authorized to use any sealed source, or associated portable x-ray fluorescence device which has been manufactured and distributed in accordance with a specific license issued by an Agreement State or the United States Nuclear Regulatory Commission. Combinations of sources and devices must be compatible for use as stated in a Sealed Source and Device Registration Certificate (i.e., stated in the registration certificate for the source or device).
 - B. No single source may exceed the maximum activity specified for that nuclide in the Sealed Source and Device Registration Certificate for any device in which the source is to be used.



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5a. Reference DH 11-1070

b. Amendment No. 4

9. C. Only portable x-ray fluorescence devices which require continuous activation by the operator, and which incorporate a mechanism to automatically return the source to its shielded position (e.g., a "dead-man" switch) may be obtained and used under this license. Devices which rely upon positive action by the operator to shield the source, such as operation of a key switch, or which do not require continuous operator activation during exposure, are not authorized under this license.
10. A. The Radiation Safety Officer (RSO) for this License is Vincent R. Lander.
- B. Licensed material shall be used by, or under the supervision of, the Radiation Safety Officer, by licensee personnel trained and certified by the manufacturer. The licensee shall maintain a complete and accurate record of the qualifications of each person permitted to use radiation sources under this license.
11. Except as specifically provided otherwise in this License, the licensee shall conduct its program in accordance with the statements, representation and procedures contained in the documents, including any enclosures, listed below. The Department's Regulations shall govern, unless the statements, representation and procedures in the licensee's application and correspondence are more restrictive than the Regulations.
- A. License Renewal Application dated March 13, 2006, signed by Vincent R. Lander, with attachments.
- B. Letter dated August 15, 2006, signed by Kenneth W. Houseman, with attachments.
- C. Letter dated May 13, 2008, signed by Vincent R. Lander, with attachment.
- D. License Renewal Request dated January 6, 2012, signed by Vincent R. Lander.**
- E. Letter dated January 17, 2014, signed by Vincent R. Lander, with attachments.**
12. A. Licensed material shall be stored at the location indicated in Condition 2 and may be used at temporary job sites of the licensee anywhere within the State of New York, where the Department of Health exercises jurisdiction.



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12. B. Overnight storage at other locations shall be in accordance with statements referenced in Condition 11 of the license, provided that such storage may not be in a residence, or in an attached garage except within a vehicle. Any vehicle used for storage shall be driven only for purposes associated with use or transport of the contained radioactive material, by a person qualified to use the material, and no passengers shall be carried unless they are also involved in work under this license. Vehicular storage shall only be allowed if no other storage is possible and shall not exceed five (5) consecutive nights unless authorization to exceed this limit is obtained from the Department.
- C. Under no circumstances shall radioactive material authorized by this license be transferred to the custody of any person or firm other than the licensee, or be used or stored by another person or firm or its employees; unless that person or firm possesses a valid license to possess and use such radioactive material.
13. Sealed sources containing radioactive materials shall not be opened or removed from devices.
14. A. The licensee is not authorized to dismantle, repair or affect any changes in the source holders/devices.
- B. The licensee shall not alter labels attached to source holders or devices, and shall maintain labels in legible condition at all times.
15. The licensee shall instruct persons who engage in work under the license, in accordance with 10 NYCRR 16.13(c). Such instruction shall include the licensee's operating and emergency procedures, and other information contained in documents incorporated in Condition 11.
16. The licensee shall conduct a physical inventory every six (6) months to account for all devices received and possessed under the License. The records of the inventories shall be maintained for three (3) years from the date of the inventory for inspection by the Department, and shall include the quantities and kinds of licensed material, manufacturer's name and model number, location of devices, the date of the inventory, and the name of the person who performed it.



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17. A. The licensee shall maintain a utilization log containing the identification of devices used, dates removed and returned to storage, the location of use, and the identity of user.
- B. The log shall be kept at the location of storage and shall contain sufficient detail to enable the licensee to inform the Department at any time, of the exact location of each device.
18. Current copies of the following documents shall be maintained at temporary job sites for Department inspection:
- A. The manufacturer's instruction manual and the licensee's operating and emergency procedures.
- B. A copy of the results of the latest test for leakage and/or contamination performed on the sealed sources.
- C. A copy of this license.
19. In the event that a theft, loss or other serious incident does occur, the Department shall be notified immediately by telephone and subsequent information acquired by the licensee shall be reported as it is received. All device users must carry the NYSDOH's current telephone number in their emergency procedures.
20. The licensee shall ensure that all persons authorized to use portable devices comply with safe use and maintenance procedures and that they do not leave a device unattended or unsecured at any time, even for a few minutes.

FOR THE NEW YORK STATE DEPARTMENT OF HEALTH

Date: MAR - 6 2014

DJS

By Daniel J. Samson
Daniel J. Samson, CHP, Chief
Radioactive Materials Section
Bureau of Environmental Radiation Protection



**NEW YORK STATE
MINORITY- AND WOMEN-OWNED BUSINESS
ENTERPRISE ("MWBE")
CERTIFICATION**

Empire State Development's Division of Minority and Women's Business
Development grants a

Minority Business Enterprise (MBE)

pursuant to New York State Executive Law, Article 15-A to:

**Quality Environmental Solutions & Technologies
Inc.**

Certification Awarded on: August 11, 2015

Expiration Date: August 11, 2018

File ID#: 49952





This PERMIT has been issued in accordance with N.J.A.C. 8:62. You MUST have this PERMIT with you any time you are performing work for which it is required. Failure to carry this PERMIT or altering or falsifying this PERMIT may result in a civil administrative PENALTY of up to \$1,000 per day for the first offense and up to \$5,000/day for each subsequent offense. Each day shall constitute an additional and separate offense.

To report a lost or stolen PERMIT, defects to a PERMIT, or to find out how to renew a PERMIT, contact the NJ DOH (see below).

E-mail: iep.program@doh.state.nj.us Telephone: 609-826-4950
 Web: www.state.nj.us/health/iep Fax: 609-826-4975
 Address: NJ DOH, CEOHS, EOHAP
 PO Box 372, Trenton, NJ 08625-0372

If this PERMIT is found abandoned, please send to the above address.

| <u>Issued By</u> | <u>Card Number</u> | <u>Issue Date</u> |
|------------------|--------------------|-------------------|
| DA | 028015 1 | 2/5/2015 |



12-003776375

This card acknowledges that the recipient has successfully completed a 10-hour Occupational Safety and Health Training Course in
Construction Safety and Health

Todd Mc Afee

David Veit

06/06/2012

Trainer name – print or type)

(Course end date)

OSHA recommends Outreach Training Courses as an orientation to occupational safety and health for workers. Participation is voluntary. Workers must receive additional training on specific hazards of their job. This course completion card does not expire.

Use or distribution of this card for fraudulent purposes, including false claims of having received training, may result in prosecution under 18 U.S.C. 1001. Potential penalties include substantial criminal fines, imprisonment up to five years, or both.

OSHA Outreach Training Program go to "Training" at www.osha.gov

Rev. 9/2009

United States Environmental Protection Agency

This is to certify that



Todd J McAfee

Inspector

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

In the Jurisdiction of:

New York

This certification is valid from the date of issuance and expires April 17, 2018

NY-I-1151913-1

Certification #

April 03, 2015

Issued On

A handwritten signature in black ink, appearing to read "John Gorman".

John Gorman, Chief

Pesticides & Toxic Substances Branch



United States Environmental Protection Agency

This is to certify that



Todd J McAfee

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

In the Jurisdiction of:

New York

April 17, 2018

This certification is valid from the date of issuance and expires

NY-R-1151913-1

Certification #

April 03, 2015

Issued On

A handwritten signature in black ink, appearing to read "John Gorman".

John Gorman, Chief

Pesticides & Toxic Substances Branch



Quality Environmental Solutions & Technologies, Inc
1376 Route 9, Wappingers Falls, NY 12590
Phone 845-298-6031 Fax 845-298-6251

HEREBY CERTIFIES THAT

Todd McAfee
308 Oak Lane
Newburgh, NY 12550

HAS SUCCESSFULLY COMPLETED A TRAINING SEMINAR IN:

EPA Lead Renovator-Initial-English

MEETING THE REQUIREMENTS OF TITLE 40 PART 745 AND IS AWARDED THIS
CERTIFICATE BY:



Lawrence Holzapel
Lead Program Manager



ON THIS DATE: 09/18/15
EXPIRATION DATE: 09/18/20
CERTIFICATE NUMBER: RV-I-306040-15-000007

Certificate of Completion

This is to certify that

Todd McAfee

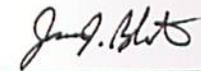
Has completed

US Regulations for Handheld XRF Analyzers with Radioactive Sealed Sources

1/7/2016



Supervisor signature



Jim Blute, RSO Thermo Fisher Scientific
Portable Analytical Instruments



Certificate of Completion

This is to certify that

Todd McAfee

Has completed the

Radiation Safety for X-ray Tube Based Instruments

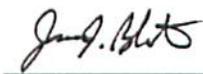
Online training course

On

1/7/2016



Supervisor signature



Jim Blute, RSO Thermo Fisher Scientific
Portable Analytical Instruments



Certificate of Completion

This is to certify that

Todd McAfee

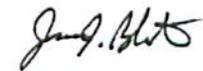
Has completed the
Sealed Source XRF - Radiation Safety
Online training course

On

1/7/2016



Supervisor signature



Jim Blute, RSO Thermo Fisher Scientific
Portable Analytical Instruments



Certificate of Completion

This is to certify that

Todd McAfee

Has completed the

Transport of Radioactive Sealed Sources in XRF Analyzers

Online training course

On

1/7/2016



Supervisor signature



Jim Blute, RSO Thermo Fisher Scientific
Portable Analytical Instruments



Certificate of Completion

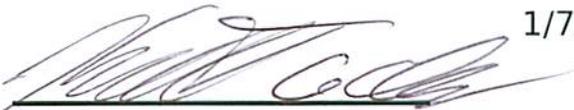
This is to certify that

Todd McAfee

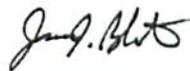
Has completed the
Transport of Li Ion Batteries
Online training course

On

1/7/2016



Supervisor signature



Jim Blute, RSO Thermo Fisher Scientific
Portable Analytical Instruments





H2M architects + engineers

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www.h2m.com