



Department of Environmental Conservation

Division of Environmental Remediation

Site Name: Carriage Cleaners

Site Number: 8-28-120

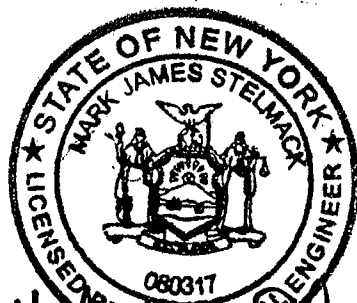
Contract Number: D007904

Location: Town of Brighton

Monroe County, New York

Contract Documents

MACTEC Engineering and Consulting, P.C.



Mark James Stelmack
10-13-10

October 2010

New York State Department of Environmental Conservation

DAVID A. PATERSON, *Governor*

ALEXANDER B. GRANNIS, *Commissioner*

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CONTRACT DRAWINGS BOUND SEPARATELY

SECTION I

Advertisement and Notice to Bidders

New York State Department of Environmental Conservation

Project Name: Carriage Cleaners Site, NYS Site Number: 8-28-120, NYS Contract D007904

Sealed bids for the **Carriage Cleaners Site Remedial Action** ("project"), will be received by the New York State Department of Environmental Conservation, Division of Management and Budget Services, 10 Floor, 625 Broadway, Albany, New York, 12233-5027, Attn: Bureau of Expenditures until the time of **1:00 P.M.** and on the date of **Thursday, February 3, 2011**. The bids will be publicly opened and read aloud at the above time and date. Telegraphic or other electronically transferred bids are not acceptable.

The project involves the implementation of remedial activities at the **Carriage Cleaners Site (the "Site") located at 2101 Monroe Avenue in the Town of Brighton, Monroe County**. These primarily include, but are not necessarily limited to excavation and offsite disposal of impacted soil/debris along with the installation and operation of a groundwater extraction treatment system and a soil vapor extraction (SVE) treatment system.

The estimated range for this work is: **\$500,000 to \$ 1,000,000.**

Contract Documents are only available in electronic format. Access to electronic copies of biddable contract document drawings, specifications and proposal forms may be purchased for a non-refundable fee of \$49.00 from the Division of Environmental Remediation (DER), 12th Floor, 625 Broadway, Albany, New York, 12233-7012, Attn: Bureau of Program Management - Contracts and Payments Section at (518) 402-9711. Individual checks for each set shall be made payable to the New York State Department of Environmental Conservation (NYSDEC). Purchasers of Contract Documents must provide an e-mail address and will be provided a link and a password to access electronic copies of the biddable Contract Documents which can be downloaded. An electronic version of non-biddable contract documents is available at the Department web site link <http://www.dec.ny.gov/chemical/59233.html> However, addenda to the contract documents and a separate Limited Site Data Document will only be available to those who purchase access to biddable contract documents.

PROPOSALS WILL BE ACCEPTED ONLY FROM BIDDERS WHO PURCHASE CONTRACT DOCUMENTS. All proposals must be made on the official proposal form and enclosed in the envelope which will be provided. Each proposal must be accompanied by a deposit or a bid bond in the amount of 5% of bid amount. All Bidders must attend a Pre-Bid Conference to discuss special requirements for the contract, to be held on **Tuesday, January 18, 2011 at the Site** starting at **12:00 noon** prevailing local time. **ATTENDANCE IS MANDATORY AS A CONDITION OF BIDDING.**

Minority and Women owned businesses are encouraged to submit bids in response to this solicitation. The New York State Department of Environmental Conservation is an Equal Opportunity/Affirmative Action Employer. The Contractor shall adhere to the New York State Department of Environmental Conservation Guidelines Regarding Permissible Contacts During a Procurement and the Prohibition of Inappropriate Lobbying Influence. For the purpose of this Notice to Bidders, the Director of the DER, 12 Floor, 625 Broadway, Albany, New York, 12233- 7011, shall be the Department's Designated Representative. Any questions, however, shall be directed to **David J. Chiusano**, the Department's Project Manager and Designated Contact, at (518) 402-9814.

Bidders may receive announcements of future procurement opportunities by signing up for the NYSDEC-DER's electronic mailing list ("listserv") at <http://lists.dec.state.ny.us/mailman/listinfo/dercontractprocurement>

Peter M. Iwanowicz
Acting Commissioner

SECTION II

Terms and Definitions

Wherever used in the Contract Documents the following terms (or pronouns in place of terms) have the meanings indicated which are applicable to both the singular and plural thereof:

Addenda - Written or graphic instruments issued prior to the date for opening of Bids which interpret or modify the Contract Documents by way of changes, clarifications, or corrections.

Administrative Agreement - A written explanation of the Contract Documents, signed by **Department**, **Engineer** and **Contractor** on or after the Effective Date of the Agreement and dealing with procedural or administrative aspects of the Contract Documents which do not change the contract price.

Agreement - The written agreement between **Department** and **Contractor** covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment - The form furnished by **Department** on which **Contractor** must request progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

Bid - The written offer or proposal of the Bidder, submitted pursuant to Article 5 of Section III of the Bidding Documents on form provided.

Bidder - The person, partnership, corporation, joint venture or other combination thereof, who has submitted a Bid.

Bid Security - The security designated in the Bidding Documents to be furnished by the Bidder as guarantee that he/she will enter into a Contract with **Department** for the performance of the Work, if the Work involved in the Bid is awarded to that Bidder.

Bidding Documents - The Advertisement and Notice to Bidders, Bidding Information and Requirements, the Bid Forms and Attachments, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

Bonds - Instruments of security furnished by **Contractor** and its surety in accordance with the Contract Documents. This refers to the labor and material payment Bond, performance Bond and those other instruments of security required by the Contract Documents.

Change Order - A document prepared and recommended by **Engineer**, which is reviewed by **Department** and has been signed by **Contractor** and **Department** and approved by Comptroller. It authorizes an addition, deletion or revision in the Work, or an adjustment in Contract Price or Contract Time, or any combination thereof, issued on or after the Effective Date of the Agreement.

Commissioner - Commissioner of the New York State Department of Environmental Conservation.

Comptroller - The Comptroller of the New York State Department of Audit and Control.

Contract Documents - The Agreement, Addenda (which pertain to the Contract Documents), **Contractor's** Bid including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award, all bid forms and attachments required by Section V, the General Conditions, the Supplementary Conditions, the Standard Specifications, the Supplementary Specifications, Appendix A, Appendix B, Measurement for Payment, Advertisement, Terms and Definitions, Bidding Information and Requirements, Supplementary Bid Information and Requirements, and the Drawings, together with all amendments, modifications and supplements issued pursuant to paragraphs 2.4 and 2.5 of Article 2 of the General Conditions on or after the Effective Date of the Agreement.

Contract Price - The money payable by **Department** to **Contractor** under the Contract Documents.

Contract Time - The number of days permitted by the Agreement for completion of Work. This number may be stated or implied by a requirement that all work be completed by a certain date.

Contractor - The person, partnership, corporation, joint venture, or other combination thereof, who has entered into the Contract with **Department** for the Work. The term "**Contractor**" means **Contractor** or its authorized representative.

Correction Period - The period of time within which **Contractor** shall promptly, without cost to **Department** and in accordance with **Department's** written instructions, either correct Defective Work or if it has been rejected by **Department**, remove it from the site and replace it with nondefective Work, pursuant to paragraph 12.12 of the General Conditions.

Cost and Pricing Data - Refers to all data available to and relied upon by **Contractor** in negotiating, pricing or performing Work covered by a Change Order or a Proposed Change Order, or involved in a claim. Sample Cost and Pricing Data include data and supporting documents pertaining to labor wages and material rates, crew mixes, labor productivity, payroll costs, price catalogs, quotations from and payments to Subcontractors, Suppliers or others, equipment production rates, equipment costs, sales and use taxes, cost of premiums for Bonds and Insurances, costs related to the determination of general and administrative overhead, site office overhead, profit, estimates and estimating guides, **Contractor's** computations and projections, and all of the relevant assumptions made by **Contractor** in pricing or figuring increases or decreases in Contract Price or Contract Time.

Cost of the Work Involved - The sum of all costs necessarily incurred and paid by **Contractor** in the proper performance of the Work involved.

Day - A calendar day of 24 hours lasting from midnight one day to midnight the next day.

Defective Work - Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to **Engineer's** recommendation of final payment (unless responsibility for the protection thereof has been assumed by **Department** at Substantial Completion in accordance with paragraphs 13.8 or 13.10).

Delivery - Shall be effected on the date of receipt by the addressee.

Department - New York State Department of Environmental Conservation.

Department Representative(s) - Employee(s) of **Department** engaged in **Department** activities relating to the work but who is not responsible for day to day administration of the Project.

Design Engineer - The individual, partnership, corporation, joint venture, or any combination thereof, who prepared and sealed the Contract Documents that were bid by **Department**.

Designated Contact(s) - Individuals to whom all contacts can properly be made during the Restricted Period in relation to the Permissible Contacts During a Procurement and Prohibition of Inappropriate Lobbying Influence clause of the contract documents. The Project Manager shall serve as the Department's Designated Contact for the contract.

Designated Representative - **Department** employee responsible for resolving all disputes between contractor and Project Manager, as identified in the Supplementary Bidding Information and Requirements.

Drawings, Plans - The Drawings, Plans or reproductions thereof, which show location, character, dimensions, and details of the Work to be performed and which are referred to in the Contract Documents.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is approved and filed by Comptroller.

Employee - Any person working on the project mentioned in the contract of which these specifications are a part, and who is under the direction or control, or receives compensation from **Contractor** or Subcontractor.

Engineer - The individual, partnership, corporation, joint venture, or any combination thereof, any entity named as **Engineer** in the Agreement who will have the rights and authority assigned to **Engineer** in the Contract Documents. The term "**Engineer**" means the **Engineer** or its authorized representative.

Equipment - All machinery and equipment, together with the necessary supplies for upkeep and maintenance, and also tools and apparatus necessary for the proper construction and acceptable completion of the Work.

Field Order - A written order issued by **Engineer** to **Contractor** which orders minor changes in the Work in accordance with paragraph 9.2 of the General Conditions not involving an adjustment in the Contract Price or the Contract Time.

Law(s) - Applicable laws, rules, regulations, ordinances, codes or orders of a federal or New York State court.

Material - Any approved material acceptable to **Department** and conforming to the requirements of the specifications.

Notice of Award - **Department** written notice of bid acceptance and filing by the New York Office of the State Comptroller and stating pertinent information **Contractor** shall comply with.

Notice of Intent to Award - The written notice by **Department** to a Bidder stating that upon compliance by that Bidder with the conditions precedent enumerated therein, within the time specified, **Department** intends to process contract through the appropriate New York State contract reviews.

Notice to Proceed - The written notice issued by **Department** to **Contractor** establishing the Date for Commencement of the Contract Time and, where applicable authorizing **Contractor** to proceed with the Work at the site.

Overhead - General and administrative costs (whether at the site or in **Contractor's** principal or branch offices) and all other miscellaneous costs not assigned to a specific payment item as identified in Articles 9, 10 and 11 of the General Conditions.

Partial Utilization - Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

Physical Completion - The Work and all parts thereof have been completed to the satisfaction of **Department**.

Progress Schedule - Drawings, data computer reports, and narratives disclosing **Contractor's** approach to the Work; the associated Early Schedule, Late Schedule and Float times, as supported by the Critical Path Method (CPM) or Bar Chart Diagram; the Schedule of Values; and the Schedule of Shop Drawing submissions.

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

Project Field Representative - **Department** employee assigned responsibility for the day to day administration of the Project.

Project Manager - **Department** employee identified in the Supplementary Bidding Information and Requirements, responsible for administration of work required by Contract Documents and supervision of the Project Field Representative(s).

Proposed Change Order - A document prepared on a form furnished by **Department** which is to be used: 1) by **Department** when requiring that **Contractor** figure the potential effect on Contract Price or Contract Time of a proposed change, (the proposed change is ordered upon signing by **Department**), or 2) by **Contractor** to notify **Department** that in the opinion of **Contractor** a change is required to respond to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 3.11 or 3.12 of Article III of the General Conditions or to emergencies under paragraph 5.22 of Article V of the General Conditions, or has been ordered in a Field Order, or in **Engineer's** approval of a Shop Drawing or sample, or in **Engineer's** written interpretation or clarification of the requirements of the Contract Documents. When signed by **Department**, a Proposed Change Order may or may not fully adjust Contract Price or Contract Time, but is evidence that the change directed or documented by the Proposed Change Order will be incorporated in a subsequently issued Change Order following negotiations as to its effect, if any, on Contract Price or Contract Time.

Resident Engineer - The authorized representative of **Engineer** who is assigned to the site or any part thereof.

Resident Project Representative - Person acting as assistant to the Resident Engineer who is assigned to the site or any part thereof.

Restricted Period - The time period which runs from contract bid advertisement to contract approval by the New York State Office of the State Comptroller.

Retainage - A percentage of a progress payment withheld from a contractor as assurance that all the contract requirements will be satisfactorily completed.

Shop Drawings - All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for **Contractor** to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by **Contractor** to illustrate material or equipment for some portion of the Work.

Site - The area within the vertical boundaries of the location where the Contract Documents require Work by **Contractor**.

Specifications - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

Subcontractor - An individual, partnership, corporation, joint venture or other combination thereof, having a direct contract with **Contractor** or with any other Subcontractor for the performance of a part of the Work at the site.

Substantial Completion - The Work, or a specified part thereof, has progressed to the point where in the opinion of **Engineer** as evidenced by **Engineer's** definitive Certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents (with the exception of the minor items identified during inspection described in paragraph 13.6 of the General Conditions), so that it can be utilized continuously for the purposes for which it is intended. Substantial Completion of the Work, or specified part thereof, may be achieved either upon completion of Pre-operational Testing or Start-up Testing, depending upon the requirements of the Contract Documents. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

Supplier - A manufacturer, fabricator, supplier, distributor, material man or vendor.

Testing, Pre-Operational - All testing, associated trimout activities and specified manufacturer or supplier training required prior to placing the facilities in service, including but not limited to manufacturer or supplier installation checks; leak, disinfection and pressure tests; removal or erection of temporary components; tie-ins; flushing and chemical/mechanical cleaning operations; specified performance tests; and other necessary non-operating adjustments, cold-alignment checks, corrections, housekeeping and spare parts stocking required of **Contractor** to demonstrate to **Department** and **Engineer** that individual components of the Work have been properly erected and do operate in accordance with the Contract Documents, and that they can be placed in service and utilized continuously for their intended purposes.

Testing, Start-Up - Follows Pre-operational Testing. Start-up Testing commences by placing portions of the Work in service under interim conditions, continues through initial utilization of the facilities under design media, and culminates with predefined trial utilization tests during which **Contractor** is to operate the Work, or specified parts thereof, under actual and simulated operating conditions and performing as defined in the Contract Documents, for the purposes of: a) making such minor adjustments and changes as may be found necessary to comply with the requirements of the Contract Documents, and b) complying with the Start-up Test requirements outlined in the Contract Documents.

Total Float - Number of working days by which a part of the Work identified in the progress schedule may be delayed without necessarily extending the corresponding Contract Time, or Contract Times.

Underground Facilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed under ground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, chemicals, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

Work - Any and all obligations, duties, responsibilities, labor, materials, equipment, temporary facilities, and incidentals, and the furnishing thereof necessary to complete the construction assigned to, or undertaken by **Contractor** pursuant to the Contract Documents. Also, the entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor, and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

SECTION III

Bidding Information and Requirements

ARTICLE 1 - Address for Notices

It is understood and agreed between the parties that **Department's** Representatives for the implementation of this Agreement, or for approval and direction called for therein, shall be the individuals named in Article 2 of Section IV, "Supplementary Bidding Information and Requirements."

Whenever it is provided in this Agreement that notice shall be given or other communications sent to **Department**, such notices or communications shall be delivered or sent to the Project Manager at the address set forth in Article 2 of Section IV, "Supplementary Bidding Information and Requirements." However, the Bid submittal should be addressed as stated in Article 3 below.

ARTICLE 2 - Interpretation of Bidding Documents

No interpretation of the meaning of the Bidding Documents will be made orally: all questions regarding the intent or meaning of the Bidding Documents shall be submitted in writing to the Project Manager at the address set forth in Article 2 of Section IV, "Supplementary Bidding Information and Requirements". The reply to the same, when deemed necessary, will be sent by addendum to all persons who have purchased Bidding Documents. To be given consideration, all inquiries must be received in writing at the above address at least **ten** days prior to the date fixed for the opening of Bids. Any and all interpretations and any supplemental instructions will be in the form of written Addenda which, if issued, will be sent by certified or registered mail with return receipt requested or telegraph, to all purchasers of Bidding Documents at the respective addresses furnished for such purposes. Failure of any Bidder to receive any such Addenda shall not relieve said Bidder from any obligation under its Bid as submitted. All Addenda so issued shall become part of the Bidding Documents.

All pre-bid inquiries answered by means other than Addenda shall not be binding.

ARTICLE 3 - Bid Instructions

Department invites sealed Bids on the forms attached hereto, and submitted in the envelopes provided to: Division of Management and Budget Services, New York State Department of Environmental Conservation, 10th Floor, 625 Broadway, Albany, New York, 12233-5027, **Attn.:** Bureau of Expenditures.

The outside of the envelopes must bear the name and address of the Bidder, the Project name and Project designation number from the cover of the specification book, and be clearly marked as "Bid."

Department may consider non-responsive any Bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or irregularities in or may reject any or all Bids. Bids that are illegible or that contain any omission, erasures, alterations, additions, conditions, or items not called for in the Bidding Documents or that contain other irregularities of any kind, may be rejected as non-responsive. The failure or omission of any Bidder to obtain or examine any form, instrument, document or Bidding Documents or any part thereof, shall in no way relieve any Bidder from any obligation in respect to its Bid. Complete sets of Bidding Documents shall be used in preparing Bids; neither **Department** nor **Engineer** assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

Department is responsible for providing Addenda only to those persons or firms listed in its plan sales ledger as having purchased Bidding Documents from **Department**. Persons or firms which obtain Bidding Documents from sources other than **Department** bear the sole responsibility for obtaining any Addenda issued for the Project.

Department and **Engineer** make copies of Bidding Documents available only for the purpose of obtaining Bids on the Work and do not authorize any other use of the Bidding Documents.

Each Bid must be submitted on the official form which is furnished by **Department**. All blank spaces in the Bid must be filled in as noted, and no change shall be made in the phraseology of the Bid or in the items mentioned therein.

The Bidder shall sign, in the space provided in the Bid form, with his or her usual signature. An officer of a corporation or a member of a partnership signing for the Bidder, shall place his or her signature and title after the word "By" under the name of the **Contractor**. The same procedure shall apply to the Bid of a joint venture by two or more Bidders; however, if the signature is by an agent or attorney-in-fact for the joint venturers, then the Bid shall be accompanied by evidence of his or her authority to act on behalf of all of the joint venturers.

The Bidder shall complete that portion of the Bid form requesting a statement of the Addenda which have been received, by Addenda number and date. If no Addenda have been received, insert the word, "NONE." Failure to complete this portion of the Bid form may result in a bid being declared non-responsive at **Department's** option.

Each Bid shall specify in words and figures, the correct gross sum, in the manner hereafter described for which the Work shall be performed according to the Bidding Documents together with a unit price expressed in words and figures for each separate items for which such a price is required. The lowest Bid shall be determined by **Department** on the basis of the total sum for which the entire Work will be performed, arrived at by a correct computation of all items specified in the Bidding Documents at the prices stated in the Bid. **Department** reserves the right to reject any Bid in which the Bid prices appear to constitute an unbalanced Bid for the work.

In the event there is a discrepancy in any Bid between the unit prices and the extended totals, the unit prices shall govern. In the event there is a discrepancy in any Bid between the prices written in figures and the unit or lump sum prices written in words, the prices written in words shall govern. **Department** may reject as non-responsive bids which do not contain a price for every numbered item contained in the Bid form, or may insert a zero for every numbered item that doesn't contain a price.

Unless **Department** gives instructions to the contrary, the Bidder shall use no more than three decimal places in the cents column under unit Bid price items. If Bidder uses more than three decimal places without such instructions, **Department** may round off the Bid item to three decimal places.

The Bidder is responsible for examining supplemental information which is available for inspection at the address for notices in Article 1 of this Section.

Department will not accept any Bid which has been transmitted via Facsimile, Telephone, Telegraph or which has been received after the designated bid opening time except where there is evidence that the bid arrived on time, but was mishandled by the **Department**. A late Bid will be returned unopened with notification of the reason for non-acceptance.

Bids will only be accepted from Bidders who have purchased Contract Documents from **Department**.

Permissible Contacts During a Procurement and Prohibition of Inappropriate Lobbying Influence - Pursuant to State Finance Law §139-j and §139-k, this contract includes and imposes certain restrictions on communications between a Governmental Entity and an Offerer/Bidder during the procurement process. An Offerer/bidder is restricted from making contacts from the earliest notice of intent to solicit bids through final award and approval of the Procurement Contract by the Department of Environmental Conservation (Department) and, if applicable, Office of the State Comptroller ("restricted period") to other than designated staff unless it is a contact that is included among certain statutory exceptions set forth in State Finance Law §139-j(3)(a). Designated staff, as of the date hereof, is identified on page I-1 of Section I, Advertisement and Notice to Bidders. Department employees are also required to obtain certain information when contacted during the restricted period and make a determination of the responsibility of the Offerer/bidder pursuant to these two statutes. Certain findings of non-responsibility can result in rejection for contract award and in the event of two findings within a 4 year period, the Offerer/bidder is debarred from obtaining governmental Procurement Contracts. Further information about these requirements, including a copies of the new lobbying law, can be found at <http://www.ogs.state.ny.us/aboutOgs/regulations/defaultAdvisoryCouncil.html>.

ARTICLE 4 - Modification or Withdrawal of Bid

Permission will not be given to modify or explain by letter, telegram, telephone or otherwise, any Bid after it has been deposited with **Department** except that a Bid may be withdrawn, modified, and resubmitted prior to the date and time for opening the Bids. After such date and time, no Bid may be withdrawn by a Bidder except as provided by law, and provided further that: 1) the Bidder files a duly signed written notice of a Bid mistake with **Department** within two business days after the day of the Bid opening, and 2) within 3 business days thereafter demonstrates to the reasonable satisfaction of **Department** that there has been a material and substantial mistake in the preparation of the Bid. If these two conditions are not met, then the bid bond would be forfeited.

Prior to submittal of Bid, a Bidder may alter or correct a unit price, or a lump sum item, which has been entered on the Bid form by crossing out the entry, entering the new figure above or below the crossed-out entry, and initialing on the line of change. The crossing out of entries shall be with ink, or typed. All new entries and initials shall be legibly handwritten with ink, or typed. Any ambiguity arising from entries altered or corrected on the Bid Form may be cause for **Department's** rejection of the Bid as non-responsive.

If the Bid is made by an individual, the business address shall be given. If made by a corporation, the names and business addresses of the president, secretary and treasurer shall be given. If made by a partnership, the names and business addresses of the partners shall be given.

Department reserves the right to disqualify Bids, before or after opening, upon evidence of collusion with intent to defraud or other illegal practices upon the part of the Bidder.

All Bids submitted by an individual, firm or partnership, a corporation or association which submits more than one Bid for the same Work under the same or different name shall be rejected.

ARTICLE 5 - Required Bid Submittals

The following are to be submitted within the time periods indicated. At the option of **Department**, failure to make or amend a submittal will constitute proof that the Bidder has abandoned all rights and interests in the contract; that the Bid Security is forfeited to **Department** as liquidated damages; and that the Work may be awarded to another Bidder in a manner consistent with Law.

- a) The following items are to accompany Contractor's Bid to **Department**:
- Form of Bid filled out
 - Bid Bond or Certified Check
 - Non-Collusion Certificate
 - MacBride Fair Employment Principles (signed)
 - Offerer's Affirmation of Understanding of and Agreement pursuant to State Finance Law §139-j (3) and § 139-j (6) (b) (signed)
 - Use of Best Available Retrofit Technology (BART) and Ultra Low Sulphur Diesel (ULSD) Provision (signed)
 - Offerer Disclosure of Prior Non-Responsibility Determinations (signed)
- b) The following items shall be submitted within **5 days** of notification that the Bidder is the apparent low Bidder:
- Off-site permitted facility to receive material along with a copy of the facilities permit
 - Plan of Operations (Work Plan) and Progress Schedule, Health and Safety Plan, Sampling Plan, and QA/QC Plan
 - Statement of Surety's intent, complete and signed by and duly authorized surety company licensed to do business in the State of New York
 - A copy of the proposed site Pollution Liability insurance policy demonstrating that the bidder has the required \$1 million of Pollution Liability insurance and the additional \$4 million (for a total of \$5 million) of Pollution Liability insurance if required by the **Department** on a specific project basis. If the Bidder is unable to obtain the \$4 million of site specific Pollution Liability insurance, Department requires letters from three (3) sureties stating that the additional Pollution Liability insurance is unavailable.
 - A description of projects completed by Bidder documenting its experience in this type of work
 - Proof of Availability of insurance or Certificate of insurance with endorsements including written verification that the insurance carrier(s) are licensed in New York State. Licensed insurance carriers can be verified at <http://www.ins.state.ny.us/>. If the Contractor proposes to use non-admitted carrier(s) for pollution or professional liability insurance, then three declinations on forms required by New York State Insurance Regulation 41 (i.e., Part A - Affidavit by Excess Line Broker or Part C - Affidavit by Producing Broker) must be submitted. Pollution or professional liability insurance provided by excess line carriers shall be from a carrier who is a member of the Excess Line Association of New York (ELANY). All other insurance must be through carriers licensed to do business in New York State. All carriers must be properly identified by complete name, address, National Association of Insurance Commissioners (NAIC) number and whether or not they are a member of ELANY (if applicable) in the submittal. Refer to Article 4, Bonds and Insurance, of the General Conditions for additional information.

- NYS Vendor Responsibility Questionnaire (completed) or affidavit of no change (if appropriate)
 - Policy Statement and M/WBE Workplan
 - Any other information that demonstrates the Bidder's ability to perform the work described herein
 - Low bidders may be asked to submit additional information to demonstrate competency
- c) The following items shall be submitted by the apparent low Bidder within **14 days** from the date of the Notice of Intent to Award letter from **Department**:
- Executed Agreement (six copies with original signatures)
 - Performance Bond with Power of Attorney & Surety Financial Statement (original and five copies)
 - Labor & Materials Bond with Power of Attorney & Surety Financial Statement (original & five copies)
 - Bid Breakdown of Items (original)
 - Certificates of Insurance (original and five copies)
 - Consultant/Contractor Detailed M/WBE-EEO Utilization Plan (original and five copies)

ARTICLE 6 - Bid Security and Bonds

Bid Security shall be made payable to **Department** in an amount not less than five percent (5%) of the Bidder's gross sum Bid. The Bid Security shall be in the form of either a certified or bank check upon an incorporated bank or trust company, or a Bid Bond issued by a surety satisfactory to **Department**.

Department will accept only Bonds from a surety company licensed to write Bonds of such character and amount under the laws of New York State and which are listed on the U.S. Treasury Department Circular 570.

Attorneys-in-fact who sign Bonds shall file with such Bonds a certified copy of their Power of Attorney to sign Bonds and to conduct business in the State of New York.

The Bid Security of a Bidder awarded a Contract for the Work will be retained until such Bidder has executed the Agreement and furnished the required bonds and insurance, whereupon the Bid Security will be returned. If the Bidder fails to execute and deliver the Agreement, other required documents and furnish the required bonds and insurance within fourteen (14) days after the Notice of Intent to Award, **Department** may annul the Notice of Intent to Award, and the Bid Security of that Bidder will be forfeited to **Department**. The Bid Security of any Bidder whom **Department** believes to have a reasonable chance of receiving the award may be retained by **Department** until the earlier of the 45th day after the Bid opening or seven (7) days after the Effective Date of the Agreement, whereupon Bid Security furnished by such Bidders will be returned. Bid Security of other Bidders will be returned after the Bid opening.

ARTICLE 7 - Approval of "or Equal" or Substitution Equipment, Systems or Items

There shall be no approval given by **Engineer** during the bidding period or prior to Award of Contract for any "or equal" or substitution equipment, systems or items.

ARTICLE 8 - Other Contracts and Occupancy

Department may award other contracts in connection with this Work. **Contractor** shall not have exclusive occupancy of the real property within or adjacent to the limits of the Work.

In case of interference between the operations of utility owners and different contractors, **Department** 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. In all such cases, **Department's** decision shall be accepted as final.

ARTICLE 9 - Taxes

Department is exempt from the payment of sales and compensating use taxes of the State of New York and of cities and counties on all materials, equipment and supplies sold to **Department** pursuant to this Contract. Also exempt from such taxes are purchases by **Contractor** and its Subcontractors of materials, equipment and supplies to be sold to **Department** pursuant to this Contract, including tangible personal property to be incorporated in any structure, building or other real property forming part of the Project. These taxes are therefore not to be included in the Bid. The cost of all other taxes under the Contract shall be included in the Bid prices for the several items of the Contract.

ARTICLE 10 - Experience and Financial Statements

In accordance with New York State Executive Order No. 170, a Contract shall only be awarded to a responsible Bidder capable of performing and completing the Work in a satisfactory manner. The **New York State Uniform Contracting Questionnaire**, which is included in Section V, "Bid Forms and Attachments " must be completed and submitted to **Department** by the apparent low Bidder within five (5) days after the apparent low Bidder has been so notified. The completed questionnaire or the affidavit of no change (if appropriate) must be addressed to:

NYS Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E, Section A
625 Broadway, 12th Floor
Albany, NY 12233-7017

The envelope should be clearly marked "NYS Uniform Contracting Questionnaire." Failure of the apparent low Bidder to timely submit the complete, properly executed questionnaire within five (5) days may result in disqualification.

Before **Department** will consent to any subcontracts over \$10,000, the proposed subcontractor must submit the complete, properly executed "NYS Uniform Contracting Questionnaire" through **Contractor**. Any delay in the progression of work caused by the failure of a subcontractor to comply with these requirements will be attributable to **Contractor** and any additional costs will be **Contractor's** responsibility.

The low Bidder shall demonstrate its responsibility to perform and complete Work by submitting a statement of its experience and the experience of any Subcontractor which the low Bidder intends to use to perform the Work.

Department may require the low Bidder to further demonstrate its responsibility to perform and complete Work by submitting an additional experience and financial statement or information seven (7) days after bid opening or within seven (7) days of **Department** request, which shall include at a minimum, information pertaining to the Bidder's financial resources. The submitted financial information shall be certified by a Certified Public Accountant, and shall be submitted in the form required by **Department**. This can also apply to **Contractor's** subcontractors.

ARTICLE 11 - Preliminary Progress Schedule

The Preliminary Progress Schedule shall consist of three copies of a narrative description and a time-scaled critical path method diagram or bar chart diagram as specified in the Contract Documents. The narrative in the Preliminary Progress Schedule shall describe the order in which Bidder proposes to perform the Work pursuant to the specified Contract Time(s) and Work sequence conditions indicated in or required by the Bidding Documents. It shall also indicate proposed starting and completion dates for Work expressed in terms of days elapsed from the Notice to Proceed associated with each division of the Specifications within each major structure or geographical area of Work. Activities shall further identify significant submittals, approvals and associated deliveries, significant testing, major **Department** responsibilities, and responsibilities of affected utilities and third parties. The narrative shall include monthly percentages of completion for the Work in relation to the rate of progress anticipated in the Preliminary Progress Schedule.

ARTICLE 12 - Bid Breakdown

The Bid breakdown shall be submitted by the apparent low Bidder within fourteen (14) days after the date of the Notice of Intent to Award letter. Discrepancies, ambiguities or conflicts in the Bid breakdown shall be resolved in accordance with the terms and conditions set forth in Article 15 of the General Conditions.

A Bidder submitting a Bid breakdown and awarded a Contract for the Work agrees and understands that those prices for separable parts of the Work disclosed on the Bid breakdown, where they are applicable and determined to be reasonable by **Department** may be used for the purposes of: a) measurement and payment, b) increase(s) or decrease(s) in the Contract Price due to adjustments in quantities to the separable parts of the Work, and c) Change Orders or Proposed Change Orders which add or deduct like Work.

ARTICLE 13 - Subsurface and Technical Information

If boring logs and other subsurface information were made available for the inspection of Bidders, please note that such data were obtained with reasonable care and were recorded in good faith by **Department**, **Engineer** or the **Design Engineer**.

The soil and rock descriptions shown are as determined by a visual inspection of the samples from the various explorations unless otherwise noted. The observed water levels and/or water conditions indicated thereon are as recorded at the time of the exploration. These levels and/or conditions may vary considerably, according to the prevailing climate, rainfall and other factors, including the passage of time.

Similarly, data concerning leachate were obtained with reasonable care and recorded in good faith. The location and concentrations of leachate may vary considerably according to the prevailing climate, rainfall and other factors, including the passage of time. Bidders may rely upon accuracy of the subsurface technical data as to where (location) and when (exact time) data was obtained; but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof.

When reports showing data obtained by investigations and tests at the site by **Department, Engineer** or the **Design Engineer** are included with the Bidding Documents, or made available to Bidders as set forth in the Bidding Documents, it is expressly understood and agreed that technical data, but not any non-technical data, interpretations or opinions contained in such reports, are incorporated by reference into the Contract Documents. Bidders may rely upon the accuracy of all such technical data contained in such reports as to where (location) and when (exact time) such technical data was obtained, unless the Bidding Documents limit any other basis upon which such technical data may be relied upon. It is further expressly understood and agreed that the use of any technical data contained in such reports is subject to all of the conditions and limitations set forth in the Bidding Documents.

Subsurface and technical information is made available to Bidders in good faith so that they may be aware of the information utilized for design and estimating purposes. **Department** makes no representations or warranties, express or implied, as to the completeness of this information or data, nor is such disclosure intended as a substitute for personal investigations, interpretations, and judgment of the Bidder.

ARTICLE 14 - Underground Facilities

The locations of Underground Facilities were ascertained with reasonable care and recorded in good faith from various sources, including the records of municipal and other public service corporations, and therefore such locations may only be approximate. **Department** does not assume responsibility for the accuracy or completeness of such locations.

ARTICLE 15 - Examination of Bidding Documents and Site

It is the responsibility of each Bidder, before submitting a Bid to: a) examine the Bidding Documents thoroughly, b) visit and visually inspect the site during the Pre-Bid Conference required pursuant to Article 3 of Section IV, "Supplementary Bidding Information and Requirements," c) become familiar with local conditions that may affect cost, schedule, performance or furnishing of the Work, d) become familiar with applicable Laws that may in any manner affect cost, schedule, performance or furnishing of the Work, e) study and carefully correlate Bidder's observations with the Bidding Documents, and f) notify the Project Manager identified in Article 1 of this section promptly after discovering any conflicts, ambiguities, errors or inconsistencies in the Bidding Documents.

It is the responsibility of each Bidder to obtain any additional documents, information or data which pertain to the physical conditions (surface, subsurface and Underground Facilities) at or contiguous to the site which may affect cost, schedule, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the Bidding Documents.

The submission of a Bid constitutes an incontrovertible representation by Bidder that Bidder has taken steps reasonably necessary to ascertain the nature and location of the Work, and that Bidder has investigated and accounted for in the preparation of the Bid: a) Governmental requirements and all reasonably foreseeable general and local conditions that may affect cost, schedule, performance or furnishing of the Work. Examples of such conditions include: 1) conditions bearing upon the transportation, disposal, handling and storage of materials, 2) the availability and suitability of labor, water, electric power, telephone, sanitary services, and roads, 3) weather, river stages, tides or similar conditions at or contiguous to the site, 4) physical conditions of the site, and 5) the character of equipment and facilities needed preliminary to and during Work performance, b) character, quality and quantity of surface, subsurface and Underground Facilities at or contiguous to the site insofar as this information is reasonably ascertainable from the Drawings and Specifications included as part of the Bidding Documents, from the reports referenced in the Supplementary Bid Information and from the documents, information and data regarding physical conditions at or contiguous to the site obtained by Bidder,

and c) Bidding Documents to be sufficient in scope and detail to indicate and convey understanding of all terms and conditions affecting cost, schedule, performance and furnishing of the Work.

Any Failure to take the actions described in this Article will not relieve that Bidder from responsibility for estimating properly the difficulty, cost of, and schedule for successfully performing the Work, or from performing the Work successfully without an increase in Contract Price or an extension in Contract Time.

Department, Engineer, or Design Engineer do not assume any responsibility for any conclusions or interpretations made by any Bidder based on the information made available by the Bidding Documents. Nor does **Department**, or **Engineer** assume any responsibility for any understanding reached or representation made concerning conditions which can affect the cost, schedule, progress, furnishing and performance of the Work prior to execution of the Contract, unless that understanding or representation is expressly stated in the Bidding Documents.

In an itemized contract, the estimate of quantities of work to be done and materials to be furnished is approximate and is given only as a basis of calculation upon which the award of the contract is to be made. **Department** does not assume any responsibility that the quantities estimated will be the actual quantities required; **Contractor** may not claim misunderstanding or deception because of such estimates of quantities or of the character of the work, location, or other condition pertaining thereto. **Department** may increase or diminish any or all of the quantities of work mentioned above or omit any of them, as deemed necessary.

ARTICLE 16 - Subcontractors, Suppliers or Others

Unless otherwise agreed in writing by **Department, Contractor** shall subcontract no more than the percentage (%) of the total cost of the work under its contract as may be provided by the Contract Documents in Article 7 of Section IV, "Supplementary Bidding Information and Requirements". Procedures for approval of Subcontractors, Suppliers or other persons or organizations, after execution of the Agreement, are set forth in the General Conditions and the Supplementary Conditions.

ARTICLE 17 - Award of Contract

The Contract(s) will be awarded to the lowest, responsive and responsible Bidder(s) that has prepared acceptable required submittals, in the opinion of **Department**, as stipulated in Article 5 of this Section.

To the extent permitted by applicable Law, **Department** reserves the right to reject any and all Bids, to waive any and all informalities or irregularities, to disregard all nonconforming, nonresponsive, or conditional Bids, or to re-advertise for Bids.

In order to be considered responsive, a Bid shall be completed, signed and be responsive in all respects to the Bidding Documents unless informalities are waived by **Department**.

In order to be considered responsible, a Bidder must establish to the complete satisfaction of **Department** and **Engineer**, as a minimum, that it has adequate and satisfactory experience and financial resources to meet the obligations under the Contract and award of the Contract would be in the best interest of the State. A Bidder's prior experience shall be considered satisfactory when among other factors, its performance of prior work was timely, of good quality, in compliance with any contract requirements including contracted costs and schedule, and in compliance with applicable Law. The Bidder must have a minimum of three (3) years satisfactory experience in construction of the work to be performed.

Department may conduct such investigations as it deems necessary to assist in the evaluation of any Bid and to establish the responsibility in terms of satisfactory experience and financial ability of the Bidder, and of any proposed subcontractors. **Department** may reject the Bid of any Bidder which it deems not to be responsible and may reject performance of Work by any Subcontractor which it deems is not responsible.

It is the intention of **Department** that the work will be awarded within 45 calendar days after the opening of bids to the lowest responsive, responsible Bidder whose bid conforms to the requirements of the Contract Documents. Bids may not be withdrawn, altered or revoked during this 45 day period except as provided by law and specified within Article 4. Even after the expiration of such 45 day period, **Department** may accept a Bid and award the work to any Bidder whose bid has not been unequivocally withdrawn or revoked prior to the mailing of written Notice of the Award to the successful Bidder. For purposes of the preceding sentence, withdrawal or revocation of a Bid shall not occur until **Department** receives an unequivocal written statement to that effect.

ARTICLE 18 - Time is of the Essence

Time is of the essence for the performance of Work required by the Contract Documents.

ARTICLE 19 - Applicability of Federal, State and Local Law

Any Bid and any contract awarded pursuant to a Bid shall be subject to and governed by applicable Law.

It is the responsibility of each Bidder to be informed of and comply with Federal, State and local Laws, affecting the cost, schedule, progress, performance or furnishing of the Work. This requirement includes, but is not limited to, applicable regulations concerning minimum wages, nondiscrimination in employment, affirmative action, protection of public and employee safety and health, environmental protection, fire protection and permits, and fees and licensing.

ARTICLE 20 - M/WBE and EEO Requirements

The selected Bidder shall be required to make good-faith efforts to subcontract at least the percentage stipulated in Section IV, "Supplementary Bidding Information and Requirements", of the contract price to NYS Certified Minority Business Enterprise(s) (MBE) and Women Business Enterprise(s) (WBE), respectively.

The M/WBE and EEO provisions of Appendix B are required provisions for this contract. The Bidder is required to comply with State regulations 9NYCRR Part 543 entitled, "Requirements and Procedures Regarding Business Participation Opportunities for Minorities and Women on State Contracts."

In accordance with Executive Law Article 15-A, **Department** is required to make available the NYS Directory of Certified Minority and Women Owned Business Enterprises. Empire State Development has put the Minority and Women's Business Development Directory on the Internet at **www.empire.state.ny.us**.

The new system will be available seven (7) days a week, 7:00 a.m. to 10:00 p.m. and the information will be updated daily. Support will be available from 9:00 a.m. to 5:00 p.m., Monday through Friday, except for NYS holidays. If assistance is needed call (518) 474-1979. For additional information and assistance regarding NYS Certified M/WBE's, please contact Michele June of the Department's Minority and Women's Business Programs Unit at (518) 402-9311.

Pursuant to New York State Executive Law Article 15-A and the attending rules and regulations, an approvable M/WBE and EEO Workplan shall be required within two weeks of the award of a contract. The workplan is requested to state the M/WBE and EEO goals, the areas of work to be considered for solicitation of M/WBE firms, and a listing of M/WBE firms to be used to supply identified subcontracting work/supplies. A Contractor Detailed EEO and M/WBE Workplan form is included and shall be incorporated into the contract.

Contractor shall be required to provide equal opportunities to minorities and women with regard to all jobs necessary for the performance of work or contracts required by the project. In doing so, **Contractor** agrees to make good-faith efforts to employ minorities and women for at least the percentage stipulated in Section IV, "Supplementary Bidding Information and Requirements" of the work force hours required for the completion of the project. Different occupational category work force participation goals may be used to meet these overall goals for work force participation. **Contractor** shall not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability, or marital status, and shall undertake or continue existing programs of affirmative action to ensure that minority group persons and women are afforded equal opportunity without discrimination. Such programs shall include, but not be limited to, recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on-the-job training.

As required by **Department**, **Contractor** shall request of each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding and which is involved in the performance of the contract with the Agency to furnish a written statement that such employment agency, labor union, or representative shall not discriminate because of race, creed, color, national origin, sex, age, disability, or marital status, and that such union or representative will cooperate in the implementation of **Contractor's** obligations hereunder.

Contractor shall include the provisions of Appendix B (VII) in every subcontract or purchase order in such a manner that the subcontractor shall be required to comply with such provisions with respect to its work in conjunction with the contract with **Department**.

ARTICLE 21 - Permissible Contacts During a Procurement and Prohibition of Inappropriate Lobbying Influence

Chapter 1 of the Laws of 2005, as amended by Chapter 596 of the Laws of 2005 (collectively referred to as the "Lobbying Law"), makes major changes to the Legislative Law and State Finance Law relative to lobbying on government procurements. More specifically, the Lobbying Law creates two new sections in the State Finance Law: Section 139-j addresses restrictions on "contacts" during the procurement process; and Section 139-k addresses the disclosure of contacts and the responsibility of offerers¹ during the procurement process. The Lobbying Law applies to all procurements initiated on or after January 1, 2006. In this regard, a procurement means a contract or agreement involving an annual expenditure in excess of \$15,000 for a commodity, service, technology, public work, or construction; purchase, sale or lease of real property; or revenue contract.

In conformity with the Lobbying Law, during a procurement's restricted period² the only New York State Department of Environmental Conservation (Department) officer(s) or employee(s) that the offerer may "contact" is/are the Department designated contact person(s) for that procurement. In this regard, "contact" means any oral, written, or electronic communication under circumstances where a reasonable person would infer that the communication was intended to influence a procurement. Exceptions to this rule include:

¹ Individual or entity, or any employee, agent, consultant or person acting on behalf of such individual or entity, that contacts the Department about a procurement during the restricted period.

² The period of time commencing with the earliest written notice, advertisement or solicitation of a Request for Proposals (RFP), Invitation for Bids (IFB), solicitation of proposals or any other method for soliciting responses from offerers intending to result in a procurement contract by the Department, and ending with the final contract award and approval by the Department, and the Office of the State Comptroller (if required).

- submission of a written proposal in response to an RFP, IFB or any other solicitation method;
- submission of written questions as part of an RFP, IFB or other solicitation method where all written questions and written responses will be provided to all offerers;
- participation in a pre-proposal or pre-bid conference scheduled as part of an RFP, IFB or other solicitation process;
- written complaints by an offerer that the Department designated contact for a procurement fails to respond to in a timely manner;
- negotiations with the Department following tentative award;
- contacts between designated Department staff and offerer to request the review of a contract award; and
- communications with the Department regarding an appeal, protest or other review of a procurement, participation in an administrative or judicial proceeding regarding a procurement, and complaints regarding a procurement made to the Attorney General, Inspector General, District Attorney, or State Comptroller.

An offerer shall not, under any circumstances, attempt to influence a Department procurement in a way that violates or attempts to violate: Public Officers Law Section 73(5), relating to gifts intended to influence; or Public Officers Law Section 74, relating to the code of ethics for employees of state agencies, public authorities and public benefit corporations, members of the New York State Legislature, and Legislative employees.

An offerer who contacts the Department designated contact person for a procurement during the restricted period must be prepared to provide the following information: name, address, telephone number, place of principal employment and occupation of the person or organization making the contact, and whether the person/organization making the contact is the offerer or is retained, employed or designated by or on behalf of the offerer to appear before or contact the Department about the procurement.

An offerer that submits a proposal, bid or other response to a Department RFP, IFB or other solicitation method must: certify that it understands and agrees to comply with these guidelines regarding permissible contacts during a procurement and the prohibition of inappropriate lobbying influence; and disclose whether any governmental entity has, within the prior four years, found the offerer non-responsible due to a violation of the Lobbying Law or the intentional provision of false or incomplete information. Further, all Department procurement contracts will contain: a certification by the offerer that all information provided to the Department with respect to the Lobbying Law is complete, true and accurate; and a provision authorizing the Department to terminate the contract in the event such information is found to be intentionally false or incomplete.

The Department will investigate all allegations of violations of the Department guidelines regarding permissible contacts during a procurement and the prohibition of inappropriate lobbying influence. A finding that an offerer has knowingly and willfully committed such a violation may result in a determination that the offerer and its subsidiaries are non-responsible and therefore ineligible for award of the procurement contract. A second determination of non-responsibility for such a violation within four (4) years of the first such determination may render the offerer and its subsidiaries ineligible to submit a bid or proposal or be awarded a procurement contract for four (4) years from the date of the second determination. The Department will notify the New York State Office of General Services (OGS) of any determination of non-responsibility or debarments due to violations of the Lobbying Law.

If you require further guidance on the new Lobbying Law, you are encouraged to visit the Advisory Council on Procurement Lobbying website at the following address:

<http://www.ogs.state.ny.us/aboutOgs/regulations/defaultAdvisoryCouncil.html>, where Frequently Asked Questions (FAQ's) and answers adopted by the council have been posted. A copy of the new Procurement Lobbying Law is also available on this website.

SECTION IV

Supplementary Bidding Information and Requirements

ARTICLE 1 - Location and Description of Project

The Site Number of this project is **8-28-120**. The Project is located **at 2101 Monroe Avenue in the Town of Brighton, Monroe County**. (Refer to Site Location Map on Page IV-3).

This Project includes, but is not necessarily limited to excavation and off-site disposal of impacted soil/debris along with the installation and operation of a groundwater extraction treatment system and a soil vapor extraction treatment system.

ARTICLE 2 - Department Representatives

NAME

ADDRESS

Mr. Michael J. Cruden **Designated Representative**, 625 Broadway-12th Floor, Albany, NY 12233-7017

Mr. Gerard Burke **Section Chief**, 625 Broadway-12th Floor, Albany, NY 12233-7017

Mr. David J. Chiusano, **Project Manager**, 625 Broadway-12th Floor, Albany, NY 12233-7017

To Be Determined, **Project Field Representative**, To Be Determined

ARTICLE 3 - Pre-Bid Conference

A pre-Bid conference will be held on **Tuesday, January 18, 2010, at the Site, at 12:00 noon E.S.T.** to view the Project area. The pre bid conference is held to discuss the requirements of the Bidding Documents, the protocols for performing the work and the conditions existing at the work site, and to provide for visual inspection of the Site by Bidders. Bidders will be required to sign an attendance sheet to document their presence at the mandatory pre-bid conference. **Department will accept Bids only from those bidders who attend this conference.**

ARTICLE 4 - Additional Bid Submittals

None

ARTICLE 5 - Other Available Documents

The following items are available for contractor's review in preparing the Bid:

- 1) **Final Soil Vapor Extraction System Pilot Study Report**, dated March 2010, prepared by MACTEC Engineering and Consulting.
- 2) **Final Groundwater Extraction Pilot Study Summary Report**, dated May 2009, prepared by MACTEC Engineering and Consulting.
- 3) **Pre-Design Investigation Report**, dated May 2009, prepared by MACTEC Engineering and Consulting.
- 4) **Record of Decision**, dated March 2008, prepared by the New York State Department of Environmental Conservation.
- 5) **Soil and Groundwater Sampling Report**, dated March 2008, prepared by Empire GeoServices, Inc.

6) **Remedial Investigation Report RI/FS**, dated January 2007, prepared by O'Brien and Gere Engineers, Inc.

ARTICLE 6 - M/WBE-EEO Utilization Plan

a) The M/WBE-EEO Utilization Plan shall be sent directly to:

NYS Department of Environmental Conservation
Division of Management and Budget Services
Minority and Women's Business Programs Unit, 10th Floor
625 Broadway
Albany, New York 12233-5028
ATTENTION: Michele June

b) The selected bidder shall be required to make good faith efforts to subcontract at least **6.0** percent and **6.0** percent of the contract price to NYS Certified M/WBEs, respectively.

c) **Contractor** shall be required to provide equal opportunities to minorities and women with regard to all jobs necessary for the performance of work or contracts required by the project. In doing so, **Contractor** agrees to make good-faith efforts to employ minorities for at least **ten (10)** percent of, and women for at least **ten (10)** percent of, the work force hours required for the completion of the project.

ARTICLE 7 - Subcontracting

The maximum subcontracting allowed for this contract is **40 percent** unless a higher percentage is approved by **Department** in writing.

ARTICLE 8 - Type of Schedule

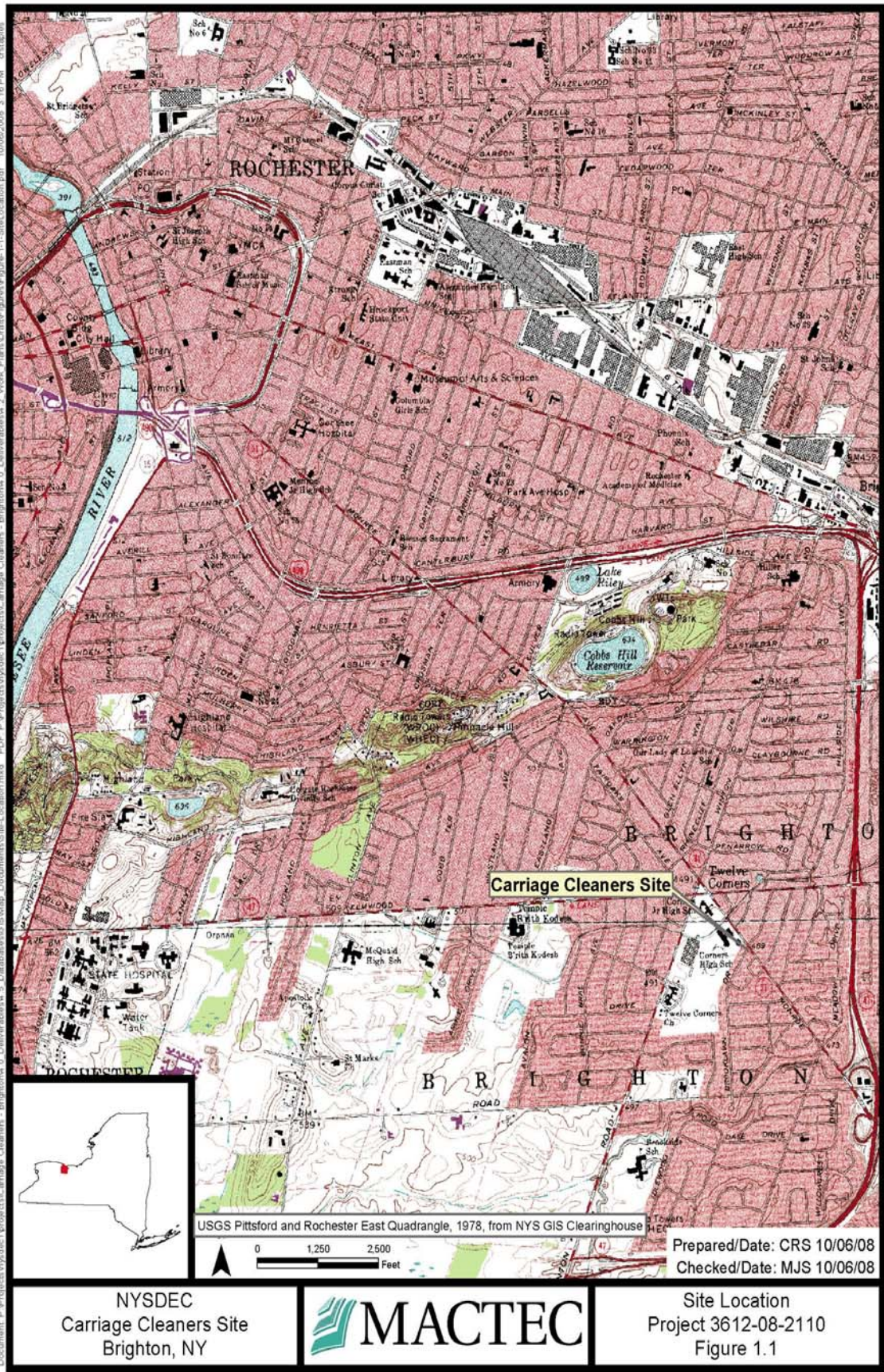
Contractor shall provide **critical path** type of schedule as described in Section X, Spec 00001 - Progress Schedule.

ARTICLE 9 - Wage Rates

The **Department** requires, for the work under this contract, that the **Contractor** and its subcontractor pay at least the prevailing wage rate and pay or provide the prevailing supplements, including premium rates for overtime pay, as issued by the State Labor Department. The current wage rates are included within the contract documents, Section XIII.

“The **Contractor** is responsible for any additional costs related to new determinations of the wage rates. The annual determination of the prevailing rates of wages and supplements are usually published on May 31st of each year and are in effect July 1st through June 20th. New determinations will supersede the original schedule or any prior issued annual determination. Any rate change from a previously issued determination becomes effective July 1st, regardless of whether the new determination has been received by the **Contractor**.

Every contractor and subcontractor shall submit to the Engineer within thirty days after issuance of its first payroll, and every thirty days thereafter, a transcript of the original payroll records, subscribed and affirmed as true under penalty of perjury, as provided by Article 8, Section 220, of the NYS Labor Law. The Engineer shall receive and maintain such payroll records. The original payrolls and transcripts must be preserved for three years from the date of completion of the project. The current prevailing wage rate schedule must be posted in a prominent and accessible place on the site of the public work project.”



SECTION V

ARTICLE 1(a) - Contract Bid Form and Acknowledgment for Construction of the Carriage Cleaners Site Remedial Action

Contract Number: D007904, NYS Site Number: 8-28-120

To The New York State Department of Environmental Conservation

The Bidder hereby declares that either personally or through authorized representative(s), Bidder has carefully examined all Bidding Documents and has personally or through authorized representative(s) inspected the actual location of the work, together with the local sources of supply; and understands all terms and conditions of Bidding Documents. Bidder further understands that in signing this Bid, the right to plead any misunderstanding regarding the same is waived.

Pursuant to and in compliance with the Bidding Documents, the Bidder hereby offers to furnish all labor, materials, supplies, equipment and other facilities and things necessary or proper for, or incidental to the construction and completion of this Contract, as required by and in strict compliance with the applicable provisions of all Contract Documents, for the following unit and/or lump sum prices.

The undersigned shall meet the required submittal time periods listed in Article 5 - Required Bid Submittals of the Bidding Information and Requirements, Section III.

The undersigned hereby designates the following office as the office to which such Notice of Intent to Award and Notice of Award may be mailed, telegraphed or delivered:

Fax Number () _____ - _____

E-mail Address: _____

Bid

**New York State Department of Environmental Conservation
Carriage Cleaners Site Remedial Action
Contract Number D007904, NYSDEC Site Number 8-28-120**

LUMP SUM ITEMS

<i>Payment Item Number</i>	<i>Description</i>	<i>Unit</i>	<i>Estimated Quantity</i>	<i>Unit or Lump Sum Price</i>		<i>Total Amount (\$)</i>
				<i>Words</i>	<i>Figures</i>	
LS-1	Mobilization, Demobilization and Site Preparation (<i>Limited to 7.5% of Total Bid</i>)	LS	1			
LS-2	In-Situ Chemical Oxidation Pipe Installation at Excavation	LS	1			
LS-3	Dewatering/Treatment/Disposal of Contaminated Water	LS	1			
LS-4	Groundwater Extraction and Treatment Well (GWET) and Piping	LS	1			
LS-5	Soil Vapor Extraction (SVE) Wells and Piping	LS	1			
LS-6	GWET and SVE Systems Furnishing, Installation, and Startup	LS	1			
LS-7	Vacuum Points/Injection Wells	LS	1			

Total Page V-2A: \$ _____
(Price in Figures)

Contractor Authorized Representative

Contractor Name

Date

Bid

**New York State Department of Environmental Conservation
Carriage Cleaners Site Remedial Action
Contract Number D007904, NYSDEC Site Number 8-28-120**

UNIT PRICE ITEMS

<i>Payment Item Number</i>	<i>Description</i>	<i>Units</i>	<i>Estimated Quantity</i>	<i>Unit or Lump Sum Price</i>		<i>Total Amount (\$)</i>
				<i>Words</i>	<i>Figures</i>	
UC-1	Site Services (Limited to 7.5% of Total Bid)	DAYS	60			
UC-2	Health and Safety	DAYS	60			
UC-3	Soil Excavation	Cubic Yards	135			
UC-4	Backfill	Cubic Yards	135			
UC-5	Non-Hazardous Soil and Debris Transportation and Disposal	Tons	270			
UC-6	Hazardous Soil and Debris Transportation and Disposal	Tons	87			
UC-7	Hot Mix Asphalt Pavement	Square Yards	155			

Total Page V-3A: \$_____

(Price in Figures)

Contractor Authorized Representative

Contractor Name

Date

Bid

**New York State Department of Environmental Conservation
Carriage Cleaners Site Remedial Action
Contract Number D007904, NYSDEC Site Number 8-28-120**

UNIT PRICE ITEMS

<i>Payment Item Number</i>	<i>Description</i>	<i>Units</i>	<i>Estimated Quantity</i>	<i>Unit or Lump Sum Price</i>		<i>Total Amount (\$)</i>
				<i>Words</i>	<i>Figures</i>	
UC-8	Concrete Sidewalk Restoration	Square Yards	6			
UC-9	Site Restoration	Square Feet	400			
UC-10	Operate, Monitor, and Maintain Treatment Systems	Months	2			
UC-11	Activated Carbon Change Out	Each	2			
UC-12	Heat Exchanger and Activated Carbon Vessel Rental	Months	2			

Total Page V-3B: \$ _____
(Price in Figures)

Grand Total Bid: \$ _____
(Total Pages V-2A, V-3A, and V-3B) (Price in Figures)

Contractor Authorized Representative

Contractor Name

Date

Bid

**New York State Department of Environmental Conservation
Carriage Cleaners Site Remedial Action
Contract Number D007904, NYSDEC Site Number 8-28-120**

<i>Item No.</i>	<i>Item Description</i>	<i>Unit</i>	<i>Estimated Quantity</i>	<i>Unit or Lump Sum Price</i>		<i>Total Amount (\$)</i>
				<i>Words</i>	<i>Figures</i>	
	Pollution Liability Insurance	LS	1			
<p><u>This item is not to be calculated in the base Bid for the project.</u> Contractor is referred to Article 4 of the General Conditions in the Contract Documents. The limits for Pollution Liability Insurance will be the same as defined in Article 4 of the General Conditions. After opening of bids, Department will determine if it is in Department's best interest to have Contractor obtain an additional \$4,000,000 Pollution Liability Insurance on a site specific basis, and if so, Contractor will be paid separately at the actual documented cost to obtain this additional insurance. The Bidder is required to fill in the above price if it can obtain site-specific Pollution Liability Insurance. This Bid amount will be the upper limit for payment of this item. The Department is to be listed on the Bidder's Company Policy as an additional insured at no additional cost to the Department.</p>						

Contractor Authorized Representative

Contractor Name

Date

The undersigned acknowledges the receipt of the following Addenda and agrees to be bound by all Addenda whether or not listed herein.

Addendum Number

Date of Addendum

Accompanying this proposal is bid security in the amount of \$ _____; said security is in the form of \$ _____ certified check or checks, and \$ _____ Bid Bond which shall become the property of the **Department** if this proposal shall be accepted by **Department**, and the undersigned shall fail to execute and return the contract in a timely manner or fail to comply with the requirements of the Bidding Documents.

Corporate Seal

(If no seal, write "No Seal" and sign)

Legal Name of Person, Partnership or Corporation

By _____

Print Name

Signature

Date _____

Please Complete Information Requested Below:

The P.O. address of the bidder is: _____

Federal Identification Number is: _____

If a Corporation

Name

Address

_____, President

_____, Secretary

_____, Treasurer

If a Partnership

Name

Address

_____, President

_____, Secretary

_____, Treasurer

CONTRACT NUMBER : D007904

(CORPORATE ACKNOWLEDGMENT WITH SEAL)

State of)
County of) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ (*title*) of _____ (*firm*) the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that (s)he signed his(her) name thereto by like order.

Seal

Notary Public

(CORPORATE ACKNOWLEDGMENT WITHOUT SEAL)

State of)
County of) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is an officer of _____ (*firm*); namely, the _____ (*title*) of _____ (*firm*); that (s)he is authorized by the governing body of said corporation to sign contracts; and that (s)he did sign the foregoing instrument on behalf of, and with authority to bind said corporation.

Notary Public

(CO-PARTNERSHIP ACKNOWLEDGMENT)

State of)
County of) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____, to me known and known to me to be a member of _____, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed the name of said firm thereto on behalf of said firm for the purpose therein mentioned.

Seal

Notary Public

(INDIVIDUAL ACKNOWLEDGMENT)

State of)
County of) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____, to me personally known, and known to me to be the individual described in, and who executed the foregoing instrument, and (s)he duly acknowledged to me that (s)he executed the same.

Seal

Notary Public

Bidder's/Proposer's Certification (Page 1 of 2)

**Non-Collusive Bidding and Nondiscrimination in Employment in Northern Ireland
MacBride Fair Employment Principles**

BY SUBMISSION OF THIS BID AND BY SIGNING HEREUNDER THE BIDDER/PROPOSER, AND EACH PERSON SIGNING ON BEHALF OF SUCH PARTY CERTIFIES, AND IN THE CASE OF A JOINT BID/PROPOSAL, EACH PARTY THERETO CERTIFIES AS TO ITS OWN ORGANIZATION, UNDER PENALTY OF PERJURY, THAT TO THE BEST OF HIS/HER KNOWLEDGE AND BELIEF:

Article 1(b) - Non Collusion, State Finance Law §139-d

- 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.

Article 1(c) - MacBride Fair Employment Principles, State Finance Law §165(5)

- 1) it or any individual or legal entity in which the Bidder/Proposer holds a 10% or greater ownership interest, or any individual or legal entity that holds a 10% or greater ownership in the Bidder/Proposer, either: (answer yes or no to one or both of the following, as applicable).
- 2) Has business operations in Northern Ireland:

Yes _____ or No _____ (check answer) If yes, complete #3
- 3) Shall take lawful steps in good faith to conduct any business operations that it has in Northern Ireland in accordance with the MacBride Fair Employment Principles relating to non-discrimination in employment and freedom of workplace opportunity, regarding such operations in Northern Ireland and shall permit independent monitoring of its compliance with such Principles. (Check Answer):

Yes _____ or No _____ (check answer)

NOTE: All references to “bid” “bidder” shall be deemed to include “proposer” “proposal.”

Date

Print Name and Title

Signature
Contract Number: D007904

Bidder's/Proposer's Certification (Page 2 of 2)

Offerer's Affirmation of Understanding of and Agreement Pursuant to State Ethics Law Provision and State Finance Law §139-j (3) and §139-j (6) (b)

BY SUBMISSION OF THIS BID AND BY SIGNING HEREUNDER THE BIDDER/PROPOSER, AND EACH PERSON SIGNING ON BEHALF OF SUCH PARTY CERTIFIES, AND IN THE CASE OF A JOINT BID/PROPOSAL, EACH PARTY THERETO CERTIFIES AS TO ITS OWN ORGANIZATION, UNDER PENALTY OF PERJURY, THAT TO THE BEST OF HIS/HER KNOWLEDGE AND BELIEF:

Article 1(d) - State Ethics Law Provision

By submittal of this bid, the undersigned hereby certifies, for and on behalf of the bidder, that he is familiar with the following provisions of the State Ethics Law provisions applicable to post employment restrictions affecting former state employees: POL § 73(8)(a)(i) the two year ban, and § 73(8)(a)(ii), the life time bar, and that submittal of this bid is not in violation of either provision, and that no violation will occur by entering into a contract or in performance of the contractual services, and further that the bidder recognizes that the Department may rely upon this certification.

Except as follows: (attach information if needed)

(Proposer is to make full disclosure of any circumstances which could affect its ability to perform in complete compliance with the cited laws. Any questions as to the applicability of these provisions should be addressed to the New York State Ethics Commission, 39 Columbia Street, Albany, NY 12207:telephone #1-800-87-ETHICS.)

Article 1(e) - Permissible Contacts During a Procurement and Prohibition of Inappropriate Lobbying Influence, State Finance Law §139-j and §139-k

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

Use of Best Available Retrofit Technology (BART) and Ultra Low Sulphur Diesel (ULSD) Pursuant to Environmental Conservation Law Section 19-0323

Article 1(f) - Use of Best Available Retrofit Technology (BART) and Ultra Low Sulphur Diesel (ULSD) Provision

The Contractor certifies and warrants that all heavy duty vehicles, as defined in New York State Environmental Law (ECL) section 19-0323, to be used under this Contract, will comply with the specifications and provisions of ECL section 19-0323 and any regulations promulgated pursuant thereto, which requires the use of Best Available Retrofit Technology (BART) and Ultra Low Sulphur Diesel (ULSD), unless specifically waived by the Department. Qualification for a waiver under this law will be the responsibility of the Contractor.

NOTE: All references to "bid" "bidder" shall be deemed to include "proposer" "proposal."

Date

Print Name and Title

Signature

ARTICLE 1(g) - Page to Attach

Bid Security

If Bid Security is a Bid Bond, use Bid Bond form and provide certified power of attorney.

ARTICLE 1(h) - Bid Bond

Know all men by these presents, that we, the undersigned, _____, as Principal, and _____, as Surety, are hereby held and firmly bound unto New York State Department of Environmental Conservation in the penal sum of _____ for the payment of which, will and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns. Signed this _____ day of _____, 20____.

The condition of the above obligation is such that whereas the Principal has submitted to New York State Department of Environmental Conservation certain Bid, attached hereto and hereby made a part hereof to enter into a contract in writing, for the

Now, Therefore

- a) If said Bid shall be rejected, or in the alternate,
- b) If said Bid shall be accepted and the principal shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish a bond for the faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid.

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

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

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

(Seal)

Principal

Surety

By _____

(ACKNOWLEDGMENT BY SURETY COMPANY)

State of _____)
County of _____) s.s.:

On this _____ day of _____, 20____ before me personally came _____ to me known, who being by me duly sworn, did depose and say that he/she resides in _____, that he/she is the _____ (*title*) of the _____ (*firm*), the corporation described in and which executed the within instrument; that he/she knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation and the he/she signed his name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner provided by the laws of the State of New York.

(Seal)

Notary Public

(CORPORATE ACKNOWLEDGMENT WITH SEAL)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20____, before me personally came _____ to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ (*title*) of _____ (*firm*) the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that (s)he signed his(her) name thereto by like order.

Seal

Notary Public

(CORPORATE ACKNOWLEDGMENT WITHOUT SEAL)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20____, before me personally came _____ to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is an officer of _____ (*firm*); namely, the _____ (*title*) of _____ (*firm*); that (s)he is authorized by the governing body of said corporation to sign contracts; and that (s)he did sign the foregoing instrument on behalf of, and with authority to bind said corporation.

Notary Public

(CO-PARTNERSHIP ACKNOWLEDGMENT)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20____, before me personally came _____ to me known and known to me to be a member of _____, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed the name of said firm thereto on behalf of said firm for the purpose therein mentioned.

Seal

Notary Public

(INDIVIDUAL ACKNOWLEDGMENT)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20____, before me personally came _____ to me personally known, and known to me to be the individual described in, and who executed the foregoing instrument, and (s)he duly acknowledged to me that (s)he executed the same.

Seal

Notary Public

ARTICLE 1(i) - Offerer Disclosure of Prior Non-Responsibility Determinations
(Page 1 of 2)

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

Address: _____

Name and Title of Person Submitting this Form: _____

Contract Procurement Number: **D007904**

Date: _____

1. Has any Governmental Entity made a finding of non-responsibility regarding the individual or entity seeking to enter into the Procurement Contract in the previous four years? (Please circle):

No

Yes

If yes, please answer the questions 2 - 4, if no, go to question 5:

2. Was the basis for the finding of non-responsibility due to a violation of State Finance Law §139-j? (Please circle):

No

Yes

3. Was the basis for the finding of non-responsibility due to the intentional provision of false or incomplete information to a Governmental Entity? (Please circle):

No

Yes

4. If you answered yes to any of the above questions, please provide details regarding the finding of non-responsibility below.

Governmental Entity: _____

Date of Finding of Non-responsibility: _____

Basis of Finding of Non-Responsibility: _____

(Add additional pages as necessary)

ARTICLE 1(i) - Offerer Disclosure of Prior Non-Responsibility Determinations (Continued)

5. Has any Governmental Entity or other governmental agency terminated or withheld a Procurement Contract with the above-named individual or entity due to the intentional provision of false or incomplete information? (Please circle):

No

Yes

6. If yes, please provide details below.

Governmental Entity: _____

Date of Termination or Withholding of Contract: _____

Basis of Termination or Withholding: _____

(Add additional pages as necessary)

Offerer Certification:

Offerer certifies that all information provided to the New York State Department of Environmental Conservation with respect to State Finance Law §139-k is complete, true and accurate.

By: _____ Date: _____

Signature

ARTICLE 2(a) - Corporate Resolution and Certification

"This Article 2(a) is not applicable"

ARTICLE 2(b) - Statement of Surety's Intent

To: ***New York State Department of Environmental Conservation***

We have reviewed the Bid of _____ (Contractor)
of _____ (Address)
for _____ (Project)

Contract Number: D007904

NYS Site Number: 8-28-120

Bids for which will be received on _____ (insert Bid Opening Date) and wish to advise that should this Bid of Contractor be accepted and the Contract awarded to Contractor, it is our present intention to become surety on the Performance Bond and Labor and Material Payment Bond required by the Contract.

Any arrangement for the Bonds required by the Contract is a matter between Contractor and ourselves and we assume no liability to Department or third parties if for any reason we do not execute the requisite bonds.

We are duly licensed to do business in the State of New York.

Attest:

Corporate Seal

(If no seal, write "No Seal" and sign)

Surety's Authorized Signature(s)

Telephone Number for Bonding Company

Telephone Number for Bonding Broker

Attach Power of Attorney

ARTICLE 2(c) - NYS Directory of Certified Minority and Women-Owned Business

The New York State Directory of Certified Minority and Women-Owned Business Enterprises has been developed to assist public and private purchases of goods and services in locating and using bonafide minority and women-owned business as defined in accordance with Article 15-A of the Executive Law and Article 4(a) of the Economic Development Law.

M/WBE Directory on the Internet

Empire State Development has put the Minority and Women's Business Development Directory on the Internet. The Internet address is **www.empire.state.ny.us**, just follow the links to the M/WBE Directory.

The new system will be available seven (7) days a week, 7:00 a.m. to 10:00 p.m. and the information will be updated daily. Support will be available from 9:00 a.m. to 5:00 p.m., Monday through Friday, except for NYS holidays. If assistance is needed call (518) 474-1979.

**ARTICLE 2(d) - MINORITY AND WOMEN'S BUSINESS-EQUAL EMPLOYMENT
OPPORTUNITY PROGRAM WORKPLAN**

(Form also required to be submitted in electronic format to the Department. The appropriate interactive file to be provided to the Apparent Low Bidder for submission)*

Policy Statement

The _____ commits to carrying out the intent of the New York State
(Name of Contractor or Municipality)

Executive Law, Article 15-A which assures the meaningful participation of Minority and Women-Owned Business Enterprises (M/WBE) in contracting and the meaningful participation of minorities and women in the workforce on activities financed by public funds.

Minority Business Officer

_____ is designated as the Minority Business Enterprise Officer
(Name of Designated Officer)

responsible for administering the Minority and Women's Business-Equal Employment Opportunity (M/WBE-EEO) program.

M/WBE Contract Goals

6.0 % Minority Business Enterprise Participation

6.0 % Women's Business Enterprise Participation

EEO Contract Goals

10 % Minority Labor Force Participation

10 % Female Labor Force Participation

(Authorized Representative)

Title: _____

Date: _____

M/WBE-EEO WORKPLAN
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Contractor or Municipality			Grant/Project Number													
Address		City		Zip Code												
Authorized Representative			Authorized Signature													
Address	City	Zip Code	Phone No.													
Minority Business Enterprise Officer			Fax No.													
<p>Project Description (list separate contracts & estimates)</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Contract No.</th> <th style="width: 50%;">Description</th> <th style="width: 25%;">Estimate</th> </tr> </thead> <tbody> <tr> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>_____</td> <td>_____</td> <td>_____</td> </tr> </tbody> </table>					Contract No.	Description	Estimate	_____	_____	_____	_____	_____	_____	_____	_____	_____
Contract No.	Description	Estimate														
_____	_____	_____														
_____	_____	_____														
_____	_____	_____														

PROJECTED EEO AND M/WBE CONTRACT SUMMARY

	%	Amount		%	No./Employees
1. Total Project Dollar Value			5. Total Employees		
2. MBE Project Goal			6. Total Minority Employees/Goal		
3. WBE Project Goal			7. Total Female Employees/Goal		
4. M/WBE Totals Combined			8. EEO Total Combined		

OFFICE OF MINORITY & WOMEN'S BUSINESS PROGRAMS USE ONLY

Proposed Goals		Date Approved	Date Disapproved	Initials
MBE (%)	EEO-Minorities (%)			
WBE (%)	EEO-Women (%)			

Number/Types of contracts	Contract Breakdown	Amount
<u>General Construct.</u> (Contract No. 1)	Paving	\$150,000
	Demolition	30,000
	Paving	200,000
	Masonry	260,000
	Miscellaneous Metals	50,000
	Glazing	3,000
	Excavation and Backfill	210,000
	Fencing	12,000
	Concrete Finishing	20,000
	Reinforcing Steel	240,000
	Roofing	658,000
	Waterproofing	30,000
		\$1,273,000
<u>Electrical</u> (Contract No. 2)	Underground Duct Banks	110,000
	Equipment Supply	260,000
	Lightening Protection	20,000
		390,000
<u>H.V.A.C.</u> (Contract No. 3)	Electrical Wiring	10,000
	Ductwork	45,000
	Controls	25,000
	Equipment Supply	60,000
		140,000
<u>Plumbing</u> (Contract No. 4)	Underground Piping	20,000
	Equipment Supply	25,000
		45,000
<u>Sewer Rehab</u> (Contract No. 5)	Cleaning & TV Inspection	35,000
	Joint Testing & Sealing	45,000
	Chemical Root Treatment	4,000
	Manhole Rehabilitation	8,000
	Excavation & Backfill	6,000
	Pavement Replacement	12,000
	Material Supply	5,000
		115,000
<u>Sewer Rehab.</u> (Contract No. 6)	Cleaning & TV Inspection	58,000
	Joint Testing & Sealing	126,000
	Chemical Root Treatment	3,000
	Manhole Rehabilitation	15,000
	Excavation & Backfill	3,000
	Pavement Replacement	2,800
	Material Supply	1,000
		208,800
	Total	\$2,171,000

ARTICLE 2(e) - NYS Uniform Contracting Questionnaire Instructions

* Please Read Before Completing Questionnaire

1. Complete all sections of the Questionnaire.
2. Submit this form as required by the contracting agency after being announced the low bidder for any competitively bid contract of \$10,000 or more, or when proposed for subcontract work valued at \$10,000 or more. If you have submitted one within 6 months of the bid date with any contracting agency, as long as the information remains unchanged and accurate, you may submit a complete certified copy of that form, together with an Affidavit of No Change, to the Agency with which you are bidding. A contracting agency may require additional information deemed necessary for its review. Whenever more space is needed to answer any question or you wish to give further explanation, complete by attaching extra pages. All questions must be answered.
3. For question #16, if your firm has OSHA citations, attach copies of each citation. Add additional explanatory material for any other affirmative answers.
4. A certified annual financial disclosure will be acceptable in lieu of completing the financial disclosure in the questionnaire.
5. If you wish material in this disclosure form to be held as confidential and exempt from disclosure under Freedom of Information, be sure to place an asterisk in front of all information you do not want disclosed to outside sources.
6. This questionnaire is generally valid for one calendar year, unless major changes have occurred (firm purchased by another business, bankruptcy, etc.)

The NYS Uniform Contracting Questionnaire, which is included in Section V, "Bid Forms and Attachments," must be completed and submitted to **Department** by the apparent low bidder. The complete questionnaire must be received by **Department** within three (3) business days after the apparent low bidder has been so notified. The completed questionnaire or the affidavit of no change (if appropriate) must be addressed to:

NYS Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E, Section A
625 Broadway, 12th Floor
Albany, NY 12233-7017

The envelope should be clearly marked "**NYS Uniform Contracting Questionnaire.**" Failure of the apparent low bidder to timely submit the complete, properly executed questionnaire may result in disqualification of the low bidder.

Before **Department** will consent to any subcontracts over \$10,000, the proposed subcontractor must submit a complete, properly executed questionnaire through **Contractor**.

Any delay in the progression of work caused by the failure of a subcontractor to comply with these requirements will be attributable to **Contractor** and any additional costs will be **Contractor's** responsibility.

ARTICLE 2(f) - NEW YORK STATE
UNIFORM CONTRACTING QUESTIONNAIRE

INSTRUCTIONS

Submit this form as required by the contracting agency after being announced the low bidder for any competitively bid contract of \$10,000 or more, or when proposed for subcontract work valued at \$10,000 or more. If you have submitted one within 6 months of the bid date with any contracting agency, as long as the information remains unchanged and accurate, you may submit a complete certified copy of that form, together with an Affidavit of No Change, to the agency with which you are bidding. A contracting agency may require additional information deemed necessary for its review. **Whenever more space is needed to answer any question, or you wish to give further explanation, complete by attaching extra pages. All questions must be answered.**

NOTE: Please indicate whether you believe that any of the information supplied herein is confidential and should be exempt from disclosure under the Freedom of Information Law: ___yes, ___no. If you checked "yes" you must identify the information you feel is confidential by placing an asterisk in front of the appropriate question number(s) and you are requested to attach an additional sheet(s) upon which the basis for such claim(s) is explained.

GENERAL INFORMATION

1. NAME OF FIRM _____
 DBA NAME, IF ANY _____
 MAILING ADDRESS _____ PHONE NO. (____) _____
 CITY _____ COUNTY _____ STATE _____ ZIP _____ FAX NO. (____) _____
 ACTUAL LOCATION _____
 E-MAIL ADDRESS _____
2. TYPE OF FIRM (check only one) ___ CORPORATION ___ PARTNERSHIP ___ PROPRIETORSHIP ___ JOINT VENTURE ___ LLC ___ LLP
3. HOW MANY YEARS HAS THE FIRM BEEN IN BUSINESS? _____ UNDER THE SAME NAME? _____ FORMER NAME: _____
4. WHAT IS THE FIRM'S BONDING RANGE? \$ _____ SINGLE PROJECT \$ _____ AGGREGATE (ALL PROJECTS)
5. ARE YOU CERTIFIED AS A DBE ___ MBE ___ WBE ___ IF SO, WITH WHOM? _____

OWNERSHIP, MANAGEMENT, AFFILIATION

6. Identify each person who is, or has been within the past five years, an owner of 5.0% or more of the firm's shares, or one of the five largest shareholders or a director, an officer, a partner or a proprietor. Joint ventures: provide information for all firms involved. Fill in name, % owned, office held; indicate by Y or N whether director, officer or partner:

FIRST NAME	MI	LAST NAME	DATE OF BIRTH	% OWNED	DIRECTOR (Y or N)	OFFICER (Y or N)	TITLE	PARTNER (Y or N)

7. Identify any other firms in which, now or in the past five years, the firm or any of the individuals listed in question six above, either owned or owns 5.0% or more of the shares of, or was or is one of the five largest shareholders or as a director, officer, partner or proprietor of said other firm:

FEDERAL ID NO.	% OWNED	FIRM/COMPANY NAME	FIRM/COMPANY ADDRESS

8. Identify any affiliate not listed in your answers to questions 6 and 7. For purposes of this question your firm and another are affiliates when, either directly or indirectly, one controls or has the power to control the other, or a third party or parties controls, or has the power to control both:

FEDERAL ID NO.	COMPANY NAME	ADDRESS

9. Identify any and all shareholders, directors, officers, owners, partners, or proprietors in common between your firm and any firm listed in response to questions 6,7 or 8:

FEDERAL ID NO.	FIRST NAME, MI & LAST NAME	POSITION	OTHER FIRM

10. List the ten most recent contracts the firm has completed. If less than ten, include most recent subcontracts on projects up to that number:

AGENCY/OWNER, CONTACT PERSON & TELEPHONE NO.	CONTRACT NO.	PRIME OR SUB	DESIGN ARCHITECT AND/OR DESIGN ENGINEER	AWARD DATE	AMOUNT	DATE COMPLETED
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

11. List all current uncompleted construction contracts:

AGENCY/OWNER, CONTACT PERSON & TELEPHONE NO.	CONTRACT NO.	PRIME OR SUB	DESIGN ARCHITECT AND/OR DESIGN ENGINEER	TOTAL \$ AMOUNT OF FIRM'S CONTRACT (OR SUBCONTRACT)	\$ AMOUNT SUBLET TO OTHERS	UNCOMPLETED \$ AMOUNT OF FIRM'S CONTRACT (OR SUBCONTRACT)

GRAND TOTAL: _____

12. Gross Sales for Firm's Previous 3 Fiscal Years:

YEAR

____ \$ _____
 ____ \$ _____
 ____ \$ _____

Average Backlog for Firm's Previous 3 Fiscal Years:

(Estimated total value of uncompleted work on outstanding contracts)

YEAR

____ \$ _____
 ____ \$ _____
 ____ \$ _____

13. Has the firm, or any firm listed in response to questions 6,7 or 8, defaulted or been terminated on, or had its surety called upon to complete, any contract awarded within the past five years? NO { } YES { } If, yes, give date(s), agency(ies)/owner(s), project(s), contract numbers, and describe including the result: _____

14. For all contracts within the past five years: (a) list and describe all liens or claims over \$25,000 filed against the firm and remaining undischarged or unsatisfied for more than 90 days; and (b) list and describe all liquidated damages assessed _____

FINANCIAL INFORMATION

15. Complete the financial statement or attach a copy of the firm's most recent annual financial statement and accompanying notes.

OTHER INFORMATION

16. Within the past five years has the firm, any affiliate, any predecessor company or entity, or any person identified in question number 6 above been the subject of any of the following: (respond to each question and describe in detail the circumstances of each affirmative answer; attach additional pages if necessary)

- | | | |
|---|------|-------|
| (a) a judgment of conviction for any business-related conduct constituting a crime under local, state or federal law? | no__ | yes__ |
| (b) a criminal investigation or indictment for any business-related conduct constituting a crime under local, state or federal law? | no__ | yes__ |
| (c) a grant of immunity for any business-related conduct constituting a crime under local, state or federal law? | no__ | yes__ |
| (d) a federal, state or local suspension or debarment? | no__ | yes__ |
| (e) a rejection of any bid for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid? | no__ | yes__ |
| (f) a rejection of any proposed subcontract for lack of qualifications, responsibility or because of the submission of an informal, non-responsive or incomplete bid? | no__ | yes__ |
| (g) a denial or revocation of prequalification? | no__ | yes__ |
| (h) a voluntary exclusion from bidding/contracting agreement? | no__ | yes__ |
| (i) any administrative proceeding or civil action seeking specific performance or restitution in connection with any public works contract except any disputed work proceeding? | no__ | yes__ |
| (j) an OSHA Citation and Notification of Penalty containing a violation classified as serious? | no__ | yes__ |
| (k) an OSHA Citation and Notification of Penalty containing a violation classified as willful? | no__ | yes__ |
| (l) a prevailing wage or supplement payment violation? | no__ | yes__ |
| (m) a State Labor Law violation deemed willful? | no__ | yes__ |
| (n) any other federal, state or local citations, Notices, violation orders, pending administrative hearings or proceedings or determinations of a violation of any labor law or regulation? | no__ | yes__ |

- | | | | |
|-----|---|-------|--------|
| (o) | any criminal investigation, felony indictment or conviction concerning formation of, or any business association with, an allegedly false or fraudulent women's, minority or disadvantaged business enterprise? | no___ | yes___ |
| (p) | any denial, decertification, revocation or forfeiture of Women's Business Enterprise, Minority Business Enterprise or Disadvantaged Business Enterprise status? | no___ | yes___ |
| (q) | rejection of a low bid on a State contract for failure to meet statutory affirmative action or M/WBE requirements? | no___ | yes___ |
| (r) | a consent order with the NYS Department of Environmental Conservation, or a federal, state or local government enforcement determination involving a violation of federal, state or local environmental laws? | no___ | yes___ |
| (s) | any bankruptcy proceeding? | no___ | yes___ |
| (t) | any suspension or revocation of any business or professional license? | no___ | yes___ |
| (u) | any citations, Notices, violation orders, pending administrative hearings or proceedings or determinations of a violation of: | | |
| | * federal, state or local health laws, rules or regulations | no___ | yes___ |
| | * federal, state or local environmental laws, rules or regulations | no___ | yes___ |
| | * unemployment insurance or workers compensation coverage or claim requirements | no___ | yes___ |
| | * ERISA (Employee Retirement Income Security Act) | no___ | yes___ |
| | * federal, state or local human rights laws | no___ | yes___ |
| | * federal, state or local security laws? | no___ | yes___ |
| (v) | a request to withdraw a bid submitted to a public owner or any claim of an error on a bid submitted to a public owner? | no___ | yes___ |

CERTIFICATION

The undersigned recognizes that this questionnaire is submitted for the express purpose of inducing the State of New York or its agencies and instrumentalities to award a contract, or approve a subcontract; acknowledges that the State or its agencies and instrumentalities may in its discretion, by means which it may choose, determine the truth and accuracy of all statements made herein; and states that the information submitted in this questionnaire and any attached pages is true, accurate and complete. It is further acknowledged that intentional submission of false or misleading information may constitute a felony under Penal Law Section 175.35 or may constitute a misdemeanor under Penal Law Sections 175.30, 210.35 or 210.45, and may also be punishable by a fine and/or imprisonment of up to five years under 18 USC Section 1001 and may result in a denial of contract award or contract termination.

Sworn to before me this

_____ day of _____, 20____

Signature of Officer

Notary Public

Title

Commission Expiration Date

Officer Name (Please Print)

As of (date): _____

		<u>ASSETS</u>	
<u>Current Assets</u>			
1. Cash		\$ _____	
2. Accounts receivable - less allowance for doubtful accounts		_____	
Retainers included in accounts receivable		\$ _____	
Claims included in accounts receivable not yet approved or in litigation		_____	
3. Notes receivable - due within one year		_____	
4. Inventory - materials		_____	
5. Contract costs in excess of billings on uncompleted contracts		_____	
6. Accrued income receivable			
Interest		_____	
Other (list) _____		_____	
_____		_____	
Total accrued income receivable			_____
7. Deposits			
Bid and plan _____		_____	
Other (list) _____		_____	
_____		_____	
Total deposits			_____
8. Prepaid Expenses			
Income Taxes		_____	
Insurance		_____	
Other (list) _____		_____	
_____		_____	
Total prepaid expenses			_____
9. Other current Assets			
(list) _____		_____	
_____		_____	
Total other current assets			_____
10. Total Current Assets			_____
11. <u>Investments</u>			
Listed securities-present market value		_____	
Unlisted securities-present value		_____	
Total investments			_____
12. Fixed Assets			
Land		_____	
Building and improvements		_____	
Leasehold Improvements		_____	
Machinery and equipment		_____	

12. Fixed Assets (Continued)

Automotive equipment _____

Office furniture and fixtures _____

Other (list) _____

Total _____

Less: accumulated depreciation _____

Total fixed assets - net _____

13. Other Assets

Loans receivable - officers _____

- employees _____

- shareholders _____

Cash surrender value of officers' life insurance _____

Organization expense - net of amortization _____

Notes receivable - due after one year _____

Other (list) _____

Total Other Assets _____

14. TOTAL ASSETS _____

LIABILITIESCurrent Liabilities

15. Accounts payable		\$ _____
16. Loans from shareholders - due within one year	_____	_____
17. Notes payable - due within one year	_____	_____
18. Mortgage payable - due within one year	_____	_____
19. Other payables - due within one year		\$ _____
(list) _____		_____

Total other payables - due within one year

20. Billings in excess of costs and estimated earnings	_____	_____
21. Accrued expenses payable - salaries and wages	_____	_____
- payroll taxes	_____	_____
- employees' benefits	_____	_____
- insurance	_____	_____
- other	_____	_____
Total accrued expenses payable		_____
22. Dividends payable	_____	_____
23. Income taxes payable		_____
- state	_____	_____
- federal	_____	_____
- other	_____	_____

Total income taxes payable

24. Total Current Liabilities		_____
25. <u>Deferred Income Taxes Payable</u>		_____
- state	_____	_____
- federal	_____	_____
- other	_____	_____

Total deferred income taxes

26. <u>Long Term Liabilities</u>		_____
Loans from shareholders - due after one year	_____	_____
Notes payable - due after one year	_____	_____
Mortgage - due after one year	_____	_____
Other payables - due after one year	_____	_____
(list) _____	_____	_____

Total long term liabilities

27. <u>Other Liabilities</u>		_____
(list) _____	_____	_____

Total other liabilities

28. TOTAL LIABILITIES		_____

NET WORTH

29. Net Worth (if proprietorship or partnership) \$ _____
30. Stockholders' Equity
 Common stock issued and outstanding _____
 Preferred stock issued and outstanding _____
 Retaining earnings _____
 Total _____
 Less: Treasury stock _____
31. TOTAL STOCKHOLDERS' EQUITY _____

32. TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY _____

NOTE: IF ADDITIONAL SPACE IS REQUIRED, PLEASE NOTE AND ATTACH SCHEDULE TO STATEMENT

Dated this _____ day of _____, 20____.

Name of Organization

By: _____
Signature and Title

Name (please print)

Article 2(g) - Affidavit of No Change

State of _____)
County of _____) s.s.:

The undersigned, being duly sworn, deposes and says:

- 1) I am an officer/owner of _____ (hereinafter the "Contractor"), which is currently submitting a bid on a State Contract.
- 2) Contractor previously submitted a NYS Uniform Contracting Questionnaire within one year prior to the date hereof to _____ in connection with a bid on another State Contract.
- 3) Attached is an accurate and true copy of such previously submitted NYS Uniform Contracting Questionnaire.
- 4) I hereby certify that, with the exception of the information specified in questions 10 and 11, there has been no material change in the information pertaining to the Contractor specified on such attached Questionnaire, except as follows: _____

- 5) I hereby certify that there has been no change in the information pertaining to the uncompleted construction contracts of the Contractor specified in question 11 on the attached Questionnaire, except as follows:

On this _____ day of _____ 20____, before me personally came _____ to me known to be the person described herein, and who executed the foregoing instrument, and severally acknowledged that (s)he executed the same.

(Seal)

Notary Public

ARTICLE 3(a) - Instructions for Certificate of Insurance

Use this form to certify insurance coverage and provide policy information.

Contractor must fill out Section 1 in its entirety before sending to the insurance agent.

Contractor is encouraged to send a copy of Section VIII, "General Conditions," Article 4, along with the Certificate of Insurance Form to its insurance agent in order that all required coverages and provisions are accounted for.

Insurance Agency

- 1) Complete Section 2 of the form.
- 2) Enter N/A if No Excess Umbrella (9) policy is in effect.
- 3) All insurance certificates must have a policy number entered otherwise it will result in rejection of the certificate.
- 4) Certificates must be signed by an authorized representative of the firm.
- 5) Specify policy if Other (10) is in effect, otherwise enter N/A.

Contractor

- 1) Complete Section 1 of the form.
- 2) At the top of the form, check "New" if you are submitting proof of coverage for a new contract. Check "Renewal" if you are submitting proof of renewals.
- 3) Submit original certificate and subsequent renewals to Division of Environmental Remediation, New York State Department of Environmental Conservation, 12th Floor, New York State Department of Environmental Conservation, 625 Broadway, Albany, New York 12233-7017, **Attention: "David J. Chiusano, Project Manager."** (Also see Section IV, Article 2 for name of project manager).

Certificate of Insurance

**New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E, 12th Floor
625 Broadway, Albany, NY 12233-7017**

**NYSDEC-DER Site No. 8-28-120
Contract No. D007904
Certificate of Insurance
_____New _____Renewal**

SECTION 1

Name and Address of Insured Contractor
(for Coverages 1,2,3,4,6,7,8,9,10)

Name of Insured or Additional Insured (for Coverage 5,6,7 & 10)
State of New York & NYS Department of Environmental Conservation
Engineer
MIJ Enterprises, Inc.

Location and Description of Work: Remedial Action at the Carriage Cleaners Inactive Hazardous Waste Site, Brighton , NY

SECTION 2

This is to certify that policies of insurance listed below have been issued to the contractor, named above, and are in force at this time.

Insurance	Policy #	Name of Company Affording Coverage	Expir. Date	Limits of Liability (in thousands)	
				Each Occurrence	Aggregate
1. Contractor's Liability					
2. Contractor's Protective Liability					
3. Complete Operations/Products					
4. Contractual Liability					
5. Owner's Protective Liability					
6. Automobile Liability					
7. Pollution Liability				\$5 million per claim if possible	
8. Worker's Comp. Disability Benefits				Limits as required by Law Limits as required by Law	
9. Excess Umbrella					
10. Other					

Such insurance as is herein certified: 1) applies to all operations of said insured in connection with the work required by the provisions of the documents forming this contract, 2) applies whether or not the contract documents between the insured contractor and the State of New York Department of Environmental Conservation have been executed, and 3) is written in accordance with the company's regular policies and endorsements, subject to the company's applicable manuals or rules and rates in effect as modified by this certificate and the insurance article of the contract.

No policy referred to herein shall be changed, cancelled or coverage terminated for any reason including expiration of the policy or non-payment of premiums until thirty (30) days written notice has been received by the Division of Environmental Remediation, Remedial Bureau E, NYS Dept. of Environmental Conservation, 12th floor, 625 Broadway, Albany, NY 12233-7017. Such notice shall be mailed via certified or registered mail.

(Date Issued)

By _____
(Signature of Authorized Representative)

(Print Insurance Agency Name)

Policy coverages must agree with coverages stated on the Certificate. False statements of coverage are punishable under Section 117 of the New York State Insurance Law.

ARTICLE 3(c) - Instruction for Performance Bond and Labor and Material Payment Bond

- 1) The performance bond and the labor and material payment bond are to be only submitted by the bidder who receives the Notice of Intent to Award letter from **Department**.
- 2) Use the forms that are included in the Contract Documents. **DO NOT RETYPE THE FORMS.**
- 3) Attach a **SEPARATE** certified power of attorney and surety financial statement to **EACH** bond (i.e., one set attached to performance bond and one set attached to labor and material payment bond).

ARTICLE 3(d) - Performance Bond

Date Bond Executed _____

NYSDEC-DER Site Number: 8-28-120

Date Contract Executed By Principal _____

Principal (Name and Address) _____

Surety (Name and Address - Indicate State of incorporation and location of principal office) _____

Full and Just Sum of Bond (Express in words) _____

(Express in figures) _____

Know all men by these presents, That we, the **Principal** and **Surety**, above named, are held and firmly bound unto the Department of Environmental Conservation for and on behalf of the People of the State of New York, hereinafter called the Department, in full and just sum of the amount stated above, good and lawful money of the United States of America, to the payment of which said sum, well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the **Principal** has entered into a certain written contract with the Department, covering the project and specification above;

Now, Therefore, the condition of this obligation is such, that if the **Principal** shall well, truly and faithfully comply with and perform all of the terms, covenants and conditions of said contract on their (his, its) part to be kept and performed, according to the true intent and meaning of said contract, and shall protect the Department and the People of the State of New York against, and pay any and all amounts, damages, costs and judgments which may or shall be recovered against the Department or the State of New York may be called upon to pay to any person or corporation by reason of any damages arising or growing out of the doing of said work, or the repair or maintenance thereof, or the manner of doing the same, or the neglect of the **Principal**, or their (its) agents or servants, or the improper performance of the work by the **Principal**, or their (its) agents or servants, or the infringement of any patent or patent rights by reason of the use of materials furnished or work done as aforesaid or otherwise, then this obligation shall be null and void, otherwise to remain in full force and virtue.

And the **Surety**, for value received, hereby stipulates and agrees, if requested to do so by the department to fully perform and complete the work mentioned and described in the contract and specifications, pursuant to the terms, conditions and covenants thereof, if for any cause, the **Principal** fails or neglects to so fully perform and complete the work; and the **Surety** further agrees to commence the work of completion within twenty days after notice thereof from the Department, and to complete the work with all due diligence.

And the **Surety**, for value received hereby stipulates and agrees that no change, extension, alteration or addition to the terms of this contract or specifications, accompanying the same, shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension, alteration or addition.

In Testimony Whereof, the **Principal** and the President and Secretary of the **Surety** have caused this instrument to be signed and sealed on the date shown above.

Signed, sealed and delivered in the presence of _____

Name of Corporation

Corporate Seal of Principal
if a Corporation

By _____

Print Name _____

Signature L.S.

Date _____

Corporate Seal of Surety Company

Corporation Surety

Business Address

By (President) _____

Attest (Secretary)

Date _____

(CORPORATE ACKNOWLEDGMENT WITH SEAL)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____ to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ (**title**) of _____ (**firm**) the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that (s)he signed his(her) name thereto by like order.

Seal

Notary Public

(CORPORATE ACKNOWLEDGMENT WITHOUT SEAL)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is an officer of _____ (**firm**); namely, the _____ (**title**) of _____ (**firm**); that (s)he is authorized by the governing body of said corporation to sign contracts; and that (s)he did sign the foregoing instrument on behalf of, and with authority to bind said corporation.

Notary Public

(CO-PARTNERSHIP ACKNOWLEDGMENT)

State of _____)
County of _____) s.s.:

On the _____ day of _____, 20____, before me personally came _____ to me known and known to me to be a member of _____, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed the name of said firm thereto on behalf of said firm for the purpose therein mentioned.

Seal

Notary Public

(INDIVIDUAL ACKNOWLEDGMENT)

State of _____)
County of _____) s.s.:

On the _____ day of _____, 20____, before me personally came _____ to me personally known, and known to me to be the individual described in, and who executed the foregoing instrument, and (s)he duly acknowledged to me that (s)he executed the same.

Seal

Notary Public

(ACKNOWLEDGMENT BY SURETY COMPANY)

State of _____)
County of _____) s.s.:

On this _____ day of _____, 20____ before me personally came _____ to me known, who being by me duly sworn, did depose and say that he/she resides in _____, that he/she is the _____ (*title*) of the _____ (*firm*), the corporation described in and which executed the within instrument; that he/she knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation and the he/she signed his name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner provided by the laws of the State of New York.

(Seal)

Notary Public

ARTICLE 3(e) - New York State Department of Environmental Conservation

Labor and Material Payment Bond

Date Bond Executed: _____

NYSDEC-DER Site Number: 8-28-120

Date Contract Executed By Principal _____

Principal (Name and Address) _____

Surety (Name and Address - Indicate State of incorporation and location of principal office) _____

Full and Just Sum of Bond (Express in words) _____

(Express in figures) _____

Know all men by these presents, That We, the **Principal** and the **Surety** above named, are held and firmly bound unto the Department of Environmental Conservation for and on behalf of the People of the State of New York, in full and just sum of the amount stated above, good and lawful money of the United States of America, to the payment of which said sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the **Principal** has entered into a certain written contract with the Department of Environmental Conservation, covering the project and specification indicated above.

Now, Therefore, the condition of this obligation is such, that if the **Principal** shall promptly pay all moneys due to all persons furnishing labor and materials to him or his subcontractors in the prosecution of the work provided for in the contract, then this obligation shall be void, otherwise to remain in full force and effect;

Provided, however, that the Comptroller of the State of New York having required the **Principal** to furnish this bond in order to comply with the provisions of Section 137 of the State Finance Law, all rights and remedies on this bond shall inure solely to such persons and shall be determined in accordance with the provisions, conditions and limitations of said Section to the same extent as if they were copied at length herein; and

Further, provided, that the place of trial of any action on this bond shall be in the county in which the contract was to be performed, or if the contract was to be performed in more than one county, then in any such county, and not elsewhere.

In Testimony Whereof, the **Principal** and the President and Secretary of the **Surety** have caused this instrument to be signed and sealed on the date shown above.

Signed, sealed and delivered in the presence of _____

Name of Corporation

**Corporate Seal of Principal
if a Corporation**

By _____

Print Name

L.S.

Signature

Date _____

Corporate Seal of Surety Company

Corporation Surety

Business Address

By (President)_____

Attest (Secretary)_____

Date _____

(CORPORATE ACKNOWLEDGMENT WITH SEAL)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____ to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ (*title*) of _____ (*firm*) the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that (s)he signed his(her) name thereto by like order.

Seal

Notary Public

(CORPORATE ACKNOWLEDGMENT WITHOUT SEAL)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is an officer of _____ (*firm*; namely, the _____ (*title*) of _____ (*firm*); that (s)he is authorized by the governing body of said corporation to sign contracts; and that (s)he did sign the foregoing instrument on behalf of, and with authority to bind said corporation.

Notary Public

(CO-PARTNERSHIP ACKNOWLEDGMENT)

State of _____)
County of _____) s.s.:

On the _____ day of _____, 20____, before me personally came _____ to me known and known to me to be a member of _____, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed the name of said firm thereto on behalf of said firm for the purpose therein mentioned.

Seal

Notary Public

(INDIVIDUAL ACKNOWLEDGMENT)

State of _____)
County of _____) s.s.:

On the _____ day of _____, 20____, before me personally came _____ to me personally known, and known to me to be the individual described in, and who executed the foregoing instrument, and (s)he duly acknowledged to me that (s)he executed the same.

Seal

Notary Public

(ACKNOWLEDGMENT BY SURETY COMPANY)

State of _____)
County of _____) s.s.:

On this _____ day of _____, 20____ before me personally came _____ to me known, who being by me duly sworn, did depose and say that he/she resides in _____, that he/she is the _____ (*title*) of the _____ (*firm*), the corporation described in and which executed the within instrument; that he/she knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by the order of the Board of Directors of said corporation and the he/she signed his name thereto by like order; and that the liabilities of said company do not exceed its assets as ascertained in the manner provided by the laws of the State of New York.

Seal

Notary Public

**CONSULTANT/CONTRACTOR DETAILED M/WBE-EEO UTILIZATION PLAN
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

(THE M/WBE-EEO GOALS MUST BE PLACED ON THE ENTIRE PROJECT COST)

Consultant/Contractor Name:			
Contract Type/Number: Construction / D007360		Contract Award Date:	
Address:	City:	State:	Zip Code:
Project Owner Name:		Project/Grant No.:	
Address:	City:	State:	Zip Code:
Authorized Representative:		Title:	
Authorized Signature:			

EEO AND MBE/WBE CONTRACT SUMMARY (MUNICIPAL FORCE ACCOUNT N/A)

M/WBE CONTRACT SUMMARY		%	Amount	EEO CONTRACT SUMMARY		%	No./Employ.	Wk./Hrs.
1.	Total Dollar Value of the Project			6.	Total for all Employees			
2.	Total Dollar Value of the Prime Contract			7.	Total Goal for Minority Employees			
3.	MBE Goal/Amount			8.	Total Goal for Female Employees			
4.	WBE Goal/Amount			9.	EEO Combined Totals			
5.	MBE/WBE Combined Totals							

Office of Minority & Women's Business Programs Use Only

Proposed Goals		Date Approved	Date Disapproved	Initials
MBE (%)	EEO-Minorities (%)			
WBE (%)	EEO-Minorities (%)			

SECTION I - MBE INFORMATION

In order to achieve the MBE Goals, New York State Certified MINORITY-OWNED firms are expected to participate in the following manner:

MBE Firm	Projected MBE Contract Amount and Award Date	Description of Work MBE	Contract Schedule/Start Date(s)	Contract Payment Schedule	Project Completion Date
Name: Address: City: State/Zip Code: Telephone No.:	\$ _____ DATE: _____				
Name: Address: City: State/Zip Code: Telephone No.:	\$ _____ DATE: _____				
Name: Address: City: State/Zip Code: Telephone No.:	\$ _____ DATE: _____				

SECTION II - WBE INFORMATION

In order to achieve the WBE Goals, New York State Certified WOMEN-OWNED firms are expected to participate in the following manner:

WBE Firm	Projected WBE Contract Amount and Award Date	Description of Work WBE	Contract Schedule/Start Date(s)	Contract Payment Schedule	Project Completion Date
Name: Address: City: State/Zip Code: Telephone No.:	\$ _____ DATE: _____				
Name: Address: City: State/Zip Code: Telephone No.:	\$ _____ DATE: _____				
Name: Address: City: State/Zip Code: Telephone No.:	\$ _____ DATE: _____				

SECTION III - EEO INFORMATION

In order to achieve the EEO Goals, Minorities and Females are expected to be employed in the following job categories for the specified amount of work hours:

		All Employees		Minority Employees			
Job Categories	Total Work Hours of Contract	Male	Female	African-American	Asian/Pacific Islander	Native American	Hispanic
Officials/ Managers							
Professionals							
Technicians							
Sales Workers							
Office/Clerical							
Craftsman							
Laborers							
Services/ Workers							
Totals							

VERIFICATION

STATE OF ()

COUNTY OF() **SS No.:**

(A)

_____, being duly sworn, states he or she is the owner of (or a partner in) the enterprise making the foregoing Utilization Plan and representations made in the Utilization Plan are true to his or her own knowledge.

(B)

_____, being duly sworn, states that he or she is the

Name of Corporate Officer

_____, of _____, the

Title of Corporate Officer

Name of Corporation

enterprise making the foregoing Utilization Plan, that he or she has read the Utilization Plan and knows its contents, that the statements and representations made in the Utilization Plan are true to his or her knowledge, and that the Utilization Plan is made at the direction of the Board of Directors of the Corporation and/or owners.

Date

Signature

Sworn to before me this _____

day of _____, _____

Notary Public

Person assisting in completing the Utilization Plan:

Print Name

Signature

Telephone No.

CONSULTANT/CONTRACTOR DETAILED
M/WBE-EEO UTILIZATION PLAN

This Utilization Plan must be verified under oath in the following manner:

(A) if the enterprise is a sole proprietorship, by owner, or if the enterprise is a partnership, by partner; or

(B) if the enterprise is a corporation, by the principal officer designated by the Board of Directors. All Applicants/Contractors must read and review all items preceding the verification before signing. These items contain responsibilities of the Applicant, rights retained by the State of New York and penalties that may be applied for false statements.

FIRST, this Utilization Plan form, the supporting documents and any other information provided in support of the Utilization Plan are considered part of the Contract/Application. It is recognized and acknowledged that the information contained in this Utilization Plan is given under oath and that any misrepresentation made in this is subject to both the civil and criminal laws of the State of New York.

SECOND, by filing this Utilization Plan, the Contractor/Applicant consents to periodic examination of its books, records, and an interview of its principals and employees by the OMWBP for the purpose of determining the solicitation and utilization of certified Minority and Woman-Owned Business Enterprises.

THIRD, by filing this Utilization Plan, the Applicant/Contractor consents to inquiries that may be directed by the OMWBP to the Applicant's/Contractor's companies, banking institutions, credit agencies, and contractors for the purpose of ascertaining the Applicant's/Contractor's payments to subcontractors.

FOURTH, the Applicant/Contractor agrees to provide notice to the OMWBP of any material change in the information contained in the original application within fifteen (15) days of such change.

FIFTH, by filing this Utilization Plan, the Applicant/Contractor consents to the OMWBP's sharing reports, summaries, reviews, analyses, recommendations and determinations related to this Utilization Plan with other State agencies, which may request such information as a result of the Applicant/Contractor submitting this Utilization Plan.

I have read and acknowledge the foregoing.

Signature of Owner/Applicant

**CONTRACTOR'S APPLICATION FOR PAYMENT
(UNIT PRICE CONTRACT)**

Payee (Name and Address)	FOR INTERNAL USE ONLY	
	STATE COMPTROLLER'S PRE AUDIT CERTIFIED FOR PAYMENT IN THE SUM OF \$ _____ By: _____	Comptroller's Contract Number
		Certificate Number
		Originating Agency
Work Period Ending 20____	Date Prepared	

With Final Payment Attach Labor Affidavits for Payroll Period to Conform to New York State Labor Law Section 220.

SCHEDULE I FINANCIAL STATEMENT

CONTRACT AND CHANGE ORDER AMOUNTS Line		WORK COMPLETED TO DATE Line	
1. Original Bid Price (Schedule V, Col. 1)	\$	1. Contract Work Performed (Schedule V, Col. 2)	\$
2. Change Order (Schedule VI, Col. 1)	\$	2. Change Orders (Schedule VI, Col. 2)	\$
3. Net Contract Amount	\$	3. Value earned to Date	\$
4. Maximum Retainage (5% of Line 3)	\$	4. Less Retainage (5% up to Maximum)	\$
		5. Value Earned to Date Less Retainage , Damages, & Credits	\$
		6. Less Prior Payments	\$
		7. This Payment	\$

SCHEDULE II CERTIFICATION BY CONTRACTOR

I _____ (Name) do hereby certify that I am _____ (Title) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including the last day of the period covered by this application.

_____ **Date** _____ **Signature**

SCHEDULE III CERTIFICATION OF INSPECTOR

I certify that I have checked and verified the above application for payment; that to the best of my knowledge and belief it is a true and correct statement of work performed and/or material supplied by the contractor; that all work/or material included in this application has been inspected by me and/or by my duly authorized representative or assistants and that the work has been performed and/or materials supplied in full accordance with requirements of the referenced contract; and that payment claimed and requested by the contractor is correctly computed on the basis of work performed and/or material supplied to date.

_____ **Date** _____ **Architect/Engineer**

SCHEDULE IV ENDORSED BY DEPARTMENT OF ENVIRONMENTAL CONSERVATION

EXAMINED AND APPROVED BY RESPONSIBLE DIVISION OR BUREAU							APPROVED FOR PAYMENT BY DIVISION OF FISCAL MANAGEMENT				
_____ DATE _____ SIGNATURE							_____ DATE _____ SIGNATURE				
EXPENDITURES							LIQUIDATION				
Dept	Cost Center	Var	Yr	Object	Accum		Amount	Orig. Agency	PO/Contract	Line	F/P
					Dept	Statewide					

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MANAGEMENT AND BUDGET
CONTRACTOR'S APPLICATION FOR PAYMENT
(LUMP SUM CONTRACT)**

Payee (Name and Address)	FOR INTERNAL USE ONLY	
	STATE COMPTROLLER'S PRE AUDIT CERTIFIED FOR PAYMENT IN THE SUM OF \$ _____ By: _____	Comptroller's Contract Number
		Certificate Number
		Originating Agency
		Date Prepared
Work Period Ending 20____		

With Final Payment Attach Labor Affidavits for Payroll Period to Conform to New York State Labor Law Section 220.

SCHEDULE I

FINANCIAL STATEMENT

CONTRACT AND CHANGE ORDER AMOUNTS Line		WORK COMPLETED TO DATE Line	
1. Original Bid Price (Schedule V, Col. 1)	\$	1. Contract Work Performed (Schedule V, Col. 2)	\$
2. Change Order (Schedule VI, Col. 1)	\$	2. Change Orders (Schedule VI, Col. 2)	\$
3. Net Contract Amount	\$	3. Value earned to Date	\$
4. Maximum Retainage (5% of Line 3)	\$	4. Less Retainage (5% up to Maximum)	\$
		5. Value Earned to Date Less Retainage, Damages, & Credits	\$
		6. Less Prior Payments	\$
		7. This Payment	\$

SCHEDULE II

CERTIFICATION BY CONTRACTOR

I _____ (Name) do hereby certify that I am _____ (Title) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including the last day of the period covered by this application.

Signature

SCHEDULE III CERTIFICATION OF INSPECTOR

I certify that I have checked and verified the above application for payment; that to the best of my knowledge and belief it is a true and correct statement of work performed and/or material supplied by the contractor; that all work/or material included in this application has been inspected by me and/or by my duly authorized representative or assistants and that the work has been performed and/or materials supplied in full accordance with requirements of the referenced contract; and that payment claimed and requested by the contractor is correctly computed on the basis of work performed and/or material supplied to date.

Architect/Engineer

SCHEDULE IV ENDORSED BY DEPARTMENT OF ENVIRONMENTAL CONSERVATION

APPROVED FOR PAYMENT BY DIVISION OF FISCAL MANAGEMENT

SIGNATURE

EXPENDITURES								LIQUIDATION			
Dept	Cost Center	Var	Yr	Object	Accum		Amount	Orig. Agency	PO/Contract	Line	F/P
					Dept	Statewide					

Final Payment Release

For and in consideration of the receipt of final payment on the contract hereinafter identified, and in order to induce the New York State Department of Environmental Conservation (**Department**) to make such payment, the **Contractor** hereby releases the **Department** for any and all claims, of any nature whatsoever, arising under or in connection with the contract, except for the following claims:

(List any exempted claims)

For and in consideration of the receipt of final payment on the contract hereinafter identified, and in order to induce the **Department** to make such payment, the **Contractor** hereby states that it has paid all moneys due subcontractors, subconsultants, suppliers, material, men or others due payment for work or services performed in furtherance of this contract, except as follows:

(List all subcontractors, subconsultants, suppliers, etc. who have outstanding claims for payment or who have not been paid in full. A complete explanation of the facts and circumstances should be set forth on a separate sheet and attached hereto)

The **Contractor** hereby indemnifies and holds the **Department** and the State of New York harmless from any losses from claims, demands, payments, suits, actions, liens, recoveries and judgments of every nature and description brought or recovered against it by reason of failure to make such payments.

Contract Number: D007904

Firm

Print Name

Signature

Date

(CORPORATE ACKNOWLEDGMENT WITH SEAL)

State of _____)
 County of _____) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____ to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ (*title*) of _____ (*firm*) the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that (s)he signed his(her) name thereto by like order.

Seal

Notary Public

(CORPORATE ACKNOWLEDGMENT WITH SEAL)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____ to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ (*title*) of _____ (*firm*) the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that (s)he signed his(her) name thereto by like order.

Seal

Notary Public

(CORPORATE ACKNOWLEDGMENT WITHOUT SEAL)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20 ____, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is an officer of _____ (*firm*) ; namely, the _____ (*title*) of _____ (*firm*); that (s)he is authorized by the governing body of said corporation to sign contracts; and that (s)he did sign the foregoing instrument on behalf of, and with authority to bind said corporation.

Notary Public

ARTICLE 4(c)

Payment Affidavit

This Article 4(c) is not applicable

Office of the State Comptroller
Division of Pre-Audit and Accounting Records
BUREAU OF STATE EXPENDITURES

New York State Labor Law, Section 220-a
Prime Contractor's Certification

- 1) That I am an officer of _____ and am duly authorized to make this affidavit on behalf of the prime contractor on public contract No. _____.
- 2) That I fully comprehend the terms and provisions of Section 220-a of the Labor Law.
- 3) That, except as herein stated, there are no amounts due and owing to or on behalf of laborers employed on the project by the contractor. (Set forth any unpaid wages and supplements, if none, so state).

Name

Amount

-
- 4) That the contractor hereby files every verified statement(s) required to be obtained by the contractor from the subcontractor(s).
 - 5) That, upon information and belief, except as stated herein, all laborers (exclusive of executive or supervisory employees) employed on the project have been paid and prevailing wages and supplements for their services through _____, (if more than on subcontractor list name and date separately) the last day worked on the project by their subcontractor(s), (Set forth any unpaid wages and supplements, if none, so state and utilize clause 5 (A)).

Name

Amount

-
- (5a) That the contractor has no knowledge of amounts owing to or on behalf of any laborers of its subcontractor(s).
 - 6) In the event it is determined by the Commissioner of Labor that the wages or supplements or both of any such subcontractor(s) have not been paid or provided pursuant to the appropriate schedule of wages and supplants, then the contractor shall be responsible for payment of such wages and supplants pursuant to the provision of Section 223 of the Labor Law.

Signature

Print Name

Title

Acknowledgment:

STATE OF _____)
) SS:
COUNTY OF _____)

On the _____ day of _____, 20____, before me personally came _____, to me known and known to me to be the person described in an executed for foregoing instrument and acknowledged to me that (s)he executed the same.

Notary Public

County

If this affidavit is verified by an oath administered by a notary public in a foreign country other than Canada, it must be accompanied by a certificate authenticating the authority of the notary who administers the oath. (See CPLR § 2309(c); Real Property Law, § 311, 312).

Office of the State Comptroller
Division of Pre-Audit and Accounting Records
BUREAU OF STATE EXPENDITURES

New York State Labor Law, Section 220-a, Subcontractor's Certification

- 1) That I am an officer of _____ a subcontractor on public Contract Number _____ and I am duly authorized to make this affidavit on behalf of the firm.
- 2) That I make this affidavit in order to comply with the provisions of Section 220-a of the Labor Law.
- 3) That on _____ we received from _____ the prime contractor a copy of the initial/revised schedule of wages and supplements Prevailing Rate Schedule Case Number **2010006113** (PRC) specified in the public improvement contract.
- 4) That I have reviewed such schedule(s), and agree to pay the applicable prevailing wages and to pay or provide the supplements specified therein.

Signature

Print Name

Title

Acknowledgment

STATE OF _____)
) SS:
COUNTY OF _____)

On the _____ day of _____, 20____, before me personally came _____, to me known and known to me to be the person described in and who executed for foregoing instrument and acknowledged to me that (s)he executed the same.

Notary Public

If this affidavit is verified by an oath administered by a notary public in a foreign country other than Canada, it must be accompanied by a certificate authenticating the authority of the notary who administers the oath. (See CPLR § 2309(c); Real Property Law, § 311, 312).

SECTION VI

Agreement

This Agreement by and between the **New York State Department of Environmental Conservation**, (hereinafter referred to as **Department**) having offices at 625 Broadway, Albany, New York 12233 and

_____ a corporation organized and existing under the laws of the State of _____

_____ a partnership, consisting of

_____ an individual conducting business as

the location of whose principal office is _____ hereinafter called "**Contractor.**"

WITNESSETH

Whereas, **Department** is empowered by law to obtain services; the performance of these services is essential to **Department**; and **Department**, after fully examining all of its internal capabilities and thoroughly investigating all possible alternative approaches, has determined that certain tasks can best be accomplished through a contract;

Whereas, **Contractor** hereby represents that it is capable of providing the services which are the subject matter of this Contract;

Now Therefore, **Department and Contractor**, in consideration of the mutual covenants hereinafter set forth agree as follows:

ARTICLE 1 - Defined Terms

Terms used in the Agreement which are defined in the Contract Documents have the intent and meanings assigned to them in the Contract Documents.

ARTICLE 2 - Work

As indicated or specified in the Contract Documents, **Contractor** shall complete in a timely and workmanlike manner, any and all obligations, duties and responsibilities, and provide any and all labor, materials, equipment, temporary facilities, and incidentals necessary to complete the construction generally identified and shown on the plans and Contract Documents entitled:

New York State Department of Environmental Conservation
Site Name: Carriage Cleaners Site
Contract Number: D007904
Date: October 2010

ARTICLE 3 - Engineer

MACTEC Engineering & Consulting, P.C. shall assume all duties and responsibilities of and have the rights and authority assigned to **Engineer** in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 4 - Contract Documents

The Documents which comprise the entire Contract between **Department** and **Contractor** concerning the Work consist of the following:

- 4.0 Appendices A and B
- 4.1 **Engineer's** written clarifications and interpretations
- 4.2 Change Orders
- 4.3 Administrative Agreements
- 4.4 Field Orders
- 4.5 Proposed Change Orders signed by **Department**
- 4.6 Approved Shop Drawings
- 4.7 Addenda
- 4.8 Agreement
- 4.9 Measurement for Payment
- 4.10 Bid Forms and Attachments Exclusive of Bonds and Insurance Certificates
- 4.11 Drawings, Plans
- 4.12 Supplementary Specifications
- 4.13 Supplementary Conditions
- 4.14 Standard Specifications
- 4.15 General Conditions
- 4.16 Supplementary Bidding Information and Requirements
- 4.17 Bidding Information and Requirements
- 4.18 Terms and Definitions
- 4.19 Advertisement
- 4.20 Bonds and Insurance Certificates

In the event of a conflict between the documents set forth above, they shall be entitled to priority according to the order in which they are listed.

ARTICLE 5 - Contractor's Representations

In order to induce **Department** to enter into this Agreement, **Contractor** makes the following representations:

- 5.1 **Contractor** has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and applicable Laws that in any manner may affect cost, schedule, progress, performance or furnishing of the Work.
- 5.2 **Contractor** has studied carefully all reports of explorations and tests of subsurface conditions and drawings of physical conditions which are identified in Information to Bidders, as provided in the General Conditions, and accepts the determination set forth in said Section to the extent of the technical data contained in such reports and drawings upon which **Contractor** is entitled to reply.

- 5.3 **Contractor** has obtained and carefully studied all such examinations, investigations, explorations, tests, reports and studies which pertain to the subsurface or physical conditions at or contiguous to the site or otherwise may affect the cost, schedule, progress, performance or furnishing of the Work as **Contractor** considers necessary for the performance or furnishing of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Article 3 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies or similar information or data are or will be required by **Contractor** for such purposes.
- 5.4 **Contractor** has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by **Contractor** in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Article 3 of the General Conditions.
- 5.5 **Contractor** has correlated (or assumes responsibility for correlating) the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.
- 5.6 **Contractor** has given **Engineer** written notice of all conflicts, errors or discrepancies that he (she) has discovered in the Contract Documents and any written resolution thereof is acceptable to **Contractor**.

ARTICLE 6 - Contract Time

The number of days within which, or alternatively, the dates by which, the Work, or any specified part thereof, is to be completed (the Contract Times) are set forth as follows:

- 6.1 The Work will be Substantially Completed within one hundred (100) calendar days from the date established in the Notice to Proceed.
- 6.2 Separable parts of the Work, if specified in an Attachment A to this Agreement, will be Substantially Completed within the number of days stated in Attachment A from the date established in the Notice to Proceed.
- 6.3 The Work will be completed and ready for final payment in accordance with the General Conditions within one hundred-thirty (130) calendar days from the date established in the Notice to Proceed or within 60 days of substantial completion, whichever is sooner.
- 6.4 **Department** and **Contractor** recognize that the Contract Time(s) specified in paragraphs 6.1, 6.2, and 6.3 above are of the essence of this Agreement, and that **Department** may suffer financial loss if the Work is not completed within the Contract Time(s) specified above, plus any extensions thereof allowed in accordance with the General Conditions, as amended or supplemented in the Supplementary Conditions.
- 6.5 Accordingly, **Contractor** agrees to forfeit and pay **Department** as liquidated damages, and not as a penalty, the amount of one-thousand one hundred and fifty dollars (\$1,150) for each day that expires after the Contract Time specified in paragraph 6.1 above for Substantial Completion until the Work is Substantially Complete. **Contractor** further agrees to pay **Department** as liquidated damages, and not as a penalty, each of the amounts set forth in attachment a to this agreement for each day that expires after each of the contract times specified in paragraph 6.2 above for substantial completion until the each of the separable parts of the work is substantially complete. After substantial completion of the work,

if **Contractor** shall neglect, refuse or fail to complete the remaining work within the contract time or any proper extension thereof granted by **Department**, **Contractor** shall pay **Department** as liquidated damages, and not as a penalty, the amount of five hundred seventy-five dollars (\$575) for each day that expires after the Contract Time specified in paragraph 6.3 above for completion and readiness for payment. These liquidated damages are additive and represent a reasonable estimate, in lieu of any such proof, of **Department's** extra expenses for Inspection, engineering services, administrative costs, and Interim excess operating costs for each day that expires after the associated Contract Time.

- 6.6 In addition to the liquidated damage amounts set forth in paragraph 6.5 above, **Contractor** agrees to pay **Department's** additional actual damages arising out of the types of expenses itemized below for each day that expires after each of the Contract Times specified in paragraph 6.1 above for Completion of each of the designated parts of the Work until each of the designated parts of the Work achieves the specified completion. These actual damages are additive and shall equal **Department's** expenditures for costs other than those itemized in paragraph 6.5, including, but not limited to, delay damage settlements or awards related to other separate contracts, delay penalties or fines imposed by regulatory agencies, contract damage and loss of use, excess financing costs, and professional fees and related expenses incurred thereto.

ARTICLE 7 - Alterations and Omissions

Department reserves the right, at any time during the progress of the work, to alter the plans or omit any portion of the work as it may deem reasonably necessary for the public interest; making allowances for additions and deductions with compensation made in accordance with the Contract Documents.

ARTICLE 8 - Determinations as to Variances

In case of any ambiguity in the Contract Documents, the matter must be immediately submitted to the Representative of **Department** designated in the Contract Documents, who shall adjust the same, and his (her) decision in relation thereto shall be final and conclusive upon the parties.

ARTICLE 9 - Payment Procedures

Contractor shall submit Applications for Payment on standard form in accordance with the General Conditions. Applications for Payment will be processed by **Engineer** as provided in the General Conditions, as amended or supplemented in the Supplementary Conditions and in accordance with Section 139-f of the State Finance Law.

- 9.1 **Progress Payments.** **Contractor** shall submit Applications for Payments to **Engineer** for review no more frequently than monthly in accordance with paragraph 13.2 of the General Conditions from the date when the Contract Time commences to run. **Department** shall make progress payments against the Contract Price on the basis of **Contractor's** Applications for Payment as recommended by **Engineer** as provided below. All progress payments will be calculated on the basis of the progress of the Work measured by the schedule of values established pursuant to paragraph 1.4.3 of the General Conditions. Progress payments will also be made for materials pertinent to the Contract in accordance with the General Conditions.
- 9.1.1 Prior to Substantial Completion of the Work, progress payments will be made less five percent (5%) the aggregate of payments (i.e. retainage) previously made and less an amount necessary to satisfy any claims, liens, or judgments against **Contractor** which have not been suitably discharged.
- 9.2 **Payment upon substantial completion.** When the work or major portions thereof, as contemplated in the Contract Documents, is substantially completed, **Contractor** shall submit to **Department**, an Application for Payment in accordance with the General Conditions for the remaining amount of the

contract balance or amount due for that major portion completed. **Department** will pay the remaining Contract balance, or amount due for that major portion completed, less two times the value of any remaining items to be completed and an amount necessary to satisfy any claims, liens, judgments against **Contractor** which have not been suitably discharged. Payment for remaining items will be made upon their completion.

- 9.3 **Final Payment.** Upon final completion of the physical Work and acceptance of the Work in accordance with the General Conditions, **Department** shall pay the remainder of the Contract Price as recommended by **Engineer**.

ARTICLE 10 - No Estimate on Contractor's Noncompliance

It is further agreed that so long as **Contractor** has not complied with any lawful or proper direction concerning the work or material given by **Department**, **Contractor** shall not be entitled to have any estimate made for the purpose of payment, nor shall any estimate be rendered on account of work done or material furnished until **Contractor** has fully and satisfactorily complied with such direction.

ARTICLE 11 - Delays, Inefficiencies, and Interference

Contractor agrees to make no claim for any consequential damages attributable to any delays, or act in the performance of this contract which are not directly occasioned by any act or omission to act by the State or any of its representatives. In the event **Contractor** completes the work prior to the contract completion date set forth in the proposal, **Contractor** hereby agrees to make no claim for extra costs due to delays, interferences or inefficiencies in the performance of the work.

- 1) **Contractor** further agrees that it has included in its bid prices for the various items of the contract any additional costs for delays, inefficiencies, or interferences affecting the performance or scheduling of contract work caused by, or attributable to, the following instances:
- a) The work or the presence on the Site of any third party, including but not limited to that of other contractors or personnel employed by the State, or by other public bodies, by railroad, transportation or utility companies or corporations, or by private enterprises, or any delay in progressing such work by any third party.
 - b) The existence of any facility or appurtenance owned, operated, or maintained by any third party.
 - c) The act, or failure to act, of any other public or governmental body, including, but not limited to, approvals, permits, restrictions, regulations or ordinances.
 - d) Restraining orders, injunctions, or judgments issued by a court.
 - e) Any labor boycott, strike, picketing or similar situation.
 - f) Any shortages of supplies or materials required by the contract work.
 - g) Any situation which was, or should have been within, the contemplation of the parties at the time of entering into the contract.

ARTICLE 12 - Postponement, Suspension or Termination

- 12.1 **Department** shall have the right to postpone, suspend or terminate this Contract in whole or in part for the convenience of **Department**. If, after termination for cause of **Contractor** it is determined that no

cause existed for termination of **Contractor**, such termination shall be deemed to have been made for the convenience of **Department**.

- 12.2 If this Contract is terminated by **Department** for convenience or cause, **Department** shall make payment on an equitable basis for all work performed in accordance with the Contract Documents prior to termination in accordance with paragraphs 12.3 and 12.4 below.
- 12.3 If this contract is terminated for cause, no payment shall be made for anticipated profit on unperformed work or services. Additionally, **Department** may adjust any payment due to **Contractor** at the time of termination to account for any additional costs to **Department** because of **Contractor's** default.
- 12.4 If this contract is terminated for convenience, payment shall be made for any services rendered and expenses incurred prior to the termination, in addition to termination settlement costs reasonably incurred by **Contractor** which had become firm prior to the termination.
- 12.5 Upon termination of this Contract under this Agreement, **Department** may take over the work or may award or negotiate a contract with another party to complete work required by these Contract Documents.

ARTICLE 13 - Completion of Physical Work and Final Acceptance

The time within which **Department** may bring an action on the Contract against **Contractor** shall be computed from the date of completion of the physical Work. In accordance with Section 138-a of the State Finance Law, **Contractor** shall notify **Department** in writing that the physical Work has been completed. The date of completion must be no more than thirty days prior to the date of the notice. This notice must be delivered personally or by either registered or certified mail, return receipt requested to the exact address given below.

**Gerard Burke, Section Chief
Remedial Bureau E, Section A
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, New York 12233-7017**

If **Department** disagrees with the date set forth in the notice, it will so advise **Contractor** in writing within 30 days of receipt of the notice. This notice will be delivered by either registered or certified mail, return receipt requested to **Contractor's** address as shown in this Agreement.

If **Department** accepts **Contractor's** date of completion of physical Work, **Department's** final acceptance of work shall be as of that date.

When, in the opinion of **Department**, **Contractor** has fully performed the physical Work under the Contract, **Department** shall notify **Contractor** in writing of final acceptance.

ARTICLE 14 - Final Payment

After the final acceptance of the work, **Engineer** shall prepare a final agreement of the work performed and the materials placed and shall compute the value of such work and materials under and according to the terms of the contract. This agreement shall be certified, as to its correctness, by **Engineer** and submitted for final approval to **Department**. The Representative of **Department** designated in the Contract Documents shall have the right to reject the whole or any portion of the final agreement, should the said certificate of **Engineer** be found or known to be inconsistent with the terms of the agreement or otherwise improperly given and upon failure of **Contractor** to provide requested documentation including but not limited to that regarding payment of wages, suppliers or subcontractors. All certificates upon which partial payments may have been made being merely estimates, shall be subject to correction in the final certificate or final agreement.

ARTICLE 15 - Disposition of Documents and Data

Upon final acceptance of work under this Contract or termination of this Contract pursuant to this Agreement, or upon written demand of **Department**, **Contractor** shall promptly deliver or otherwise make available to **Department** all data, drawings, reports, estimates, and such other information and materials as may have been accumulated by **Contractor** in performing this Contract.

ARTICLE 16 - Applicable Law; Jurisdiction; Service of Legal Process

Contractor agrees:

- 16.1 That this Agreement is subject to and governed by all applicable federal and New York State law.
- 16.2 To procure all necessary licenses and permits.
- 16.3 To voluntarily and irrevocably submit to the jurisdiction of a New York State Court of competent jurisdiction, to resolve any dispute or controversy arising out of this Contract.
- 16.4 That the venue of any action at law or in equity commenced against **Department** arising out of a Project in one of **Department's** regions, shall be in the county in that Region where **Department** regional headquarters is located.
- 16.5 That the service of legal process or any notices in connection with a dispute or controversy arising out of this Contract, by United States registered mail, postage prepaid, addressed to the Designated representative of **Department** at the address stated in the Contract. Documents shall constitute good and valid service of process upon **Engineer**.
- 16.6 To waive any defense based on or alleging lack of jurisdiction, improper venue, or invalid service, if there is compliance with paragraphs 16.3 and 16.4 in this Article.
- 16.7 This Contract may be presented in court as conclusive evidence of the foregoing agreement.

ARTICLE 17 - Sales and Use Tax Exemption

Contractor represents that this project has been bid in such a manner that **Department** has full advantage of available exemptions from sales and compensating use taxes. Accordingly, **Contractor** agrees to make all payment requests in a manner which affords **Department** full advantage of such exemptions. Further, **Contractor** agrees to complete and to require all subcontractors and material men to complete a Contractor Exempt Purchase Certificate in the name of the New York State Department of Environmental Conservation, which shall be furnished to all persons, firms or corporations from whom they purchase materials, equipment or supplies which are tax exempt by reason of the fact that they will be sold to **Department**, or will be used as an integral component in the construction, rehabilitation, or improvement of any structure of building required by the Contract Documents.

Contractor agrees to maintain and keep, and to contractually require all subcontractors and material men to maintain and keep, records relating to the tax exemption of material, equipment and Supplies for a period of six years. The six year period shall commence to run as of the date of final payment.

ARTICLE 18 - Effective Date

This Contract shall take effect as of the date it is approved and filed by the Comptroller.

ARTICLE 19 - Contract Price

The maximum payment which **Department** shall pay to **Contractor**, and which **Contractor** agrees to accept as full payment for its work under this Contract, is the total of:

1) Bid \$ _____

2) Bid Alternate (Pollution Liability Insurance) \$ _____

Plus change order(s) **Total** \$ _____

CONTRACT NUMBER: D007904

IN WITNESS WHEREOF, representatives of the Department and the Contractor have executed this Contract on the day and year written beneath their respective signatures. The signatory for the Department provides the following Agency Certification: "In addition to the acceptance of this contract, I also certify that original copies of this signature page will be attached to all other exact copies of this contract."

FOR DEPARTMENT

By: _____

Title: _____

Date: _____

FOR CONTRACTOR

By: _____

Title: _____

Date: _____

Approved as to Form:

By: _____

For Attorney General

Date: _____

Approved:

**Thomas P. DiNapoli
State Comptroller**

By: _____

Date: _____

This contract is not effective until it is approved by the State Comptroller and filed in his office (Section 112, State Finance Law).

(CORPORATE ACKNOWLEDGMENT WITH SEAL)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20____, before me personally came _____ to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is _____ (*title*) of _____ (*firm*) the corporation described in and which executed the above instrument; that (s)he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that (s)he signed his(her) name thereto by like order.

Seal

Notary Public

(CORPORATE ACKNOWLEDGMENT WITHOUT SEAL)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20____, before me personally came _____, to me known, who being duly sworn, did depose and say that (s)he resides in _____, New York; that (s)he is an officer of _____ (*firm*) ; namely, the _____ (*title*) of _____ (*firm*); that (s)he is authorized by the governing body of said corporation to sign contracts; and that (s)he did sign the foregoing instrument on behalf of, and with authority to bind said corporation.

Notary Public

(CO-PARTNERSHIP ACKNOWLEDGMENT)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20____, before me personally came _____ to me known and known to me to be a member of _____, the firm described in and which executed the foregoing instrument, and (s)he acknowledged to me that (s)he subscribed the name of said firm thereto on behalf of said firm for the purpose therein mentioned.

Seal

Notary Public

(INDIVIDUAL ACKNOWLEDGMENT)

State of _____)
County of _____) s.s.:

On the ____ day of _____, 20____, before me personally came _____ to me personally known, and known to me to be the individual described in, and who executed the foregoing instrument, and (s)he duly acknowledged to me that (s)he executed the same.

Seal

Notary Public

SECTION VII

Appendix A and Appendix B

STANDARD CLAUSES FOR NYS CONTRACTS

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the State, whether a contractor, licensor, licensee, lessor, lessee or any other party):

1. EXECUTORY CLAUSE. In accordance with Section 41 of the State Finance Law, the State shall have no liability under this contract to the Contractor or to anyone else beyond funds appropriated and available for this contract.

2. NON-ASSIGNMENT CLAUSE. In accordance with Section 138 of the State Finance Law, this contract may not be assigned by the Contractor or its right, title or interest therein assigned, transferred, conveyed, sublet or otherwise disposed of without the previous consent, in writing, of the State and any attempts to assign the contract without the State's written consent are null and void. The Contractor may, however, assign its right to receive payment without the State's prior written consent unless this contract concerns Certificates of Participation pursuant to Article 5-A of the State Finance Law.

3. COMPTROLLER'S APPROVAL. In accordance with Section 112 of the State Finance Law (or, if this contract is with the State University or City University of New York, Section 355 or Section 6218 of the Education Law), if this contract exceeds \$50,000 (or the minimum thresholds agreed to by the Office of the State Comptroller for certain S.U.N.Y. and C.U.N.Y. contracts), or if this is an amendment for any amount to a contract which, as so amended, exceeds said statutory amount, or if, by this contract, the State agrees to give something other than money when the value or reasonably estimated value of such consideration exceeds \$10,000, it shall not be valid, effective or binding upon the State until it has been approved by the State Comptroller and filed in his office. Comptroller's approval of contracts let by the Office of General Services is required when such contracts exceed \$85,000 (State Finance Law Section 163.6.a).

4. WORKERS' COMPENSATION BENEFITS. In accordance with Section 142 of the State Finance Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

5. NON-DISCRIMINATION REQUIREMENTS. To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, sexual orientation, age, disability, genetic predisposition or carrier status, or marital status. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex, or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the

performance of work under this contract. Contractor is subject to fines of \$50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all moneys due hereunder for a second or subsequent violation.

6. WAGE AND HOURS PROVISIONS. If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law.

7. NON-COLLUSIVE BIDDING CERTIFICATION. In accordance with Section 139-d of the State Finance Law, if this contract was awarded based upon the submission of bids, Contractor affirms, under penalty of perjury, that its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further affirms that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered to the State a non-collusive bidding certification on Contractor's behalf.

8. INTERNATIONAL BOYCOTT PROHIBITION. In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds \$5,000, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2NYCRR 105.4).

9. SET-OFF RIGHTS. The State shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the State with regard to this contract, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the State for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the State agency, its representatives, or the State Comptroller.

10. RECORDS. The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter, collectively, "the Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an examination, as well as the agency or agencies involved in this contract, shall have access to the Records during normal business hours at an office of the Contractor

within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. The State shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the Contractor shall timely inform an appropriate State official, in writing, that said records should not be disclosed; and (ii) said records shall be sufficiently identified; and (iii) designation of said records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, the State's right to discovery in any pending or future litigation.

11. IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION.

(a) **FEDERAL EMPLOYER IDENTIFICATION NUMBER and/or FEDERAL SOCIAL SECURITY NUMBER.** All invoices or New York State standard vouchers submitted for payment for the sale of goods or services or the lease of real or personal property to a New York State agency must include the payee's identification number, i.e., the seller's or lessor's identification number. The number is either the payee's Federal employer identification number or Federal social security number, or both such numbers when the payee has both such numbers. Failure to include this number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or New York State standard voucher, must give the reason or reasons why the payee does not have such number or numbers.

(b) **PRIVACY NOTIFICATION.** (1) The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by the seller or lessor to the State is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law.

(2) The personal information is requested by the purchasing unit of the agency contracting to purchase the goods or services or lease the real or personal property covered by this contract or lease. The information is maintained in New York State's Central Accounting System by the Director of Accounting Operations, Office of the State Comptroller, 110 State Street, Albany, New York 12236.

12. EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITIES AND WOMEN.

In accordance with Section 312 of the Executive Law, if this contract is: (i) a written agreement or purchase order instrument, providing for a total expenditure in excess of \$25,000.00, whereby a contracting agency is committed to expend or does expend funds in return for labor, services, supplies, equipment, materials or any combination of the foregoing, to be performed for, or rendered or furnished to the contracting agency; or (ii) a written agreement in excess of \$100,000.00 whereby a contracting agency is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; or (iii) a written agreement in excess of \$100,000.00 whereby the owner of a State assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project, then:

(a) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. Affirmative action shall mean recruitment,

employment, job assignment, promotion, upgradings, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;

(b) at the request of the contracting agency, the Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the contractor's obligations herein; and

(c) the Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

Contractor will include the provisions of "a", "b", and "c" above, in every subcontract over \$25,000.00 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor. Section 312 does not apply to: (i) work, goods or services unrelated to this contract; or (ii) employment outside New York State; or (iii) banking services, insurance policies or the sale of securities. The State shall consider compliance by a contractor or subcontractor with the requirements of any federal law concerning equal employment opportunity which effectuates the purpose of this section. The contracting agency shall determine whether the imposition of the requirements of the provisions hereof duplicate or conflict with any such federal law and if such duplication or conflict exists, the contracting agency shall waive the applicability of Section 312 to the extent of such duplication or conflict. Contractor will comply with all duly promulgated and lawful rules and regulations of the Governor's Office of Minority and Women's Business Development pertaining hereto.

13. CONFLICTING TERMS. In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Appendix A, the terms of this Appendix A shall control.

14. GOVERNING LAW. This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

15. LATE PAYMENT. Timeliness of payment and any interest to be paid to Contractor for late payment shall be governed by Article 11-A of the State Finance Law to the extent required by law.

16. NO ARBITRATION. Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized), but must, instead, be heard in a court of competent jurisdiction of the State of New York.

17. SERVICE OF PROCESS. In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon Contractor's actual receipt of process or upon the State's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify the State, in writing, of each and every change of address to which service of process can be made. Service by the State to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.

18. PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS. The Contractor certifies and warrants that all wood products to be used under this contract award will be in accordance with, but not limited to, the specifications and provisions of State Finance Law §165. (Use of Tropical Hardwoods) which prohibits purchase and use of tropical hardwoods, unless specifically exempted, by the State or any governmental agency or political subdivision or public benefit corporation. Qualification for an exemption under this law will be the responsibility of the contractor to establish to meet with the approval of the State.

In addition, when any portion of this contract involving the use of woods, whether supply or installation, is to be performed by any subcontractor, the prime Contractor will indicate and certify in the submitted bid proposal that the subcontractor has been informed and is in compliance with specifications and provisions regarding use of tropical hardwoods as detailed in §165 State Finance Law. Any such use must meet with the approval of the State; otherwise, the bid may not be considered responsive. Under bidder certifications, proof of qualification for exemption will be the responsibility of the Contractor to meet with the approval of the State.

19. MACBRIDE FAIR EMPLOYMENT PRINCIPLES. In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), the Contractor hereby stipulates that the Contractor either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165 of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.

20. OMNIBUS PROCUREMENT ACT OF 1992. It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business
30 South Pearl St -- 7th Floor
Albany, New York 12245
Telephone: 518-292-5220
Fax: 518-292-5884
<http://www.empire.state.ny.us>

A directory of certified minority and women-owned business enterprises is available from:

NYS Department of Economic Development
Division of Minority and Women's Business Development
30 South Pearl St -- 2nd Floor
Albany, New York 12245
Telephone: 518-292-5250
Fax: 518-292-5803
<http://www.empire.state.ny.us>

The Omnibus Procurement Act of 1992 requires that by signing this bid proposal or contract, as applicable, Contractors certify that whenever the total bid amount is greater than \$1 million:

(a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon request to the State;

(b) The Contractor has complied with the Federal Equal Opportunity Act of 1972 (P.L. 92-261), as amended;

(c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Service Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The Contractor agrees to document these efforts and to provide said documentation to the State upon request; and

(d) The Contractor acknowledges notice that the State may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with the State in these efforts.

21. RECIPROCITY AND SANCTIONS PROVISIONS. Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act 1994 and 2000 amendments (Chapter 684 and Chapter 383, respectively) require that they be denied contracts which they would otherwise obtain. NOTE: As of May 15, 2002, the list of discriminatory jurisdictions subject to this provision includes the states of South Carolina, Alaska, West Virginia, Wyoming, Louisiana and Hawaii. Contact NYS Department of Economic Development for a current list of jurisdictions subject to this provision.

22. PURCHASES OF APPAREL. In accordance with State Finance Law 162 (4-a), the State shall not purchase any apparel from any vendor unable or unwilling to certify that: (i) such apparel was manufactured in compliance with all applicable labor and occupational safety laws, including, but not limited to, child labor laws, wage and hours laws and workplace safety laws, and (ii) vendor will supply, with its bid (or, if not a bid situation, prior to or at the time of signing a contract with the State), if known, the names and addresses of each subcontractor and a list of all manufacturing plants to be utilized by the bidder.

APPENDIX B
(For DER Superfund/BOA Contracts)
Standard Clauses for All New York State Department
of Environmental Conservation Contracts

The parties to the attached contract, license, lease, grant, amendment or other agreement of any kind (hereinafter "the contract" or "this contract") agree to be bound by the following clauses which are hereby made a part of the contract. The word "Contractor" herein refers to any party to the contract, other than the New York State Department of Environmental Conservation (hereinafter "Department").

I. Postponement, suspension, abandonment or termination by the Department: The Department shall have the right to postpone, suspend, abandon or terminate this contract, and such actions shall in no event be deemed a breach of contract. In the event of any termination, postponement, delay, suspension or abandonment, the Contractor shall immediately stop work, take steps to incur no additional obligations, and to limit further expenditures. Within 15 days of receipt of notice, the Contractor shall deliver to the Department all data, reports, plans, or other documentation related to the performance of this contract, including but not limited to source codes and specifications, guarantees, warranties, as-built plans and shop drawings. In any of these events, the Department shall make settlement with the Contractor upon an equitable basis as determined by the Department which shall fix the value of the work which was performed by the Contractor prior to the postponement, suspension, abandonment or termination of this contract. This clause shall not apply to this contract if the contract contains other provisions applicable to postponement, suspension or termination of the contract.

II. Indemnification and Holdharmless The Contractor agrees that it will indemnify and save harmless the Department and the State of New York from and against all losses from claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against it by reason of any acts or omissions of the Contractor, its agents, employees, or subcontractors in the performance of this contract which are shown to have been the result of negligence, gross negligence or reckless, wanton or intentional misconduct.

III. Conflict of Interest (a) Organizational Conflict of Interest. To the best of the Contractor's knowledge and belief, the Contractor warrants that there are no relevant

facts or circumstances which could give rise to an organizational conflict of interest, as herein defined, or that the Contractor has disclosed all such relevant information to the Department.

(1) An organizational conflict of interest exists when the nature of the work to be performed under this contract may, without some restriction on future activities, impair or appear to impair the Contractor's objectivity in performing the work for the Department.

(2) The Contractor agrees that if an actual, or potential organizational conflict of interest is discovered at any time after award, whether before or during performance, the Contractor will immediately make a full disclosure in writing to the Department. This disclosure shall include a description of actions which the Contractor has taken or proposes to take, after consultation with the Department, to avoid, mitigate, or minimize the actual or potential conflict.

(3) To the extent that the work under this contract requires access to personal, proprietary or confidential business or financial data of persons or other companies, and as long as such data remains proprietary or confidential, the Contractor shall protect such data from unauthorized use and disclosure and agrees not to use it to compete with such companies.

(b) Personal Conflict of Interest: The following provisions with regard to management or professional level employee personnel performing under this contract shall apply until the earlier of the termination date of the affected employee(s) or the duration of the contract.

(1) A personal conflict of interest is defined as a relationship of an employee, subcontractor employee, or consultant with an entity that may impair or appear to impair the objectivity of the employee, subcontractor employee, or consultant in performing the contract work. The Contractor agrees to notify the Department immediately of any actual, or potential personal conflict of interest with regard to any such person working on or having access to information regarding this contract, as soon as Contractor becomes aware of such conflict. The Department will notify the Contractor of the appropriate action to be taken.

(2) The Contractor agrees to advise all management or professional level employees involved in the work of this contract, that they must report any personal conflicts of interest to the Contractor. The Contractor must then advise the Department which will advise the Contractor of the appropriate action to be taken.

(3) Unless waived by the Department, the Contractor shall certify annually that, to the best of the Contractor's knowledge and belief, all actual, apparent or potential conflicts of interest, both personal and organizational, as defined herein, have been reported to the Department. Such certification must be signed by a senior executive of the Contractor and submitted in accordance with instructions provided by the Department. Along with the annual certification, the Contractor shall also submit an update of any changes in any conflict of interest plan submitted with its proposal for this contract. The initial certification shall cover the one-year period from the date of contract award, and all subsequent certifications shall cover successive annual periods thereafter. The certification is to be submitted no later than 45 days after the close of the previous certification period covered.

(4) In performing this contract, the Contractor recognizes that its employees may have access to data, either provided by the Department or first generated during contract performance, of a sensitive nature which should not be released without Department approval. If this situation occurs, the Contractor agrees to obtain confidentiality agreements from all affected employees working on requirements under this contract including subcontractors and consultants. Such agreements shall contain provisions which stipulate that each employee agrees not to disclose, either in whole or in part, to any entity external to the Department, Department of Health or the New York State Department of Law, any information or data provided by the Department or first generated by the Contractor under this contract, any site-specific cost information, or any enforcement strategy without first obtaining the written permission of the Department. If a Contractor, through an employee or otherwise, is subpoenaed to testify or produce documents, which could result in such disclosure, the Contractor must provide immediate advance notification to the Department so that the Department can authorize such disclosure or have the opportunity to take action to prevent such disclosure. Such agreements shall be effective for the life of the contract and for a period of five (5) years after completion of the contract.

(c) Remedies - The Department may terminate this contract in whole or in part, if it deems such termination

necessary to avoid an organizational or personal conflict of interest, or an unauthorized disclosure of information. If the Contractor fails to make required disclosures or misrepresents relevant information to the Department, the Department may terminate the contract, or pursue such other remedies as may be permitted by the terms of Clause I of this Appendix or other applicable provisions of this contract regarding termination.

(d) The Contractor will be ineligible to make a proposal or bid on a contract for which the Contractor has developed the statement of work or the solicitation package

(e) The Contractor agrees to insert in each subcontract or consultant agreement placed hereunder (except for subcontracts or consultant agreements for well drilling, fence erecting, plumbing, utility hookups, security guard services, or electrical services) provisions which shall conform substantially to the language of this clause, including this paragraph (e), unless otherwise authorized by the Department.

If this is a contract for work related to action at an inactive hazardous waste site, the following paragraph shall apply to those Contractors whose work requires the application of professional judgment: It does not apply to construction contracts.

(f) Due to the scope and nature of this contract, the Contractor shall observe the following restrictions on future hazardous waste site contracting for the duration of the contract.

(1) The Contractor, during the life of the work assignment and for a period of three (3) years after the completion of the work assignment, agrees not to enter into a contract with or to represent any party with respect to any work relating to remedial activities or work pertaining to a site where the Contractor previously performed work for the Department under this contract without the prior written approval of the Department.

(2) The Contractor agrees in advance that if any bids/proposals are submitted for any work for a third party that would require written approval of the Department prior to entering into a contract because of the restrictions of this clause, then the bids/proposals are submitted at the Contractor's own risk, and no claim shall be made against the Department to recover bid/proposal costs as a direct cost whether the request for authorization to enter into the contract is denied or approved.

IV. **Requests for Payment** All requests for payment

by the Contractor must be submitted on forms supplied and approved by the Department. Each payment request must contain such items of information and supporting documentation as are required by the Department, and shall be all-inclusive for the period of time covered by the payment request.

V. Compliance with Federal

requirements To the extent that federal funds are provided to the Contractor or used in paying the Contractor under this contract, the Contractor agrees that it will comply with all applicable federal laws and regulations, including but not limited to those laws and regulations under which the Federal funds were authorized. The Contractor further agrees to insert in any subcontract hereunder, provisions which shall conform substantially to the language of this clause.

VI. Independent Contractor The Contractor shall have the status of an independent contractor. Accordingly, the Contractor agrees that it will conduct itself in a manner consistent with such status, and that it will neither hold itself out as, nor claim to be, an officer or employee of the Department by reason of this contract. It further agrees that it will not make any claim, demand or application to the Department for any right or privilege applicable to an officer or employee of the Department, including but not limited to worker's compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit.

VII. Article 15-A Requirements The terms contained in this clause shall have the definitions as given in, and shall be construed according to the intent of Article 15-A of the Executive Law, 5 NYCRR Part 140, et. seq., Article 52 of the Environmental Conservation Law and 6 NYCRR Part 615, et. seq., as applicable, and any goals established by this clause are subject to the intent of such laws and regulations.

(a) If the maximum contract price herein equals or exceeds \$25,000, and this contract is for labor, services, supplies, equipment, or materials; or

(b) If the maximum contract price herein equals or exceeds \$100,000 and this contract is for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; then

(c) The affirmative action provisions and equal employment opportunity provisions contained in this paragraph and paragraphs (d) and (e) of this clause shall be applicable within the limitations established by

Executive Law §§312 and 313 and the applicable regulations.

(1) The Contractor is required to make good faith efforts to subcontract at least ____% of the dollar value of this contract to Minority Owned Business Enterprises (MBEs) and at least ____% of such value to Women Owned Business Enterprises (WBEs).

(2) The Contractor is required to make good faith efforts to employ or contractually require any Subcontractor with whom it contracts to make good faith efforts to employ minority group members for at least ____% of, and women for at least ____% of, the workforce hours required to perform the work under this contract.

(3) The Contractor is required to make good faith efforts to solicit the meaningful participation by enterprises identified in the NYS Directory of Certified Businesses provided by:

Empire State Development Corp.
Div. Minority & Women's Business Development
30 South Pearl Street
Albany, New York 12245

Phone: (518) 292-5250

Fax: (518) 292-5803

and

Empire State Development Corp.

633 Third Avenue

New York, NY 10017

Phone: (212) 803-2414

Fax: (212) 803-3223

internet: www.empire.state.ny.us/esd.htm

(d) The Contractor agrees to include the provisions set forth in paragraphs (a), (b) and

(c) above and paragraphs (a), (b), and (c) of clause 12 of Appendix A in every subcontract in such a manner that the provisions will be binding upon each Subcontractor as to work under such subcontract. For the purpose of this paragraph, a "subcontract" shall mean an agreement providing for a total expenditure in excess of \$25,000 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon in which a portion of the Contractor's obligation under a State contract is undertaken or assumed.

(e) The Contractor is required to make good faith efforts to utilize the MBE/WBEs identified in the utilization plan to the extent indicated in such plan, and otherwise to implement it according to its terms. The Contractor is requested to report on such

implementation periodically as provided by the contract, or annually, whichever is more frequent.

VIII. Compliance with applicable laws

(a) Prior to the commencement of any work under this contract, the Contractor is required to meet all legal requirements necessary in the performance of the contract. This includes but is not limited to compliance with all applicable federal, state and local laws and regulations promulgated thereunder. It is the Contractor's responsibility to obtain any necessary permits, or other authorizations. By signing this contract, the Contractor affirmatively represents that it has complied with said laws, unless it advises the Department otherwise, in writing. The Department signs this contract in reliance upon this representation.

(b) During the term of this contract, and any extensions thereof, the Contractor must remain in compliance with said laws. A failure to notify the Department of noncompliance of which the Contractor was or should have been aware, may be considered a material breach of this contract.

IX. **Dispute Resolution** The parties agree to the following steps, or as many as are necessary to resolve disputes between the Department and the Contractor.

(a) The Contractor specifically agrees to submit, in the first instance, any dispute relating to this contract to the designated individual, who shall render a written decision and furnish a copy thereof to the Contractor.

(1) The Contractor must request such decision in writing no more than fifteen days after it knew or should have known of the facts which are the basis of the dispute.

(2) The decision of the designated individual shall be the final agency determination, unless the Contractor files a written appeal of that decision with the designated appeal individual ("DAI") within twenty days of receipt of that decision.

(b) Upon receipt of the written appeal, the DAI, will review the record and decision. Following divisional procedures in effect at that time, the DAI will take one of the following actions, with written notice to the Contractor.

(1) Remand the matter to the program staff for further negotiation or information if it is determined that the matter is not ripe for review; or

(2) Determine that there is no need for further action, and that the determination of the designated individual is confirmed; or

(3) Make a determination on the record as it exists.

(c) The decision of the DAI shall be the final agency decision unless the Contractor files a written appeal of that decision with the Chair of the Contract Review Committee ("CRC") within twenty days of receipt of that decision.

The designated individual to hear disputes is:

(Name and Title)

(Address)

(Telephone)

The designated appeal individual to review decisions is:

(Name and Title)

(Address)

(Telephone)

The Chair of the Contract Review Committee is:

Department of Environmental Conservation
Nancy W. Lussier, Chair
Contract Review Committee
625 Broadway, 10th Floor
Albany, NY 12233-5010
Telephone: (518) 402-9228

(d) Upon receipt of the written appeal, the Chair of the CRC, in consultation with the members of the CRC and the Office of General Counsel, will take one of the following actions, or a combination thereof, with written notice to the Contractor.

(1) Remand the matter to program staff for additional fact finding, negotiation, or other appropriate action; or

- (2) Adopt the decision of the DAI; or
- (3) Consider the matter for review by the CRC in accordance with its procedures.
- (e) Following a decision to proceed pursuant to (d) 3, above, the Chair of the CRC shall convene a proceeding in accordance with the CRC's established contract dispute resolution guidelines. The proceeding will provide the Contractor with an opportunity to be heard.
- (f) Following a decision pursuant to (d) 2 or (d) 3, the CRC shall make a written recommendation to the Assistant Commissioner for Administration who shall render the final agency determination.
- (g) At any time during the dispute resolution process, and upon mutual agreement of the parties, the Office of Hearings and Mediation Services (OHMS) may be requested to provide mediation services or other appropriate means to assist in resolving the dispute. Any findings or recommendations made by the OHMS will not be binding on either party.
- (h) Final agency determinations shall be subject to review only pursuant to Article 78 of the Civil Practice Law and Rules.
- (i) Pending final determination of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Contract in accordance with the decision of the designated individual. Nothing in this Contract shall be construed as making final the decision of any administrative officer upon a question of law.
- (j) (1) Notwithstanding the foregoing, at the option of the Contractor, the following shall be subject to review by the CRC: Disputes arising under Article 15-A of the Executive Law (Minority and Women Owned Business participation), the Department's determination with respect to the adequacy of the Contractor's Utilization Plan, or the Contractor's showing of good faith efforts to comply therewith. A request for a review before the CRC should be made, in writing, within twenty days of receipt of the Department's determination.
- (2) The CRC will promptly convene a review in accordance with Article 15-A of the Executive Law and the regulations promulgated thereunder.

X. Labor Law Provisions

- (a) When applicable, the Contractor shall post, in a

location designated by the Department, a copy of the New York State Department of Labor schedules of prevailing wages and supplements for this project, a copy of all re-determinations of such schedules for the project, the Workers' Compensation Law Section 51 notice, all other notices required by law to be posted at the site, the Department of Labor notice that this project is a public work project on which each worker is entitled to receive the prevailing wages and supplements for their occupation, and all other notices which the Department directs the Contractor to post. The Contractor shall provide a surface for such notices which is satisfactory to the Department. The Contractor shall maintain such notices in a legible manner and shall replace any notice or schedule which is damaged, defaced, illegible or removed for any reason. Contractor shall post such notices before commencing any work on the site and shall maintain such notices until all work on the site is complete.

(b) When appropriate, contractor shall distribute to each worker for this Contract a notice, in a form provided by the Department, that this project is a public work project on which each worker is entitled to receive the prevailing wage and supplements for the occupation at which he or she is working. Worker includes employees of Contractor and all Subcontractors and all employees of suppliers entering the site. Such notice shall be distributed to each worker before they start performing any work of this contract. At the time of distribution, Contractor shall have each worker sign a statement, in a form provided by the Department, certifying that the worker has received the notice required by this section, which signed statement shall be maintained with the payroll records required by the following paragraph (c).

(c) Contractor shall maintain on the site the original certified payrolls or certified transcripts thereof which Contractor and all of its Subcontractors are required to maintain pursuant to the New York Labor Law Section 220. Contractor shall maintain with the payrolls or transcripts thereof, the statements signed by each worker pursuant to paragraph (b).

(d) Within thirty days of issuance of the first payroll, and every thirty days thereafter, the Contractor and every subcontractor must submit a transcript of the original payroll to the Department, which transcript must be subscribed and affirmed as true under penalty of perjury.

XI. Offset In accordance with State Law, the Department has the authority to administratively offset

any monies due it from the Contractor, from payments due to the Contractor under this contract. The Department may also (a) assess interest or late payment charges, and collection fees, if applicable; (b) charge a fee for any dishonored check; (c) refuse to renew certain licenses and permits.

XII. Tax Exemption Pursuant to Tax Law Section 1116, the State is exempt from sales and use taxes. A standard state voucher is sufficient evidence thereof. For federal excise taxes, New York's registration Number 14740026K covers tax-free transactions under the Internal Revenue Code.

XIII. Litigation Support In the event that the Department becomes involved in litigation related to the subject matter of this contract, the Contractor agrees to provide background support and other litigation support, including but not limited to depositions, appearances, and testimony. Compensation will be negotiated and based on rates established in the contract, or as may otherwise be provided in the contract.

XIV. Equipment Any equipment purchased with funds provided under this contract, shall remain the property of the Department, unless otherwise provided in the contract. The Contractor shall be liable for all costs for maintaining the property in good, usable condition. It shall be returned to the Department upon completion of the contract, in such condition, unless the Department elects to sell the equipment to the Contractor, upon mutually agreeable terms.

XV. Inventions or Discoveries Any invention or discovery first made in performance of this Contract shall be the property of the Department, unless otherwise provided in the contract. The Contractor agrees to provide the Department with any and all materials related to this property. At the Department's option, the Contractor may be granted a non-exclusive license.

XVI. Patent and Copyright Protection If any patented or copyrighted material is involved in or results from the performance of this Contract, this Article shall apply.

(a) The Contractor shall, at its expense, defend any suit instituted against the Department and indemnify the Department against any award of damages and costs made against the Department by a final judgment of a court of last resort based on the claim that any of the products, services or consumable supplies furnished by the Contractor under this Contract infringes any patent,

copyright or other proprietary right; provided the Department gives the Contractor:

(1) prompt written notice of any action, claim or threat of infringement suit, or other suit, and

(2) the opportunity to take over, settle or defend such action at the Contractor's sole expense, and

(3) all available information, assistance and authority necessary to the action, at the Contractor's sole expense.

The Contractor shall control the defense of any such suit, including appeals, and all negotiations to effect settlement, but shall keep the Department fully informed concerning the progress of the litigation.

(b) If the use of any item(s) or parts thereof is held to infringe a patent or copyright and its use is enjoined, or Contractor believes it will be enjoined, the Contractor shall have the right, at its election and expense to take action in the following order of precedence:

(1) procure for the Department the right to continue using the same item or parts thereof;

(2) modify the same so that it becomes non-infringing and of at least the same quality and performance;

(3) replace the item(s) or parts thereof with noninfringing items of at least the same quality and performance;

(4) if none of the above remedies are available, discontinue its use and eliminate any future charges or royalties pertaining thereto. The Contractor will buy back the infringing product(s) at the State's book value, or in the event of a lease, the parties shall terminate the lease. If discontinuation or elimination results in the Contractor not being able to perform the Contract, the Contract shall be terminated.

(c) In the event that an action at law or in equity is commenced against the Department arising out of a claim that the Department's use of any item or material pursuant to or resulting from this Contract infringes any patent, copyright or proprietary right, and such action is forwarded by the Department to the Contractor for defense and indemnification pursuant to this Article, the Department shall copy all pleadings and documents forwarded to the Contractor together with the forwarding correspondence and a copy of this Contract to the Office of the Attorney General of the

State of New York. If upon receipt of such request for defense, or at any time thereafter, the Contractor is of the opinion that the allegations in such action, in whole or in part, are not covered by the indemnification set forth in this Article, the Contractor shall immediately notify the Department and the Office of the Attorney General of the State of New York in writing and shall specify to what extent the Contractor believes it is and is not obligated to defend and indemnify under the terms and conditions of this Contract. The Contractor shall in such event protect the interests of the Department and State of New York and secure a continuance to permit the State of New York to appear and defend its interests in cooperation with Contractor as is appropriate, including any jurisdictional defenses which the Department and State shall have.

(d) The Contractor shall, however, have no liability to the Department under this Article if any infringement is based upon or arises out of: (1) compliance with designs, plans, or specifications furnished by or on behalf of the Department as to the items; (2) alterations of the items by the Department; (3) failure of the Department to use updated items provided by the Contractor for avoiding infringement; (4) use of items in combination with apparatus or devices not delivered by the Contractor; (5) use of items in a manner for which the same were neither designed nor contemplated; or (6) a patent or copyright in which the Department or any affiliate or subsidiary of the Department has any direct or indirect interest by license or otherwise.

(e) The foregoing states the Contractor's entire liability for, or resulting from, patent or copyright infringement or claim thereof.

XVII. Force Majeure The term Force Majeure shall include acts of God, work stoppages due to labor disputes or strikes, fires, explosions, epidemics, riots, war rebellion, sabotage or the like. If a failure of or delay in performance by either party results from the occurrence of a Force Majeure event, the delay shall be excused and the time for performance extended by a period equivalent to the time lost because of the Force majeure event, if and to the extent that:

(a) The delay or failure was beyond the control of the party affected and not due to its fault or negligence; and

(b) The delay or failure was not extended because of the affected party's failure to use all reasonable diligence to overcome the obstacle or to resume performance immediately after such obstacle was overcome; and

(c) The affected party provides notice within (5) days of the onset of the event, that it is invoking the protection of this provision.

XVIII. Freedom of Information Requests The Contractor agrees to provide the Department with any records which must be released in order to comply with a request pursuant to the Freedom of Information Law. The Department will provide the contractor with an opportunity to identify material which may be protected from release and to support its position.

XIX. Precedence In the event of a conflict between the terms of this Appendix B and the terms of the Contract (including any and all attachments thereto and amendments thereof, but not including Appendix A), the terms of this Appendix B shall control. In the event of a conflict between the terms of this Appendix B, and the terms of Appendix A, the terms of Appendix A shall control.

SECTION VIII

General Conditions

ARTICLE 1 - Preliminary Matters

Copies of Documents:

- 1.1 **Department** shall furnish to **Contractor** without charge up to ten copies of the Contract Documents. Additional copies of the Contract Documents will be furnished, upon request, at the cost of reproduction.

Preconstruction Conference:

- 1.2 No later than twenty days after the Effective Date of the Agreement, but before **Contractor** starts the Work, a conference will be held on a date and at a location set by **Department** to:
 - 1.2.1 Review, item by item, the requirements of this Article;
 - 1.2.2 Review the qualifications of **Contractor's** resident superintendent and the qualifications of any Subcontractors and Suppliers of **Contractor**;
 - 1.2.3 Discuss **Contractor's** plans for complying with the requirements of Article 5 of the General Conditions;
 - 1.2.4 Formalize procedures for processing of Administrative Agreements, Payment Applications, Shop Drawings and other submittals, Change Orders and Proposed Change Orders, and **Contractor** requests for clarifications and interpretation of Contract Documents;
 - 1.2.5 Establish a working understanding among the parties as to the Work; and
 - 1.2.6 Discuss any conflicts, errors or discrepancies that **Contractor** has discovered by review of the Contract Documents.

Commencement of Contract Time and Start of Work at Site:

- 1.3 Before starting, **Contractor** shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. **Contractor** shall immediately report in writing to **Engineer** any conflict, error or discrepancy which **Contractor** may discover and shall obtain a written interpretation or clarification from **Engineer** before proceeding with any Work affected thereby.
- 1.4 Before a **Contractor** may commence Work on the site but no later than 10 days after Notice of Award, **Contractor** shall submit to **Engineer** for review and acceptance:
 - 1.4.1 An interim progress schedule indicating **Contractor's** anticipated schedule for the Work for the first three months in detail and for the remainder of the Work in summary form. If **Contractor** doesn't intend to perform Work on the date when Contract Time commences, **Contractor** must notify **Department** as soon as possible in writing when work will commence so inspection services can be scheduled to minimize cost to the **Department**. The

interim progress schedule shall include the information specified in paragraphs 1.4.2 and 1.4.3.

- 1.4.2 An interim schedule of Shop Drawing, material, soil characteristic, sample collection and analytical test result submissions covering the various stages of Work detailed in the first three months of the interim Progress Schedule; and
 - 1.4.3 An interim schedule of values on the form provided by **Engineer** covering the various stages of Work detailed in the first three months of the interim Progress Schedule. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by **Contractor** at the time of submission.
- 1.5 **Contractor** shall start to perform the Work on the date specified in the Notice to Proceed in a manner consistent with the Contract Documents. No Work shall be done prior to the date specified in the Notice to Proceed unless written permission to do so is given by the **Department** to the **Contractor**.

Finalizing Interim Schedules:

- 1.6 **Contractor** shall submit a proposed progress schedule to finalize the interim schedules submitted in accordance with paragraph 1.4 and the requirements of the Progress Schedule Section of the Standard Specification no later than twenty days after starting work at the site. The progress schedule shall be acceptable to **Engineer** and **Department** as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will not relieve **Contractor** from full responsibility for the progress or scheduling of the Work. The schedule of Shop Drawing, material, soil characteristic, sample collection, and analytical test results submissions shall be acceptable to **Engineer** and **Department** as providing a workable arrangement for processing the submissions. The schedule of values shall be acceptable to **Engineer** and **Department** as to form and substance. The first Application for Payment shall not be processed unless **Contractor** has submitted acceptable schedules.

ARTICLE 2 - Contract Documents: Intent, Amending, Reuse

Intent:

- 2.1 The Contract Documents comprise the entire agreement between **Department** and **Contractor** concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all.
- 2.2 The Contract Documents describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any work, materials or equipment that may be necessary to satisfactorily complete the contract must be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment, such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or Laws in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), even though reference may be specifically made to an earlier standard. If there is any conflict or discrepancy between standard specifications, manuals, or codes of any technical society, organization or association, or between Laws, the **Engineer** shall determine which shall apply and shall be binding on **Contractor**. **Contractor** has a duty to comply with the latest standard specification, manual, code, or Laws in effect at the time of opening of bids, without any increase in Contract Price or extension in Contract Time. Clarifications and interpretations of the Contract Documents shall be issued by **Engineer** as provided in paragraph 8.4. However, no provision

of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of **Department, Contractor or Engineer** or any of their consultants, agents or employees from those set forth in the Contract Documents. If there is any conflict or discrepancy between the provisions of the Contract Documents and any such referenced standard specification, manual, or code of any technical society, organization or association, the provisions of the Contract Documents will take precedence.

- 2.3 If during the performance of the Work, **Contractor** finds a conflict, error or discrepancy in the Contract Documents, **Contractor** shall so report to **Engineer** in writing at once and before proceeding with the Work affected thereby, and shall obtain a written interpretation or clarification.

Engineer will promptly investigate the matter and respond to **Contractor**. Until such interpretation or clarification is obtained from **Engineer**, any Work done by **Contractor** after the discovery of such a conflict, error or discrepancy, which is directly or indirectly affected by same, will be at **Contractor's** own risk and **Contractor** shall bear all cost arising therefrom. In resolving such conflicts, errors or discrepancies, the Contract Documents shall be given preference in the following order:

- 2.3.1 First, in accordance with the order of preference stated in the conflicting parts of the Contract Documents as provided by Article 4 of the Agreement;
- 2.3.2 In all cases, figured dimensions shall govern over scaled dimensions, but Work not dimensioned shall be as directed, and Work not particularly shown, identified, sized, or located shall be the same as similar parts that are shown or specified. Detail Drawings shall govern over general Drawings, larger scale Drawings take precedence over smaller scale Drawings, Change Order or Proposed Change Order Drawings govern over Contract Drawings, and approved Shop Drawings govern over Contract Drawings. Specifications shall govern as to products, execution and workmanship, and Drawings shall govern as to locations, dimensions, or quantities to be furnished. Further, in all cases where specifications, notes or details in two or more Specifications, or in two or more Drawings, conflict, the requirement calling for the larger quantities, or higher quality product or workmanship shall prevail and be binding on **Contractor**, unless otherwise directed by **Engineer**.

Amending and Supplementing Contract Documents:

- 2.4 The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways as defined in Section 2, "Terms and Definitions."
- 2.4.1 An Administrative Agreement,
- 2.4.2 A Change Order (pursuant to Article 9), or
- 2.4.3 A Proposed Change Order signed by **Department** (pursuant to Article 9).

Contract Price and Contract Time may only be changed by a Change Order.

- 2.5 In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, not involving an adjustment in Contract Price or Contract Time, in one or more of the following ways:
- 2.5.1 A Field Order (pursuant to Article 8.4),
- 2.5.2 **Engineer's** approval of a Shop Drawing or sample (pursuant to Article 5.23 thru 5.29), or

2.5.3 **Engineer's** written interpretation or clarification (pursuant to Article 8.3).

Reuse of Documents:

- 2.6 Neither **Contractor** nor any Subcontractor or Supplier or other person or organization shall have or acquire any title to or ownership rights in any of the Drawings, specifications or other documents (or copies of any thereof) prepared by or bearing the seal of **Engineer** or **Design Engineer** ; and they shall not reuse any of them on extensions of the Project or any other project without the written consent of **Engineer** or, and **Department**.

ARTICLE 3 - Availability of Lands; Physical Conditions; Reference Points

Availability of Lands:

- 3.1 As indicated in the Contract Documents, **Department** shall make available the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands as are designated for the use of **Contractor**. Easements or other authority for permanent structures or permanent changes in existing facilities will be obtained and paid for by **Department**, unless otherwise provided in the Contract Documents. If **Contractor** believes that any delay in **Department's** furnishing of these lands or easements entitles **Contractor** to an extension of the Contract Time, **Contractor** may make a request therefore as provided in Article 10 of the General Conditions. If **Department** and **Contractor** are unable to agree concerning such an extension, a claim may be made as provided in Articles 9, 10 and 11 of the General Conditions.
- 3.2 Any lands and easements for access not furnished by **Department** which **Contractor** deems necessary for the Work, including but not limited to requirements for temporary construction facilities, access and egress, or for storage of materials, shall be provided by **Contractor** at no increase in Contract Price nor extension in Contract Time. **Contractor** shall obtain all necessary permits and written approvals from the appropriate jurisdictional agencies and property owner(s) for use of premises not furnished by **Department** as described above, and for the use of all off-site areas needed for the Work including but not limited to off-site borrow pits, and waste and disposal areas. If permits and approvals do not specify the required treatment, if any, of said areas during and at the completion of the Work, the Progress Schedule must describe such treatment. Copies of all permits and approvals applicable to said areas shall be filed with the **Engineer** before utilization of any said areas. **Contractor** shall have sole responsibility for any property damage or personal injuries occasioned by an act or omission of **Contractor** in respect to all lands, and easements obtained pursuant to this paragraph.
- 3.3 Engineering survey horizontal and vertical control reference points for construction which are specified in the Contract Documents or which in **Engineer's** judgment are necessary to enable **Contractor** to proceed with the Work, will be provided by **Department**. **Contractor** shall be responsible for laying out the Work using such reference points, shall protect and preserve the established reference points; and shall make no changes or relocations without the prior written approval of **Engineer**. **Contractor** shall notify **Engineer** in writing whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations; and shall be responsible for the accurate replacement or relocation of such reference points by a professionally qualified surveyor at **Contractor's** expense.

Physical Conditions and Existing Structures:

- 3.4 **Explorations and Reports:** Reference is made to the Supplementary Bidding Information and Requirements for identification of those reports of explorations and tests of conditions at the site that have been utilized by **Design Engineer** in preparation of the Contract Documents; and for identification

of those drawings of physical conditions in or relating to existing surface structures (except Underground Facilities referred to in paragraphs 3.6 and 3.7) which are at or contiguous to the site that have been utilized by **Design Engineer** in preparation of the Contract Documents. **Contractor** may rely upon the accuracy of the technical data contained in such reports, as to the location where and at the point in time when data was obtained, but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof for **Contractor's** purposes. Except as indicated in the Bidding Information and Requirements Section and in paragraphs 3.11 and 3.12, **Contractor** shall have full responsibility with respect to subsurface conditions which **Contractor** could reasonably expect or foresee by reason of the technical data and **Contractor's** inspection of the site, and with respect to physical conditions in or relating to such surface structures.

3.5 Intentionally left blank.

Physical Conditions - Underground Facilities Shown or Indicated:

3.6 The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to the **Design Engineer** by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

3.6.1 **Department** shall not be responsible for the accuracy or completeness of any such information or data; and,

3.6.2 **Contractor** shall have responsibility: a) for reviewing and checking all such information and data; b) for locating all Underground Facilities shown or indicated in the Contract Documents as to depth and alignment in advance of installations, backfilling or other work required by the Contract Documents; c) for coordination of the Work with the owners of such Underground Facilities during construction, d) for the safety and protection thereof, and e) for repairing any damage thereto resulting from the Work. The cost of and the time required to perform the responsibilities outlined in this paragraph will be considered as having been included in the Contract Price and in **Contractor's** schedule for the performance of the Work within the prescribed Contract Time(s) and **Contractor** shall not be entitled to additional payment therefor.

3.6.3 **Contractor** shall excavate and uncover all Underground Facilities to be crossed or paralleled by the proposed Work a sufficient time in advance to permit change in line and grade of the existing Underground Facility or the proposed Work if the location of the existing Underground Facility should interfere with the Work. Further, at a reasonable interval of time, up to thirty days, will be allowed to **Engineer** and **Department** in order to resolve issues relating to Underground Facilities shown or indicated which are determined to interfere with the Work. This interval of time will be considered as having been included in the Contract Price and in **Contractor's** schedule for the performance of the Work within the Contract Time unless otherwise agreed to in writing by **Department**. If more than thirty days is consumed in resolving such issues, no claim will be allowed unless: 1) **Contractor** has given the notice required in paragraph 3.7 of the General Conditions, and 2) within fifteen days thereafter, **Contractor** has submitted to **Department** a written Proposed Change Order claim in accordance with the requirement of Article 9, 10 and 11 of the General Conditions and the Standard Specifications.

3.6.4 Where it is necessary for the Work to be close to or between other underground facilities or structures for short distances, **Contractor** shall shore, block, and protect the other underground facilities or structures to the satisfaction of the utility agency, state agency,

municipality or private owner having ownership or jurisdiction over said underground facilities on structures.

- 3.6.5 Access to various municipal structures shall not be obstructed by **Contractor** to prevent use of hydrants, valves, manholes, fire alarms, etc. **Contractor** is to make no connections to existing water mains, or operate valves on existing mains, or otherwise interfere with the operation of the existing water distribution system, without first giving written notice to the owners of such municipal structures and securing their written approval of the proposed action.

Underground Facilities Not Shown or Indicated:

- 3.7 If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which **Contractor** could not reasonably have been expected to be aware of, **Contractor** shall promptly after learning thereof and before performing any Work affected thereby (except in an emergency as permitted by paragraph 5.22), identify the owner of such Underground Facility and give written notice of such uncovering to that owner and to **Engineer** and **Department**. **Engineer** and **Department** will promptly review the situation to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and take prompt action to amend the Contract Documents to the extent necessary. During such time, **Contractor** shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 5.20.
- 3.7.1 **Contractor** shall schedule excavation and uncovering Work to begin a sufficient time in advance to allow **Engineer's** review and the possible amendment to the Contract Documents if unanticipated Underground Facilities are discovered as described in paragraph 3.7. Further, up to thirty days, will be allowed to **Engineer** and **Department** to resolve issues and problems related to a report of newly discovered Underground Facilities, not shown or indicated. This interval of time will be considered as having been included in the Contract Price and in **Contractor's** schedule for the performance of the Work within the Contract Time and **Contractor** shall not be entitled to any additional payment therefor.
- 3.7.2 No claim by **Contractor** under paragraph 3.7 of the General Conditions will be allowed unless more than thirty days has elapsed and 1) **Contractor** has given the notice required in paragraph 3.7 of the General Conditions, and 2) within fifteen days thereafter, **Contractor** has submitted to **Department** a written Proposed Change Order claim in accordance with the requirements of Articles 9, 10 and 11 of the General Conditions, and the Standard Specifications.

Report of Differing Site Conditions:

- 3.8 If **Contractor** believes that any subsurface or physical condition uncovered or revealed at the site renders materially inaccurate any information in the Contract Documents or technical data on which **Contractor** was entitled to rely as provided in paragraph 3.4 or 3.6, **Contractor** shall, immediately after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 5.22), notify **Department** and **Engineer** in writing about the inaccuracy or difference to allow **Department** and **Engineer** to make any necessary changes to minimize the cost of the Work.
- 3.9 **Engineer's and Department's Review:** **Engineer** and **Department** will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto, and notify **Contractor** in writing of findings and conclusions. Immediately thereafter, **Department** shall perform or cause to be performed any necessary or appropriate additional investigations and tests with respect to the newly discovered conditions and furnish copies to **Contractor**.
- 3.10 **Possible Document Change:** If **Engineer** concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change in the Contract Documents is required, a Proposed Change Order or a Change Order will be issued as provided in Article 9 to reflect and document the consequences of the inaccuracy or difference, provided **Department** has not exercised its right to suspend or terminate under Article 14 of Section 8, "General Conditions", Appendix B, or Article 12 of Section 6 "Agreement."
- 3.11 **Possible Contract Adjustment:** An increase or decrease in the cost of, or the time required to perform any part of the Work, whether or not affected by such differing conditions, and a corresponding adjustment in Contract Price or Contract Time in accordance with Articles 9, 10 and 11 of the General Conditions, or any combination thereof, may be allowable to the extent that they are attributable to any such inaccuracy or difference which **Contractor** could not reasonably have been expected to anticipate or be aware of. If **Department** and **Contractor** are unable to agree as to the adjustment in Contract Price or Contract Time, or if **Engineer** concludes that there is not a material error in the Contract Documents, or that the uncovered or revealed condition could reasonably have been anticipated by **Contractor**, and **Contractor** disagrees, a claim may be made therefor as provided in Articles 9, 10 and 11 of the General Conditions.
- 3.12 No claim by **Contractor** under paragraph 3.11 of the General Conditions will be allowed unless: 1) **Contractor** has given the notice required in paragraph 3.8 of the General Conditions, and 2) within fifteen days thereafter, **Contractor** has submitted to **Department** a written Proposed Change Order substantiating in detail **Contractor's** proposed adjustments in accordance with the requirements of Articles 9, 10 and 11 of the General Conditions, and the Standard Specifications.
- 3.13 **Responsibilities and Allowances:** **Contractor** shall schedule excavation and uncovering of Work to begin a sufficient time in advance to allow **Engineer's** review as described in paragraph 3.9, and **Department's** issuance of a Change Order or a Proposed Change Order as described in paragraph 3.10 in connection with a report of differing conditions. Further, a reasonable interval of time, not less than thirty days will be allowed to **Engineer** and **Department** for those functions required to resolve any report of differing conditions. This interval of time will be considered as having been included in the Contract Price and in **Contractor's** schedule for the performance of the Work within the Contract Time. If more than thirty days is used, no claim will be allowed unless (1) **Contractor** has given the notice required in paragraph 3.8 of the General Conditions, and (2) within fifteen days thereafter, **Contractor** has submitted to **Department** a written Proposed Change Order claim in accordance with the requirements of Articles 9, 10 and 11 of the General Conditions, and the Standard Specifications.

ARTICLE 4 - Bonds and Insurance

Performance and Other Bonds:

- 4.1 **Contractor** shall furnish performance, labor and material payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all **Contractor's** obligations under the Contract Documents. These Bonds shall remain in effect until at least one year after the date when final payment is made, unless otherwise provided by Law or by the Contract Documents. **Contractor** shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall: a) be in the form prescribed by the Contract Documents; and b) be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and As Acceptable Reinsuring Companies" as published by the U.S. Treasury Department. Also the surety shall be licensed to do business in New York State. All Bonds signed by an agent must be accompanied by a certified true copy of the agent's power of attorney. **Contractor's** failure to submit and keep in effect a Bond or form of financial security acceptable to **Department** in the manner required by this paragraph shall be cause for termination. **Contractor** shall give written notice to **Department** and reference the site number and project name, if the surety on any Bond furnished by **Contractor** is declared bankrupt, becomes insolvent, its right to do business is involuntarily terminated by any state or federal agency, it ceases to meet the requirements of paragraph 4.1, **Contractor**, if required by **Department**, shall within fourteen days substitute another Bond or Surety, in an acceptable form of financial security. The top of all bonds shall have "NYSDEC-DER Site No."

If the provision of any bond requires that the surety be notified of any change in the Work, it shall be **Contractor's** responsibility to so notify the surety. **Contractor** shall furnish **Department** any modified bond.

Insurance - All Types:

- 4.2 **Contractor** shall purchase and maintain at its own expense the specific coverages and types of insurance set forth in this Article. 4.2 through 4.4.3 except as noted in 4.3.
- 4.2.1 **Contractor** shall not commence or continue to perform any work unless and until **Contractor** has in full force and effect all required insurance, and until **Contractor** has submitted true copies of all endorsements (i.e., amendments) and a copy of the Certificate of Insurance attached herein to **Department** evidencing the specific insurance coverage required. No payment for work performed shall become due and payable unless current certificates and endorsements have been received.
- 4.2.2 **Contractor** shall not permit any Subcontractor, Supplier or other person or organization to perform Work unless the following insurance requirements at a minimum have been complied with by such Subcontractor, Supplier or other person or organization and proof of the issuance of all policies of insurance has been delivered to **Contractor**.
- 4.2.2.1 Comprehensive general liability insurance providing coverage as herein required of **Contractor** including Contractors' Protective Liability Insurance, Completed Operations Insurance, Products Liability Insurance and Contractual Liability Insurance. Insurance must be project specific or contain an endorsement (i.e., amendment) in writing (including print or stamp) added to and made part of the insurance contract for the purpose of changing the original terms such that the general aggregate limit applies separately to each of **Contractor's** projects away from premises owned by or rented to **Contractor**.

Commercial General liability insurance with a limit of not less than \$1,000,000 each occurrence. Such liability shall be written on the Insurance Service Office's (ISO) liability arising from premises operations, independent contractors' operations, products-completed operations, broad form property damage, personal and advertising injury, cross liability coverage, liability assumed in a contract (including tort liability of another assumed in a contract) and explosion, collapse and underground coverage.

- Products and Completed Operations Coverage shall include a provision that coverage will extend for a period of at least twelve (12) months after the date of final completion and acceptance by the **Department** of all of **Contractor's** work.

4.2.2.2 Comprehensive Business automobile liability insurance with a limit of not less than \$1,000,000 with **Department** and **Engineer** listed as an additional insured.

4.2.2.3 Worker's Compensation, Employers Liability and Disability Benefits as required by State Law covering all employees doing work within New York State. If workers will be working on, or near navigable waters, US Longshore and Harbor Workers Compensation Act endorsement must be included. This contract shall be void and of no effect unless the contractor procures this policy and maintains it in effect until final acceptance of this work.

4.2.2.4 Owner's (**Department's**) and **Contractor's** Protective Liability Insurance issued to and in the name of The People of the State of New York, the **Department**, and the **Engineer** with limits not less than \$1,000,000 per occurrence.

4.2.2.5 **Pollution Liability Insurance:** If the work involves abatement, removal, repair, replacement, enclosure, encapsulation and/or disposal of any hazardous material or substance, the **Contractor** shall maintain in full force and effect throughout the Term, pollution legal liability insurance with limits of not less than \$1,000,000, providing coverage for bodily injury and property damage, including loss of use of damaged property or of property that has not been physically injured. Such policy shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants or in the investigation, settlement or defense of any claim, suit, or proceedings against the State of New York and/or the **Department** and/or the **Engineer**, arising from **Contractor's** work and list Department as an additional insured. Claims made policies shall have a one (1) year tail beyond the date **Department** determines physical completion.

- If coverage is written on claims-made policy, the **Contractor** warrants that any applicable retroactive date precedes the effective date of this Contract; and that continuous coverage will be maintained, or an extended discovery period exercised, for a period of not less than two years from the time work under this Contract is completed.

- 4.2.2.6 **Errors and Omissions:** If providing professional services, **Contractor** shall maintain, or if subcontracting professional services, shall certify that its subcontractor maintain errors and omissions liability insurance with a limit not less than \$1,000,000 per loss.
- Such insurance shall apply to professional errors, acts or omissions arising out of the scope of services covered by this contract and may not exclude bodily injury, property damage, pollution or asbestos related claims, testing, monitoring, measuring or laboratory analyses.
 - If coverage is written on a claims-made policy, the **Contractor** warrants that any applicable retroactive date precedes the effective date of this contract; and that continuous coverage will be maintained, or an extended discovery period exercised for a period not less than two years from the time the work under this contract is completed.
- 4.2.3 Insurance shall be issued by carriers licensed to do business in New York State. Each insurance carrier must be rated at least “A-” Class “VII” in the most recently published Best’s Insurance Report. If during the term of the policy, a carrier’s rating falls below “A-” Class VII, the insurance must be replaced no later than the renewal date of the policy, with an insurer acceptable to the **Department** and rated at least “A-” Class VII in the referenced report.
- 4.2.4 Acceptance by **Department** of the insurance provided by **Contractor** shall not relieve **Contractor** from liabilities, obligations, responsibilities or decrease the liabilities of **Contractor** hereunder. It is understood that **Department** does not in any way represent that the insurance or the limits of insurance specified in the Article is sufficient or adequate to protect **Contractor's** interests or liabilities, but are merely minima.
- 4.2.5 All insurance shall be maintained in full force and effect until the Contract has been fully and completely performed, as set forth in the Contract Documents. Completed operations insurance shall remain in effect until one year after the date of final acceptance of work under the contract, or one year after **Contractor** or any Subcontractor performs any work under the Contract, whichever is later. Should any coverage approach expiration during the period in which it must remain in full force and effect, it shall be renewed prior to its expiration, and a certificate again filed with **Department**. Also, any endorsements (i.e., amendments) which change insurance during the length of the contract shall also be submitted to **Department** for acceptance. All insurance policies shall require notice to **Department** 30 days prior to expiration, termination, or suspension of such policy, directed to the attention of **Department**. Expiration of any coverage shall be grounds for termination of contract for cause, at the option of **Department**. If any insurance provided hereunder contains an aggregate limit, the aggregate shall apply separately to this contract and shall not be less than \$2,000,000. **Department** may suspend or terminate this contract unless Contractor maintains in full force and effect, the types and amounts of insurance required by this contract. No later than thirty (30) days prior to the expiration or renewal date of policy the **Contractor** should supply replacement certificates of insurance.
- 4.2.6 **Contractor** shall deliver, if requested by **Department**, duplicate originals of each policy required by Contract Documents, as well as insurance policies of Subcontractors, in such number as **Department** may require, and such alternate or additional proof of coverage as **Department** demands. **Contractor** shall provide prompt, written notice to the Department and its insurer, of any claims made related to work done hereunder, in accordance with the insurance policy provisions.

- 4.2.7 Nothing contained in these insurance requirements shall be construed to limit the liability of **Contractor** or **Contractor's** insurance carriers.
- 4.3 **Additional Pollution Liability Insurance:** In addition, **Contractor** shall provide project specific Pollution Liability Insurance in an additional amount of not less than \$4,000,000, for a total of \$5,000,000, per claim if possible unless otherwise authorized in writing by the **Department**. If **Contractor** cannot obtain this additional level of coverage of \$4,000,000, the following documentation is required: written confirmation by **Contractor** from at least three insurance carriers. The cost of this additional pollution liability insurance will be reimbursed by **Department**. **Department** will determine if it is in **Department's** best interest to have this additional insurance.
- 4.4 If required by the Supplementary Conditions or Law, **Contractor** shall purchase and maintain at its own expense insurance otherwise deemed necessary by **Department** with **Department** listed as an additional insured.
- 4.4.1 Where special or unusual hazards peculiar to this contract are foreseeable, **Contractor** shall take such steps as are necessary to insure itself against such hazards and be responsible for any damage, including water, which results from the occurrence of the hazards in connection with the performance of Work under the Contract.
- 4.4.2 **Contractor** shall purchase and maintain insurance which complies with the requirements of the Flood Disaster Protection Act.
- 4.4.3 **Contractor** shall maintain until the physical completion date builder's risk insurance on the Builder's Risk Completed Values Form with extended coverage, on the value of the work which shall be the contract amount. Whenever applicable, the Contractor's Interest Completed Value Form may be used. The extended coverage endorsement may include a loss deductible clause of \$100.00. **Department** shall be listed as an additional insured. The Builder's Risk policy shall include the following endorsement. "It is made a condition of this insurance that occupancy of the premises shall not require consent of the insurance company nor rate of adjustment."

ARTICLE 5 - Contractor's Responsibilities

Supervision and Superintendence:

- 5.1 **Contractor** shall supervise and direct the Work required by the contract competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. **Contractor** shall be responsible for the means, methods, techniques, sequences and procedures of construction; except that **Contractor** shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. **Contractor** shall be responsible to see that the finished Work conforms with the Contract Documents.
- 5.2 **Contractor** shall keep on the Site of the Work at all times during its progress, a competent and reliable resident superintendent, who shall not be replaced without written approval of **Department**. The superintendent will be **Contractor's** representative at the site and shall have authority to act on behalf of **Contractor**. All communications given to the superintendent shall be as binding as if given to **Contractor**.
- 5.2.1 **Department** may require immediate replacement of the superintendent upon written notice for cause.

- 5.2.2 The superintendent and similar authorized representatives of any Subcontractors as requested by **Department** or **Engineer** shall attend all meetings pertaining to the Work.
- 5.2.3 Whenever the superintendent is not present for performance of a particular part of the Work and **Engineer** is not able to give to **Contractor**, through the superintendent, information relative to an interpretation of the Contract Documents, or relative to disapproval or rejection of materials or the performance of such work, **Engineer** may so inform the worker in charge of such Work. Information so given shall be binding as if given to superintendent.
- 5.2.4 **Contractor** shall issue all communications to **Department** through **Engineer** except as provided by Contract Documents. All written correspondence to **Engineer** shall be copied to **Department**.

Labor, Working Hours, Materials and Equipment:

- 5.3 **Contractor** shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. **Contractor** shall, at all times, employ labor and equipment which shall be sufficient to prosecute the several classes of work to full completion in the manner and time specified. All workers must have sufficient skill, experience and Health and Safety training required to perform properly the work assigned them. All workers engaged on special or skilled work shall have had sufficient experience in such work to perform properly and satisfactorily including operation of any equipment involved. Any person employed by **Contractor** or Subcontractor whom the **Engineer** or **Department** may determine incompetent or unfit to perform the work shall be at once discharged or reassigned and not again be employed on Work in connection with this Contract. The **Contractor** may request review by **Department** regarding the discharge of such employee(s). **Contractor** shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during normal working hours as defined in paragraph 5.3.1 below, and **Contractor** shall not permit overtime Work or the performance of Work during hours other than normal Working hours without: a) prior written notice to **Engineer**; b) **Department's** written consent; and c) written approval from the New York State Department of Labor as required by law.
- 5.3.1 Normal working hours shall be defined as a normal working schedule which a) does not exceed eight hours per working day, occurring between the hours set forth at the pre-construction conference, or if none are set forth, beginning no earlier than 7:00 a.m. and ending at no later than 5:00 p.m.; and b) does not exceed 40 hours per week, excluding overtime Work, Work on Saturdays, Sundays, and legal holidays (New Years, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas). Work during other than normal working hours may be scheduled by **Contractor** by first obtaining written permission from **Department** and as provided in Section 5.3. **Department** shall be entitled to recover extra costs incurred in providing inspection related to Work done during other than normal working hours in accordance with paragraph 5.3.5 below.
- 5.3.2 If **Contractor**, for convenience, voluntarily chooses to schedule Work during hours other than normal working hours at no increase in Contract Price, **Contractor** shall submit details of such proposed schedule with the interim Progress Schedule described in paragraph 1.6 of the General Conditions. Any Progress Schedule calling for Work outside of normal working hours shall be reviewed for acceptance by **Engineer** and **Department** and must be in accordance with the requirements of the New York State Labor Law and Articles 1.6 and 5.3 of the General Conditions.

- 5.3.3 If at any time subsequent to the submission and approval of the Progress Schedule pursuant to the General Conditions and the Standard Specifications, an event or delay not meeting the requirements for extensions in Contract Time set forth in Articles 9, 10 and 11 of the General Conditions occurs, and requires **Contractor** to schedule Work during hours other than normal working hours for **Contractor's** convenience and at no increase in Contract Price, **Contractor** shall submit, at least ten working days in advance of the acceleration period, a proposed revised accelerated schedule for review by **Engineer** and **Department**. If **Department** accepts the revised accelerated Progress Schedule, **Department** will so notify **Contractor** in writing.
- 5.3.4 If the accelerated Progress Schedule pursuant to paragraph 5.3.2 or 5.3.3 is accepted by **Department**, **Contractor** shall reimburse **Department** for all extra costs incurred in providing inspection during hours other than normal working hours in accordance with paragraph 5.3.5 below. Acceptance by **Department** of the accelerated Progress Schedule shall not justify an increase in Contract Price; any increase in **Contractor's** cost to perform the Work, or any part thereof, whether or not affected by **Contractor's** initiated acceleration proposal, shall remain the responsibility of **Contractor**.
- 5.3.5 **Contractor** shall reimburse **Department** for the extra costs incurred in providing inspection during hours other than normal working hours when **Department** considers that the additional hours are due to **Contractor's** inefficiencies or delays. Reimbursement may include but may not be limited to costs for **Engineer**, Resident Project Representatives, administrative expenses and other related costs. Reimbursement for **Engineer's** charges shall be in amounts equal to **Engineer's** charges to **Department** for inspection during hours other than normal working hours under the terms of **Engineer's** agreement with **Department**. In the event **Contractor** fails to pay such costs within 30 days after receipt of an invoice from **Department**, a Change Order or Proposed Change Order may be issued incorporating the unpaid amounts, and **Department** shall be entitled to an appropriate decrease in Contract Price.
- 5.3.6 **Department** may direct **Contractor** to accelerate if the progress of Work indicates **Contractor** may not be able to complete the contract within the contract terms. **Contractor** shall be responsible for all increased costs due to the acceleration.
- 5.4 Unless otherwise specified in the Contract Documents, **Contractor** shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, storage areas, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.
- 5.4.1 All water for testing, flushing and construction shall be furnished by **Contractor**. If water is available from **Department** and **Department** agrees to its use, **Contractor** shall connect to **Department's** water system at a point approved by **Department**. **Department** will charge **Contractor** for water used in performing the above functions in accordance with **Department's** established rate schedule. There shall be installed at each and every connection to any water supply: (a) a meter accepted by **Department** or Owner of water supply, and (b) a backflow preventer device accepted by the New York State Department of Health.
- 5.4.2 In the event that **Contractor** wishes to utilize water from **Department's** facilities as a substitute source of test water, **Contractor** shall submit sufficient information in accordance with paragraph 5.7.2 of the General Conditions to allow **Engineer** to evaluate the substitution.

Such information shall in addition include a description of the necessary equipment and temporary facilities needed to implement the substitute and an estimate of the costs savings anticipated. In the event that the substitution is accepted by **Engineer** pursuant to the requirements of paragraph 5.7.3 of the General Conditions and allowed by **Department**, and the supply of water is inadequate in quantity or quality, **Contractor** shall be responsible for obtaining other sources of test water at no increase in Contract Price or extension in Contract Time.

- 5.4.3 **Contractor** shall light the parts of the Work performed during working hours in the manner required by law and as required by **Engineer** or **Department**.
- 5.5 Except as otherwise provided in the Contract Documents, all materials shall be of good quality, good condition and new, and all equipment shall be new, or should be in good working order and of good quality. As required by **Engineer**, **Contractor** shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents.
- 5.5.1 **Contractor** shall provide to **Department** for **Department's** benefit through **Engineer** all manufacturers' warranties for materials, and products incorporated into the Work, or required by the Contract Documents to be furnished by **Contractor**.
- 5.5.2 **Contractor** shall obtain from manufacturers of all materials and products complete information as to any special condition, or restriction to be applied in the use of these items. Should the manner or method of installation, specified performance or test results as set forth in the Specifications be contrary to the manufacturer's recommendations for installation and use of the product, the **Contractor** shall notify **Engineer** of same for appropriate action. Lack of such notification shall constitute a certification and guarantee by **Contractor** that Specification requirements will be met by such materials and products to be incorporated.
- 5.5.3 **Contractor** shall submit data on all products to be incorporated into the Work required by the Contract Documents, including but not limited to complete maintenance instructions (including preventive maintenance and operating requirement data) and parts lists in sufficient detail to facilitate ordering replacements, in accordance with the procedures set forth in the Special Supplementary Conditions, the Standard Specifications or the Supplementary Specifications.

Adjusting Progress Schedule:

- 5.6 **Contractor** shall report on the status of and revise the Progress Schedule to **Engineer** and **Department** by delivering Progress Schedule status and update submittals to **Engineer** in accordance with the Specifications and Article 1.6 of the General Conditions. If **Contractor** does not adequately update the Schedule, **Department** may reject **Contractor's** requests for payment, provided that **Department** gives **Contractor** 10 days written notice of its intention to do so.

"Or-Equal" or Substitute Items:

- 5.7.1 Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the naming of the item is intended to establish the type, function, quality, performance and design criteria required. Unless the name is followed by words indicating that no "or equal" or substitution is permitted, materials or equipment of other Suppliers may be accepted by **Engineer** if

sufficient information is submitted by **Contractor** to allow **Engineer** to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by **Engineer** will include the following as supplemented in the Contract Documents. Requests for review of "or equal" or substitute items of material and equipment will not be accepted by **Engineer** from anyone other than **Contractor**. If **Contractor** wishes to furnish or use an "or equal" or substitute item of material or equipment, **Contractor** shall make written application to **Engineer** for acceptance thereof, certifying that the proposed "or equal" or substitute shall perform the functions and achieve the results called for by the general design, be similar and of equal substance and quality to that specified and be suited to the same use as that specified.

5.7.1.1 The application shall state that the evaluation and acceptance by **Engineer** of the proposed "or equal" or substitute shall not prejudice completion of the Work, or any part thereof, within the Contract Time, or contract times (including **Contractor's** achievement of Substantial Completion on time), whether or not acceptance of the "or equal" or substitute for use in the Work would require a change in the Work, or any part thereof, or would require the **Department** or others having a contract with **Department** for Work on the Project to adapt the Contract Documents to the proposed "or equal" or substitute; and whether or not incorporation or use of the "or equal" or substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed "or equal" or substitute from that specified shall be identified in the application and available maintenance, repair and replacement services shall be indicated. The application shall also contain an itemized estimate of all increases or decreases in the following costs: 1) the cost of, or the time required to perform any part of the Work, and the corresponding adjustments in Contract Price and Contract Time, resulting directly or indirectly from evaluation and acceptance of the proposed substitute, including, but not as a way of limitation, costs and delays associated with redesign, or claims of other contractors affected by the resulting "or equal" or substitute, and 2) increases or decreases in operating, maintenance, repair, replacement or spare part costs, all of which shall be considered by **Engineer** in evaluating the proposed "or equal" or substitute. In rendering a decision, **Department** and **Engineer** shall at a minimum, have access to any available Total Float in the approved Progress Schedule. **Engineer** may require **Contractor** to furnish at **Contractor's** expense additional data about the proposed "or equal" or substitute.

5.7.2 If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, **Contractor** may furnish or utilize a substitute only if first approved by **Engineer**. **Contractor** shall submit in writing sufficient information to allow **Engineer** to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedures for review by **Engineer** established by paragraph 5.7.1, and as may be supplemented in the Contract Documents, will apply to reviews under this paragraph.

5.7.3 **Engineer** shall be allowed a reasonable time as determined by **Department** within which to evaluate each proposed "or equal" or substitute. **Engineer** and **Department** shall be the sole judge of acceptability, and no "or equal" or substitute shall be ordered, installed or utilized without **Engineer's** prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. **Department** may require **Contractor** to furnish at **Contractor's** expense a special performance guarantee or other financial security with respect to any substitute. **Engineer** will keep record of the time required by **Engineer** and **Engineer's** consultants in evaluating "or equals" or substitutions proposed by **Contractor** and

in making changes in the Contract Documents occasioned thereby. Whether or not **Engineer** accepts an "or equal" or proposed substitute, **Department** shall be entitled to an offset against any payment due **Contractor** for the charges of **Engineer** and **Engineer's** consultants for evaluating each proposed "or equal" or substitute after the second submittal on such item. In the event that substitute materials or equipment are accepted and are less costly than the originally specified materials or equipment, then the net difference in cost shall benefit **Department**, and an appropriate Change Order or Proposed Change Order shall be executed to reflect the difference in cost. If **Engineer** or **Department** determine that the deduction proposed by **Contractor** does not reflect the net difference in cost, then this shall be adequate justification to reject the proposed substitute. Additional construction and/or engineering costs identified after **Department's** acceptance of the proposal and resulting from installation of an "or equal" or substitute shall be borne by **Contractor**.

Subcontractors, Suppliers and Others:

- 5.8.1 **Contractor** shall not employ nor award Work to Subcontractors in excess of the amount specified in Article 7 of the Supplementary Bidding Information and Requirements Section. Such percentage may be increased by an Administrative Agreement if, during performance of the Work, **Contractor** requests an increase and **Department** at its sole discretion determines that the increase would be to **Department's** advantage. **Contractor** shall submit to **Department** a statement stating the character and amount of the work to be subcontracted and the party to whom it is proposed to subcontract the work. **Contractor** shall not employ any Subcontractor, Supplier or other person or organization whether initially or as a substitute, unless first approved by **Department**.
- 5.8.2 Wherever Work to be performed by **Contractor** or by a Subcontractor is dependent upon Work of other Subcontractor(s) or the work of separate contractor(s), then **Contractor** shall require such Subcontractor(s) whose Work is so dependent to:
 - 5.8.2.1 Provide necessary notices of delay, data or other requirement(s) for performance of dependent Work or work of separate contractor(s),
 - 5.8.2.2 Supply and/or install items to be built into dependent Work or work of separate contractor(s),
 - 5.8.2.3 Make provisions for dependent Work or work of separate contractor(s),
 - 5.8.2.4 Examine previously placed dependent Work or work of separate contractor(s),
 - 5.8.2.5 Check and verify dimensions of previously placed dependent Work or work of separate contractor(s),
 - 5.8.2.6 Notify **Engineer** in writing immediately upon determining previously placed dependent Work or work of separate contractor(s), the dimensions of which are unsatisfactory or will prevent a satisfactory installation of Work,
 - 5.8.2.7 Not proceed with Work until the unsatisfactory dependent conditions which prevent satisfactory installation of Work have been corrected.

Installation of Work by **Contractor** or by a Subcontractor in any given area shall constitute acceptance by **Contractor** or by such Subcontractor of all previously placed dependent Work

or work of separate contractor(s) and after such acceptance **Contractor** shall not make any claims for additional costs based on alleged deficiencies in such Work.

- 5.8.3 Whenever other **Contractors** will perform portion(s) of the work that depend on the **Contractor's** portion of the Work; **Contractor** shall provide all of the notices and information listed in 5.8.2. to such other **Contractors** in a timely manner.
- 5.9 **Contractor** shall be fully responsible to **Department** and **Engineer** for **Contractor's** acts and omissions and all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a contract with any level of Subcontractor or Supplier. Nothing in the Contract Documents shall create any contractual relationship between **Department** or **Engineer** and any such Subcontractor, Supplier or other person or organization. **Department** or **Engineer** may furnish to any Subcontractor or Supplier, to the extent practicable, evidence of the payments made to **Contractor** on account of specific Work done.
- 5.10 The various sections, divisions and subdivisions of the Standard and Supplementary Specifications and the identifications of any Drawings shall not control **Contractor** in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade. The Standard Specifications, Supplementary Specifications, and Drawings are complementary to each other and are to be read as a whole. Anything mentioned or shown in a division of such Specifications, or Drawings or in a specific trade Drawing shall be effective as if shown in all divisions of such Specifications and in all Drawings. In addition to the requirements of paragraphs 5.23 through 5.29 of the General Conditions, shop drawings of a specific trade shall be compared to and coordinated with those from other trades by **Contractor** before submission to **Engineer**.
- 5.11 All Work performed for **Contractor** by a Subcontractor will be pursuant to an appropriate agreement between **Contractor** and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of **Department**.

Patent Fees and Royalties:

5.12 **Contractor** shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, device or intellectual processes which is the subject of patent rights or copyrights held by others, both when a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and otherwise. It is the intent of the parties that whenever **Contractor** is required or desires to use any design, device, material or process covered by letters, patent, trademark or copyright, the right for such use shall be provided for by suitable legal agreements with the patentee or owner, and a copy of this agreement shall be filed with **Engineer**. However, whether or not such agreement is made or filed as noted, **Contractor** and **Contractor's** surety in all cases shall indemnify and hold harmless **Department** and **Engineer** and their employees as provided in paragraph 5.12.1 thereof and in Appendix B.

5.12.1 **Contractor** shall, at its expense, defend any suit instituted against **Department** and indemnify **Department** against any award of damages and costs made against **Department** by a final judgment of a court of last resort based on the claim that any of inventions, designs, processes, products, devices or intellectual processes furnished by or used in the performance or incorporated in the Work by **Contractor** or any Subcontractor or Supplier, infringes any patent or copyright of the United States; provided **Department** gives **Contractor** immediate notice in writing, permits **Contractor** to defend the suit and gives **Contractor** all available information, assistance and authority to do so. **Contractor** shall control the defense of any such suit, including appeals, and all negotiations to effect settlement. If any of such items in any such suit is held to so infringe and its use is enjoined, **Contractor** shall, at its election and expense: 1) procure for **Department** the right to continue using the same; or 2) replace or modify the same so that it becomes non-infringing; or 3) remove the same and eliminate any obligation to pay future charges or royalties pertaining thereto.

5.12.2 In the event that an action at law or in equity is commenced against **Department** or State arising out of a claim that its use of any invention, design, process, product, device or intellectual process as under this Agreement infringes on any patent, copyright or proprietary right, and such action is forwarded to **Contractor** for defense and indemnification pursuant to paragraph 5.12.1 and Appendix B. **Department** shall copy all pleadings and documents forwarded to **Contractor** together with the forwarding correspondence to the Office of the Attorney General of the State of New York together with a copy of the Contract Documents. If upon receipt of such request for defense, or at any time thereafter, **Contractor** is of the opinion that the allegations in such action, in whole or in part, are not covered by the indemnification set forth herein, **Contractor** shall immediately notify **Department** and the Office of the Attorney General of the State of New York in writing and shall specify to what extent **Contractor** believes it is and is not obligated to defend and indemnify under the terms and conditions of this Agreement. **Contractor** shall in such event protect the interests of the State of New York and secure a continuance to permit the State of New York to appear and defend its interests in cooperation with **Contractor** as is appropriate including any jurisdictional defenses which the State shall have.

5.12.3 **Contractor** shall, however, have no liability to the **Department** under this Article 5.12 if any infringement is based upon or arises out of: 1) Compliance with designs, plans, or specifications furnished by or on behalf of **Department** as to the items; 2) Alterations of the items by **Department**; 3) Failure of **Department** to use updated items provided by **Contractor** for avoiding infringement; 4) Use of items in combination with apparatus or devices not delivered by **Contractor**; 5) Use of items in a manner for which the same were neither designed nor contemplated; or 6) A patent or copyright in which **Department** or any

affiliate or subsidiary of the **Department** has any direct or indirect interest by license or otherwise.

- 5.12.4 The foregoing states **Contractor's** entire liability for, or resulting from, patent or copyright infringement or claim thereof.

Permits:

- 5.13 Unless otherwise provided in the Contract Documents, **Contractor** shall obtain and pay for any permits or licenses required for performance of Work. **Contractor** shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are no Bids on the Effective Date of the Agreement. **Contractor** shall pay all charges for connections or disconnections required by the Work to Underground Facilities or utilities owned by third parties.

Laws and Regulations:

- 5.14.1 **Contractor** shall comply with all Laws applicable to performance of the Work. Except where otherwise expressly required by applicable Laws or Contract Documents, neither **Department** nor **Engineer** shall be responsible for monitoring **Contractor's** compliance with any Laws.
- 5.14.2 If **Contractor** observes that the Contract Documents are at variance with any applicable Laws, **Contractor** shall immediately give **Engineer** prompt written notice thereof, and any necessary changes will be authorized by one of the methods set forth in paragraph 2.4 and 2.5 of the General Conditions. If **Contractor** performs any Work knowing or having reason to know that it is contrary to such Laws, and without such notice to **Engineer**, **Contractor** shall bear all costs arising therefrom; however, it shall not be **Contractor's** primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws.

Taxes:

- 5.15 **Contractor** shall pay all sales, consumer, use and other similar taxes required to be paid by **Contractor** in accordance with the Laws of the State of New York which are applicable during the performance of the Work. Materials, supplies and equipment incorporated into the Work or sold to New York State are exempt from New York State sales tax.

Use of Premises:

- 5.16 **Contractor** shall confine the use and storage of construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by applicable Laws, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Unless otherwise provided in the Contract Documents, use of **Department's** facilities at or contiguous to the site by **Contractor** for storage of materials or equipment shall not be permitted. **Contractor** shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the acts or omissions of **Contractor**. Should any claim be made against **Department** or **Engineer** by any such owner or occupant because of the performance of the Work, **Contractor** shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or by Law. **Contractor** shall, to the fullest extent permitted by Laws, indemnify and hold **Department** harmless in accordance with the provisions of Appendix B.

- 5.16.1 Temporary buildings (e.g., storage sheds, trailers, shops, offices) and utilities may be erected by **Contractor** only with the approval of **Engineer** and shall be built without additional expense to **Department**. Such temporary buildings and utilities shall remain the property of **Contractor** and shall be decontaminated as necessary and removed by **Contractor** at his expense upon completion of the Work; the buildings and utilities may be abandoned and remain at the site with the written consent of **Department**.
- 5.16.2 When materials are transported for performance of the Work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by Federal, State, or local law or regulation. When it is necessary to cross curbs, sidewalks or work which is completed or underway on site, **Contractor** shall protect them from damage, and shall repair any damage caused.
- 5.16.3 Notwithstanding the designation of site boundaries or the indication of temporary fences or barricades, the provisions of the Contract Documents governing certain phases or portions of the Work may require that certain operations be carried out beyond the site boundaries. Trenching, utility Work, site development, landscaping, other Work, if required beyond such designated limits, shall be scheduled in such a manner as to cause or occasion a minimum of inconvenience or disturbance to or interference with the normal operation of **Department**, abutting owners and the public. **Contractor** shall obtain **Department's** prior approval and all necessary approvals from others, including but not limited to public authorities and utility companies for such operations, and shall conduct such operations expeditiously and restore the affected area to its original condition immediately upon completion of such operations, unless otherwise specified in the Contract Documents.
- 5.16.4 All existing walks, roadways, paved or landscaped areas on which temporary driveways or walks are rerouted shall be restored to their original condition, immediately upon completion of the phases or portions of the Work for which such features were disturbed unless otherwise specified in the Contract Documents.
- 5.16.5 Pumping, draining and control of surface and ground water will be carried out so as to avoid endangering the Work or any adjacent facility or property, or interrupting, restricting or otherwise infringing or interfering with the use thereof, or exceeding the limits allowed by Contract Documents, or applicable Law.
- 5.17 During the progress of the Work, **Contractor** shall keep the Site free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work **Contractor** shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the Site clean and ready for **Department**. **Contractor** shall restore all pavement, sidewalks, driveways, fences, shrubs, lawns, trees and any other public or private property damaged as a result of the Work under this Contract. All such replacement shall be done in accordance with the applicable specifications and no separate or extra payment will be made unless specifically provided for in the Payment Items. In all cases, said replacement shall be at least equal to the original conditions.
- 5.18 **Contractor** shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall **Contractor** subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

As-Built Documents:

- 5.19 **Contractor** shall maintain in a safe place at the Site one as-built document which shall consist of all Drawings, Specifications, Addenda, written amendments, Change Orders, Proposed Change Orders, field

test records, construction photographs, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 8.3) in good order and annotated to show all changes made during construction.

Contractor will be required to review with **Engineer** the status of all as-built documents in connection with **Engineer's** evaluation of an Application for Payment. Pursuant to paragraph 13.2.1 of the General Conditions, failure to maintain a current file of such as-built documents up-to-date may be just cause to recommend withholding of payments for Work performed. These as-built documents together with all approved samples and a copy of all approved Shop Drawings shall be available to **Engineer** for reference at the Site. Upon completion of the Work, these as-built documents, samples and Shop Drawings shall be delivered to **Engineer** for **Department**. Failure by **Contractor** to produce acceptable as-built documents of the above listed items shall be cause for reduction of Contract Price in an amount equal to **Department's** cost of generating or producing the as-built documents.

Health, Safety and Protection:

- 5.20 **Contractor** shall be responsible for initiating, maintaining and supervising all health and safety precautions and programs in connection with the Work which include but are not limited by the Contract Documents and **Contractor's** Health and Safety Plan. **Contractor** shall take all necessary precautions for the health and safety of, and shall provide the necessary protection to prevent damage, injury or loss to all employees and other persons and organizations who may be affected thereby. **Contractor** shall comply with all applicable Laws of any public body having jurisdiction for the health and safety of persons or property in order to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such health, safety and protection. **Contractor** shall notify owners of Underground Facilities and utility owners when performance of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. In addition to any requirements imposed by Laws, **Contractor** shall shore up, brace, underpin, and protect as may be necessary, all foundations and other parts of all existing structures adjacent to and adjoining the site which are in any way affected by the excavations or other operations connected with performance of the Work under the Contract. All damage, injury or loss to any property referred to in this paragraph caused, directly or indirectly, in whole or in part, by **Contractor**, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or caused by anyone for whose acts any of them may be liable, shall be remedied by **Contractor**; provided that **Contractor** shall not be responsible for damage or loss attributable to defects in the Drawings or Specifications or to the acts or omissions of **Department** or **Engineer** or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of **Contractor**. **Contractor's** duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and **Engineer** has issued a written notice to **Department** and **Contractor** in accordance with paragraph 13.11 that the Work is acceptable, except as otherwise expressly provided in connection with Substantial Completion. **Department** has the right to suspend Work or terminate this contract for cause for **Contractor's** failure to comply with any health and safety plan required by the Contract Documents or Law.
- 5.21 **Contractor** shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be **Contractor's** superintendent unless otherwise designated in writing by **Contractor** to **Department**.

Emergencies:

- 5.22 In emergencies affecting or threatening to affect the safety or protection of persons or the Work or property at the site or adjacent thereto when prompt action is required and there is no reasonable opportunity for prior consultation with **Engineer** or **Department**, **Contractor**, without special

instruction or authorization from **Engineer** or **Department**, is obligated to act to prevent threatened damage, injury or loss. **Contractor** shall give **Engineer** prompt telephonic notice followed by written notice thereof, including any significant changes in the Work or variations from the Contract Documents which **Contractor** believes have been caused thereby. If **Engineer** determines that a change in the Contract Documents is required because of the action taken in response to an emergency, an Administrative Agreement, Field Order, Proposed Change Order or Change Order shall be issued to document the consequences of the changes or variations. **Contractor** shall give **Engineer** and **Department** name and number of contact for emergencies during non-Work hours.

Shop Drawings and Samples:

- 5.23 After checking and verifying all field measurements and after complying with applicable procedures specified in the Contract Documents, **Contractor** shall submit to **Engineer** for review and approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 1.4, hereof) six copies of all Shop Drawings plus additional copies as required by **Contractor**, unless otherwise specified in the Contract Documents. All such Shop Drawings shall bear a stamp or other specific written indication that **Contractor** has satisfied the requirements of the Contract Documents with respect to the review of the submissions including but not limited to subparagraph 5.25 below. All submissions shall be identified as **Engineer** may require. The data shown on the Shop Drawings shall be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable **Engineer** to review the information as required.
- 5.24 **Contractor** shall also submit to **Engineer** for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. **Contractor** shall check all samples, shall identify them clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended, and shall submit with them a written certification that **Contractor** has satisfied the requirements of the Contract Documents with respect to the review of such submissions including but not limited to subparagraph 5.25 below.
- 5.25 Before submission of each Shop Drawing or sample, **Contractor** shall certify that all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto have been reviewed or that each Shop Drawing or sample has been coordinated with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.
- 5.26 At the time of each such submission, **Contractor** shall give **Engineer** specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation of each such variation to be made on each Shop Drawing submitted to **Engineer** for review and approval.
- 5.27 **Engineer** will review and approve or disapprove Shop Drawings and samples in 14 days. However, **Engineer's** review and approval of Shop Drawings will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to the accuracy of other matters that may be contained in the submittals, including but not limited to such matters as dimensions, quantities, performance of equipment and systems proposed by **Contractor**, **Contractor's** means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequences, and procedures of construction is indicated in or required by the Contract Documents) or to safety precautions or program incident thereto, the correctness of which shall remain the sole responsibility of **Contractor**. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

- 5.27.1 When reviewed by **Engineer**, each submittal of Shop Drawings and samples will be returned to **Contractor** as either "Approved", "Approved as Noted", "Resubmit with Revisions", or "Disapproved." Submittals stamped as "Approved" or "Approved as Noted" will indicate **Engineer's** approval thereof, subject to the provisions of paragraph 5.27.
- 5.27.2 **Contractor** shall revise and correct Shop Drawings and samples and resubmit them to **Engineer** for **Engineer's** second review and return pursuant to paragraph 5.28. **Contractor** shall direct specific attention in writing to revisions other than the corrections called for by **Engineer** on previous submittals.
- 5.27.3 Costs associated with **Engineer's** review and return of a Shop Drawing or sample submission other than ones submitted pursuant to paragraph 5.7 of this Section shall be borne by **Contractor** after the **Engineer's** second review. **Department's** charges to **Contractor** for additional reviews will be equal to **Engineer's** charges to **Department** under the terms of **Engineer's** agreement with **Department**. In the event **Contractor** fails to pay such costs within 30 days after receipt of an invoice from **Department**, funds will be withheld from payment requests and at the completion of the Work, a Change Order or proposed Change Order will be issued incorporating the unpaid amount, and **Department** will be entitled to an appropriate decrease in Contract Price.
- 5.27.4 After the **Engineer's** second review, delays associated with **Contractor's** resubmittal and **Engineer's** review and return of a particular Shop Drawing or sample submission shall be the responsibility of **Contractor**. Such delays shall not justify an increase in Contract Price nor an extension in Contract Time.
- 5.28 **Engineer's** review and approval of Shop Drawings or samples shall not relieve **Contractor** from responsibility for any variation from the requirements of the Contract Documents unless **Contractor** has in writing called **Engineer's** attention to each such variation at the time of submission as required by paragraph 5.26 and **Engineer** has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by **Engineer** relieve **Contractor** from responsibility for errors or omissions in the Shop Drawings or from responsibility for complying with paragraph 5.25.
- 5.29 Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to **Engineer's** review and approval of the pertinent submission will be the sole expense and responsibility of **Contractor**.

Continuing the Work:

- 5.30 **Contractor** shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with **Department**. No work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Article 14 of the General Conditions or as **Contractor** and **Department** may otherwise agree in writing.

Weather Protection:

- 5.31 **Contractor** shall be responsible for initiating, maintaining and supervising all weather protection precautions and programs in connection with the Work. Additional weather protection provisions, if applicable, are set forth in the Supplementary Conditions, Standard Specifications or Supplementary Specifications.

Cutting and Patching of Work:

- 5.32 **Contractor** shall be responsible for all cutting of masonry and other materials, and all fitting, drilling or patching which may be necessary to complete the Work or to make its several parts fit together properly, whether or not such Work is expressly specified in the Contract Documents.
- 5.33 **Contractor** shall not damage or endanger any portion of the Work or the work performed by **Department** or by any separate contractors by cutting, patching or otherwise altering any work, or by excavation. **Contractor** shall not cut or otherwise alter work performed by **Department** or any separate contractors except with the written consent of **Department** and of such separate contractor. **Contractor** shall not unreasonably withhold from **Department** or any separate contractor consent to cutting or otherwise altering the Work.

Quality Control:

- 5.34 Reference is made to the Supplementary Conditions, Standard Specifications and Supplementary Specifications for the identification of **Contractor's** quality control system requirements under the Contract.

Project Meetings:

- 5.35 **Contractor**, along with appropriate Subcontractors, suppliers and manufacturers, shall attend weekly project meetings at the site or as requested by **Department** or **Engineer**, for the purpose of discussing and resolving matters concerning the various elements of the Work.

Notification of Emergency Services:

- 5.36 **Contractor** shall notify all local Police, Fire Department and Ambulance Services at least twenty-four (24) hours in advance of construction across or adjacent to existing roadways in order that such services might be aware of any disrupted access.

Conflicts Between Contract Documents and Site:

- 5.37 **Contractor** shall notify **Engineer** and **Department** immediately upon discovering any conflicts, ambiguities, error or inconsistencies in the Contract Documents, between the Contract Documents and the actual Site Conditions, or between the Contract Documents and work being done by others. Failure to promptly notify the **Engineer** and **Department** may invalidate **Contractor's** request for an increase in Contract Price and/or Time.

ARTICLE 6 - Other Work

Related Work at Site:

- 6.1 **Department** may perform other work related to the Project at the site by **Department's** own forces, have other work performed by utility owners, or enter into other contracts for such other work.
- 6.2 **Contractor** shall afford each utility owner and other contractor who is a party to a direct contract with **Department** (or **Department**, if **Department** is performing the additional work with **Department's** employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect the Work with theirs. **Contractor** shall do all the Work that may be required to make its several parts come together properly and integrate with other work. **Contractor** shall only alter the work of others with the written consent of **Engineer** and notice to the other contractors whose work will be affected, and shall not endanger any work of others by altering their work. The duties and responsibilities of **Contractor** under this paragraph are for the benefit of such utility owners and other contractors.
- 6.3 If any part of **Contractor's** Work depends for proper execution or results upon the work of any such other contractor, utility owner or **Department**, **Contractor** shall inspect and promptly report to **Engineer** in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. **Contractor's** failure so to report shall constitute an acceptance of the other work as fit and proper for integration with **Contractor's** Work except for latent or non-apparent defects and deficiencies in the other work.

ARTICLE 7 - Department's Responsibilities

- 7.1 **Department** may issue communications to **Contractor** through **Engineer**.
- 7.2 In case of termination of the employment of **Engineer**, **Department** shall appoint an engineer whose status under the Contract Documents shall be that of the former **Engineer**.
- 7.3 **Department** shall furnish the data required of **Department** under the Contract Documents promptly and shall make payments to **Contractor** promptly after they are due as provided in Article 13.
- 7.4 **Department** is represented by the Project Field Representative, the Project Manager and the Designated Representative whose duties and authority are set forth in the Contract Documents. **Department** is also represented by **Engineer**.
- 7.5 **Department** will not be responsible for **Contractor's** means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, unless the Contract Documents specifically impose such a duty on **Department**. **Department** will not be responsible for **Contractor's** failure to perform or furnish the Work in accordance with the Contract Documents.
- 7.6 **Department** will not be responsible for the acts or omissions of **Contractor** or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

ARTICLE 8 - Engineer's Status During Construction

Project Representation:

- 8.1 The duties and responsibilities and the limitations of authority of **Engineer** during construction are set forth in the Contract Documents. **Engineer's** Resident Engineer will assist **Engineer** in inspecting the performance of the Work. The duties, and authorities of any Resident Engineer and Resident Project Representatives are set forth in the Contract Documents. Secondly **Department** is represented as set forth in article 7.4 of the General Conditions.

Visits to Site:

- 8.2 **Engineer** shall make any on-site inspections necessary to check the quality or quantity of the Work and to determine if the Work is proceeding in accordance with the Contract Documents. **Engineer's** duty to visit the site shall in no way be construed to relieve **Contractor** of its duty to perform the Work in conformance with the Contract Documents.

Clarifications and Interpretations:

- 8.3 **Engineer** or **Department** shall issue with reasonable promptness and within 14 days maximum such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as **Engineer** or **Department** may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. If **Contractor** believes that a written clarification or interpretation justifies an increase in Contract Price or an extension in Contract Time, **Contractor** shall be required to deliver a written notice thereof to **Engineer** and **Department** in accordance with the provisions of Article 9 of the General Conditions. If **Department** and **Contractor** are unable to agree as to amount and extent thereof, a claim may be made pursuant to Articles 10, 11 and 15 of the General Conditions.

Authorized Variations in Work:

- 8.4 **Engineer** may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order and will be binding on **Contractor** who shall perform the Work involved promptly. If **Contractor** believes that a Field Order justifies an increase in Contract Price or an extension in Contract Time, **Contractor** shall be required to deliver a written notice thereof to **Engineer** in accordance with the provisions of Article 9 of the General Conditions. If **Department** and **Contractor** are unable to agree as to amount and extent thereof, a claim may be made pursuant to Articles 10 and 11 of the General Conditions.

Rejecting Defective Work:

- 8.5 **Engineer**, based on its inspections, reports of its Resident Engineer, other information available to it and its professional experience and training, or the direction of Department, may disapprove or reject Work at any time during the construction of the Work, which **Engineer** believes to be Defective Work. **Engineer** shall also have authority to require special inspection or testing of the Work as provided in paragraphs 12.4 through 12.10 of the General Conditions, whether or not the Work is fabricated, installed, or completed. When **Contractor** has been notified by **Engineer** of disapproval or rejection of Defective Work, **Contractor** shall take immediate action to correct same at no additional cost.

Shop Drawings, Change Orders and Payments:

- 8.6 **Engineer's** responsibilities regarding Shop Drawings and samples, are set forth in paragraphs 5.23 through 5.29 of the General Conditions. If **Contractor** believes that **Engineer's** approval of a Shop Drawing or sample justifies an increase in Contract Price or an extension in Contract Time, **Contractor** shall be required to deliver a written notice thereof to **Engineer** in accordance with the provisions of Article 9 of the General Conditions. If **Department** and **Contractor** are unable to agree as to amount and extent thereof, a claim may be made pursuant to Articles 10 and 11 of the General Conditions.
- 8.7 **Engineer's** duties regarding Change Orders are set forth in Articles 9, 10 and 11 of the General Conditions.
- 8.8 **Engineer's** duties regarding Applications for Payment, etc., are set forth in Article 13 of the General Conditions.

Determinations for Unit Prices:

- 8.9 **Engineer** will review and make preliminary determinations on the actual quantities and classifications of acceptable Unit Price Work performed by **Contractor**. **Engineer** will review such preliminary determinations with **Contractor**, before rendering a written decision thereon by recommendation of an Application for Payment or otherwise. **Department** shall review and approve **Engineer's** determinations. **Department's** decisions thereon shall be final unless within 15 days after the date of any such decision, **Contractor** delivers to **Department** and to **Engineer** written notice of intention to dispute such a decision.

Decisions on Disputes:

- 8.10 **Engineer** shall interpret the Contract Documents and determine the acceptability of the Work thereunder subject to **Department's** right to modify or overrule **Engineer's** determination after consultation with **Engineer** and **Contractor**. Disputes or other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work, and disputes under Articles 9, 10, 11 and 15 of the General Conditions in respect to changes in the Contract Price or Contract Time will be referred to **Engineer** in writing with a request for a formal determination in accordance with this paragraph. **Engineer** shall render such determination in writing within a reasonable time. Written notice of each such claim, dispute or other matter shall be delivered by **Contractor** to **Engineer** and **Department** within fifteen days after the occurrence of the event giving rise thereto. Written data supporting such dispute or other matters shall be submitted to **Department** within forty-five days after such occurrence, unless **Department** allows an extension of time to submit additional information.

Limitations on Engineer's Responsibilities:

- 8.11 Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "unreasonable," "unsuitable," "acceptable," "proper," or "satisfactory," or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of **Engineer** as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents unless there is a specific statement indicating otherwise. The use of any such term or adjective shall not be effective to assign to **Engineer** any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12 or 8.13.
- 8.12 **Engineer** will not be responsible and **Contractor** remains responsible for **Contractor's** means, methods, techniques, sequences and procedures of construction, and the safety precautions and programs

incident thereto, unless Contract Documents specifically impose such a duty on **Engineer**. **Engineer** will not be responsible for **Contractor's** failure to perform or furnish the Work in accordance with the Contract Documents.

- 8.13 **Engineer** will not be responsible for the acts or omissions of **Contractor** or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

ARTICLE 9 - Changes in the Work

- 9.1 Without invalidating the Agreement, **Department** may, at any time or from time to time and without notice to any surety, order additions, deletions or revisions in the Work or other requirements, which the performance of, or compliance with, is established in the provisions of the Contract Documents. These changes will be initiated by Proposed Change Orders, in Administrative Orders and authorized by Change Orders. Upon receipt of an Administrative Order, or Proposed Change Order, the Contractor shall proceed with the Work involved. All such Work involved shall be performed in accordance with the applicable conditions of the Contract Documents. If an Administrative Order or Proposed Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made in a duly executed Change Order. The value of any work covered by a Proposed Change Order or a Change Order for an increase or decrease in the Contract Price or the Contract Time, hereafter called the "Work involved", shall be determined by one of the following methods:
- 9.2 **Department** may order minor changes in the Work which do not involve an adjustment in the Contract Price or in the Contract Time and are consistent with the overall intent and purpose of the Contract Documents. Such minor changes will be authorized by a Field Order which shall be binding on **Department** and **Contractor** who shall perform such changes promptly. If **Contractor** believes that a Field Order justifies an increase in the Contract Price or the Contract Time, **Contractor** shall make written notification within 3 days and provide documentation within 15 days in a Proposed Change Order to **Engineer**.
- 9.3 Additional work performed without authorization of a Proposed Change Order will not entitle **Contractor** to an increase in the Contract Price or an extension in the Contract Time, except in the case of emergency work as provided in paragraph 5.22 of the General Conditions and except in the case of uncovering Work as provided in paragraph 12.9 and 12.10 of the General Conditions.
- 9.4 When changes in the Work, involving adjustments to the Contract Price or Contract Time are contemplated by **Department**, pursuant to paragraph 9.1, **Contractor** may be requested to submit a cost proposal prior to being authorized to proceed with the change. If **Department** and **Contractor** are unable to agree and **Department** orders the change, or if **Department** pursuant to **Engineer's** review and decision concludes that the written direction, instruction, interpretation or clarification, approval, decision or determination does not require an increase in Contract Price or extension in Contract Time, **Contractor** will be required to carry on with the Work involved and adhere to the Progress Schedule. **Contractor** proposals substantiating the amount and extent of any proposed adjustment in Contract Price or Contract Time shall become due within three days of receipt (or issuance) of a Proposed Change Order initiated by **Department** (or **Contractor**), and shall be submitted in accordance with Articles 9, 10 and 11 of the General Conditions. Any delays in the submittal of **Contractor** proposals relative to adjustments in Contract Price or Contract Time will not justify a delay or constitute basis for an increase in Contract Price or an extension in Contract Time. Unless **Contractor** gives written notice of intent to appeal **Department's** determination or to file a claim in accordance with Article 15 of the General Conditions, within said thirty days of the issuance of a Proposed Change Order or the rejection of a Proposed Change Order, **Department's** determination shall be final and binding upon **Contractor**.

- 9.5 Upon receipt of a cost proposal from **Contractor**, pursuant to paragraph 9.4 above, and if **Department** agrees with the increase or decrease in the Contract Price or Contract Time, **Department** shall authorize the change in the Work by issuing a Proposed Change Order and shall begin preparation of a Change Order covering the Work involved.
- 9.5.1 A Change Order shall also be any other written order, including direction, instruction, interpretation, determination, or decision embodied in a Field Order, or in a response to a request for clarification or interpretation of the requirements of the Contract Documents, or in an approval of a Shop Drawing or sample, or in a decision relating to a report or differing or unforeseen conditions or the acceptability of Work or Administrative Order which causes any change, provided that **Contractor** gives **Engineer** and **Department** a dated written notice identifying the written order and stating circumstances and other information required in this Article and in Articles 9, 10 and 11 of the General Conditions indicating that **Contractor** considers the written order a Proposed Change Order.
- 9.5.2 **Contractor** quotations substantiating the amount or extent of any proposed adjustment in Contract Price or Contract Time shall cover all known amounts or extents to which **Contractor** is entitled as a result of the proposed change. Pursuant to this requirement of the Contract Documents, **Contractor** acknowledges and agrees to the following waivers when executing Change Orders or Proposed Change Orders authorized in accordance with paragraph 9.4 of the General Conditions:
- 9.5.2.1 **Contractor** acknowledges and agrees that the adjustments in Contract Price and Contract Time stipulated in this Change Order represent full compensation for all increases or decreases in the cost of, or the time required to perform the entire Work under the Contract, arising directly or indirectly from this Change Order, including this and all previous Change Orders. Acceptance of this waiver constitutes an agreement between **Department** and **Contractor** that the Change Order represents an all inclusive, mutually agreed upon adjustment to the Contract for all direct, indirect and consequential costs and delays, and that **Contractor** shall waive all rights to file a claim on this Proposed Change Order after it is properly executed.
- 9.5.2.2 Acceptance by **Contractor** is evidence of mutual accord and satisfaction for those adjustments in Contract Price and Contract Time stipulated in this Proposed Change Order, that **Contractor** shall submit detailed supporting data within fifteen days in accordance with Articles 10 and 11 of the General Conditions to allow negotiation of outstanding issues, and that the changes ordered and documented by this Proposed Change Order will be incorporated into a future Change Order subsequent to agreement on all outstanding issues.
- 9.6 If the provision of any bond requires that the surety be notified of any change in the Work, it shall be **Contractor's** responsibility to so notify the surety and the amount of each applicable bond shall be adjusted accordingly. **Contractor** shall furnish proof to **Department** of such adjustment.
- 9.7 No claim by **Contractor** for an adjustment under this Article of the General Conditions shall be allowed if asserted after the date of final payment under this Contract.

ARTICLE 10 - Change of Contract Price or Time

- 10.1 The Contract Price constitutes the total compensation, subject to authorized adjustments, payable to **Contractor** for performing the Work. All duties, responsibilities and obligations assigned to or

undertaken by **Contractor** shall be at its own expense without any change in the Contract Price or the Contract Time.

10.2 The Contract Price and the Contract Time may only be changed by a duly executed Change Order.

10.3 The value of the Work involved shall be determined by one of the following methods:

10.3.1 Where the Work involved is covered by unit prices contained in the Contract Documents, those unit prices shall be used to determine the cost of the Work involved.

10.3.2 Where the Work involved is not covered by unit prices contained in the Contract Documents, by application of mutually agreed upon unit prices to the quantities of the items of Work involved.

10.3.3 By mutual acceptance of a lump sum.

10.3.4 On the basis of the cost of the Work involved as provided in paragraph 10.4 of this Article plus a **Contractor's** fee for overhead and profit as provided in paragraph 10.7 of this Article.

10.3.5 Where the **Department** and **Contractor** cannot agree on any of the methods described above, and **Department** directs **Contractor** to proceed with the Work involved as provided in Article 10 of the General Conditions.

10.4 The Cost of the Work involved shall include the following items and shall not include any of the costs disallowed under this Article 10 of the General Conditions:

10.4.1 Payroll costs of employees in the direct employ of the **Contractor** in the performance of the Work involved in job classifications agreed upon by **Department** and **Contractor**. Payroll costs shall include, but shall not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers or workmen's compensation, health and retirement benefits, and sick leave applicable thereto. Such employees may include foremen at the site but shall not include employees in the job classifications itemized in paragraphs 10.6.1. The costs of performing the Work involved during other than normal working hours, as defined in paragraph 5.3.1, shall be included in the above to the extent authorized by **Department** and as required by Law.

10.4.2 Cost of all materials and equipment furnished and incorporated into the Work involved, including costs of transportation and storage thereof, and suppliers' field services connected therewith. All cash discounts shall accrue to **Contractor** unless **Department** deposits funds with **Contractor** with which to make payments, in which case, the cash discounts shall accrue to **Department**. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment shall accrue to **Department**, and **Contractor** shall make provisions so that they may be obtained.

10.4.3 Payments made by **Contractor** to subcontractors who perform a part of the Work involved. If required by **Department**, **Contractor** shall obtain competitive bids from prospective subcontractors acceptable to **Contractor** and shall deliver such bids to **Department** who will then determine which bids will be accepted. If a subcontract provides that the subcontractor is to be paid on the basis of cost plus a fee, the subcontractor's cost shall be determined in the same manner as **Contractor's** cost of the Work involved. All subcontracts shall be subject to the provisions of the Contract Documents, insofar as applicable.

- 10.4.4 Costs of special consultants, including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants, employed for services specifically related to the Work involved to the extent authorized in writing by **Department**.
- 10.4.5 Costs of **Contractor** owned equipment - **Contractor** shall be reimbursed for his ownership and operating costs for self owned equipment employed on the Work involved. The rates of reimbursement shall be as listed in most recent published edition of the Rental Rate Blue Book published by Dataquest, Inc. in effect on the date of issuance of the applicable Change Order or Proposed Change Order, or prior to performing the Work in a claim for an increase or decrease in the Contract Price and applied in the following manner.
- 10.4.5.1 Ownership costs - The equipment rates for ownership costs include depreciation on the original purchase, insurance, applicable taxes, interest on investment, storage, repairs, mobilization to and demobilization from the site of the Work involved, and profit reimbursement will be made for the hours on the Work involved. In no event shall the equipment rate billed to **Department** be at rates exceeding those described below.
- 10.4.5.2 Less than 8 hours of actual use or necessary for availability as approved by Engineer: The daily rate or the product of the hours of actual use multiplied by the hourly rate, whichever is less.
- 10.4.5.3 Between 8 hours and 40 hours of actual use: The weekly rate or the product of the hours of actual use used divided by 8 and multiplied by the daily rate, whichever is less.
- 10.4.5.4 Between 40 hours and 176 hours of actual use: The monthly rate or the product of the hours of actual use divided by 40 multiplied by the weekly rate, whichever is less.
- 10.4.5.5 Over 176 hours of actual use: The product of the hours of actual use divided by 176 multiplied by the monthly rate.
- 10.4.5.6 Operating costs including fuel, lubricants, other operating expendables, and preventive and field maintenance. Operating costs do not include the operator's wages. **Contractor** shall be reimbursed the product of the hours of actual use multiplied by the estimated operating cost per hour.
- 10.4.5.7 The geographic area adjustment factor and the Rate adjustment tables for federal aid projects shall be applied to the equipment ownership rates.
- 10.4.5.8 The rates used shall be those in effect at the time the Work involved is to be done as listed in the then current Rental Rate Blue Book.
- 10.4.5.9 In the event that a rate is not established in the Rental Rate Blue Book for a particular piece of equipment, **Department** will establish rates for ownership and operating costs.
- 10.4.5.10 Equipment to be used by **Contractor** shall be specifically described by manufacturer and model number and be of suitable size and capacity to accomplish the Work involved. In the event **Contractor** elects to use equipment

of a higher rental rate than equipment suitable for the Work involved, payment will be made at the rate applicable to the suitable equipment. **Department** and **Engineer** shall determine the suitability of the equipment. If there is a differential in the rate of pay of the operator of oversized or higher rate equipment, the rate paid for the operator will likewise be related to the suitable equipment.

- 10.4.5.11 Transportation, loading and unloading, installation, dismantling and removal costs shall be included only if such construction equipment and machinery is imported to the site solely to perform the Work involved in the Change Order Proposed Change Order, or Claim. All equipment costs shall cease when the use thereof is no longer necessary to perform the Work involved or the equipment cannot be used to perform the Work involved due to contractor actions or inactions. Payroll costs for employees operating the equipment shall be in accordance with paragraph 10.4.1 of the General Conditions.
- 10.4.5.12 Actual equipment use time documented by **Engineer** shall be on the basis that the equipment was on and used at the site. In addition to the leasing rate, equipment operational costs shall not exceed the estimated hourly operation rate as set forth in the Blue Book. Daily records listing the equipment units and their respective operators, identification code, and actual usage and certified at the end of each day by **Engineer** shall be the record upon which actual equipment use shall be based. For multiple shift work sequences the allowable equipment rate for second or third shifts shall not exceed 50 percent of the base rate. Idle equipment at the site and necessary to perform the Work involved but not in actual use shall be paid at the rate determined above. Idle time shall include a reasonable time allowance to and from the site, and be as documented by **Engineer**.

10.4.6 Costs of **Contractor** rented equipment.

- 10.4.6.1 In the event **Contractor** must rent a specific piece of equipment, payment will be the actual rental rate for the piece of equipment for the time that is used on the Work involved or required by **Department** to be present, not to exceed the rental rate in the Rental Rate Blue Book, plus the reasonable cost of moving the equipment onto and away from the site of the Work involved.
- 10.4.6.2 **Contractor** shall also be reimbursed for the operating cost of the rented equipment if that cost is not included in the rental cost. The operating cost shall be determined in the same manner as specified for **Contractor** owned equipment above. If contractor owned equipment is available on site to complete the work, **Contractor** shall be reimbursed only at the rate for owned equipment and there shall not be any reimbursement for transportation of equipment to or from site.
- 10.4.6.3 In the event area practice dictates the rental of fully manned or fueled and maintained equipment, payment will be made on the basis of an invoice for the rental of the fully manned, fueled and/or maintained equipment, including all costs incidental to its use, plus costs of moving to and from the site of the Work involved, provided the rate is substantiated by area practice.
- 10.4.6.4 Transportation, loading and unloading, installation, dismantling and removal costs shall be included only if such construction equipment and machinery is imported to the site solely to perform the Work involved in the Change Order,

Proposed Change Order, or Claim. All equipment costs shall cease when the use thereof is no longer necessary to perform the Work involved or the equipment cannot be used to perform the Work involved due to **Contractor** actions or inactions. Payroll costs for employees operating the equipment shall be in accordance with paragraph 10.4.1 of the General Conditions.

- 10.4.7 The maximum amount of reimbursement for the ownership costs of **Contractor** owned equipment or for the rental costs of rented equipment shall be limited to the original purchase price of the equipment as listed in the Green Guide for Construction Equipment published by the Equipment Guide Book Company. In the specific event where the reimbursement is limited by the original purchase price, **Contractor** shall be reimbursed for the operating cost per hour for each hour of actual use.
- 10.4.8 Supplemental costs due solely in connection with the Work involved to include the following:
 - 10.4.8.1 The necessary transportation, travel and subsistence expenses of **Contractor's** employees who are solely employed in the Work involved.
 - 10.4.8.2 Costs, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site required, but excluding hand tools, protective clothing and other consumables which are used or consumed in connection with the Work involved and are individually valued at less than \$100.00.
 - 10.4.8.3 Sales, consumer use, or similar taxes for which **Contractor** is liable, exclusive of New York State and local sales taxes for materials, supplies and equipment incorporated into the Work.
 - 10.4.8.4 Royalty payments and fees for licenses and permits.
 - 10.4.8.5 Costs of utilities at the site including but not limited to electricity, telephone, fuel, heat, water, property rental and sanitary facilities.
- 10.5 The amount of credit to be allowed by **Contractor** to **Department** for any individual change in the Work which results in a net decrease in cost shall be the amount of the actual net decrease plus a deduction in **Contractor's** fee equal to one half of the fee derived from the application of paragraphs 10.7.2.1, 10.7.2.2 and 10.7.2.3 of this Article.
 - 10.5.1 When more than one individual change is covered by one Proposed Change Order or Change Order, the adjustment in **Contractor's** fee shall be the sum of the individual fees computed on each individual change in accordance with paragraphs 10.7.2.1 through 10.7.2.4.
- 10.6 The cost of the Work involved shall not include any of the following, all of which are to be considered general and overhead costs covered by the **Contractor's** fee:
 - 10.6.1 Payroll costs and other compensation of **Contractor's** executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, superintendents, administrators, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by **Contractor**, at the site or not, for general administration of the Work including any Change Orders, and who are not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 of this Article.

- 10.6.2 Expenses of **Contractor's** principal and branch offices other than **Contractor's** office at the site. Costs derived from the computation of an extended or unabsorbed home office overhead rate by application of the Eichleay, Allegheny, Burden Fluctuation, or other similar methods.
- 10.6.3 Any part of **Contractor's** capital expenses, including interest on **Contractor's** capital employed for the Work involved and charges against **Contractor** for delinquent payments.
- 10.6.4 Cost of premiums for all bonds and insurance whether or not **Contractor** is required by the Contract Documents to purchase and maintain the same.
- 10.6.5 Costs incurred in the preparation of Proposed Change Orders or Change Orders or in preparation or filing of claims.
- 10.6.6 Expenses of **Contractor** associated with anticipated lost profits or lost revenues, lost income or earnings, lost interest on earnings or unpaid retainage.
- 10.6.7 Small tools used or consumed in the performance of the Work involved having an individual value of less than \$100.
- 10.6.8 Costs due to negligence of **Contractor** or any subcontractor anyone directly or indirectly employed by them for whose acts any of them may be liable, including, but not limited to correction of defective work, disposal of equipment or material wrongly supplied and repairing any damage to property.
- 10.6.9 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4 of this Article, all of which are to be considered general and overhead costs covered by the **Contractor's** fee.

Contractor's Fee:

- 10.7 The **Contractor's** fee for general and administrative overhead costs (whether at the site or in **Contractor's** principal or branch offices), small tools and profit on the Work involved shall be determined by negotiations in accordance with this paragraph.
 - 10.7.1 **Contractor** shall negotiate with **Department** for reasonable overhead rates and fair and reasonable profit based on assumptions of risk, exposure to weather, size of the change, labor to material ratio, equipment requirements, and time of performance.
 - 10.7.2 In no case shall the **Contractor's** fee exceed the following percentages of the various percentages of the Cost of the Work involved.
 - 10.7.2.1 For costs incurred under paragraph 10.4.1 (Payroll Costs) of this Article, the **Contractor's** fee shall not exceed fifteen percent (15%).
 - 10.7.2.2 For costs incurred under paragraph 10.4.2 (Costs of Materials and Equipment) of this Article, the **Contractor's** fee shall not exceed ten percent (10%).
 - 10.7.2.3 For costs incurred under paragraph 10.4.3 (Cost of Subcontracts) of this Article, the **Contractor's** fee shall not exceed five percent (5%) and the subcontractor's fee shall not exceed ten percent (10%).

- 10.7.2.4 For costs incurred under paragraph 10.4.3 of this Article, for work performed by a subcontractor's subcontractor, the **Contractor's** and the first subcontractor's fees shall not exceed five percent (5%) each and the second subcontractor's fee shall not exceed ten percent (10%).
- 10.7.2.5 No fee shall be paid on the costs itemized under paragraphs 10.4.4 and 10.4.5 nor on subcontractors' fees derived in accordance with paragraphs 10.7.2.3 and 10.7.2.4.
- 10.7.3 No fee shall be paid on premium portion of wages nor on increased wages due to delays.
- 10.8 Changes in the Contract Price due to changes in the Contract Time.
 - 10.8.1 An increase in the Contract Price due solely to delays causing extensions in the Contract Time will be allowed only if the delays to the Work, or parts thereof, arise from acts or omissions of **Department** or **Engineer** which are longer than the time period(s) provided for review(s) or decision(s) as provided for in the Contract Documents, and provided further that the delays arise from changes in the Work covered by Proposed Change Orders or Change Orders prepared pursuant to Article 9 of the General Conditions or from suspensions of Work pursuant to paragraph 14.1 of the General Conditions. However no adjustment in the Contract Price shall be made under this paragraph for the following reasons:
 - 10.8.1.1 For any extensions granted in the Contract Time to the extent that performance would have been so extended by any other cause including fault or negligence of **Contractor** or subcontractors, suppliers or other persons or organizations.
 - 10.8.1.2 For any acceleration alternative in lieu of an extension proposed by **Contractor**, to the extent that the acceleration costs exceed those in connection with the alternative extension in Contract Time.
 - 10.8.1.3 For which a Contract Price is provided or excluded under any other provision of the Contract Documents.
 - 10.8.1.4 For delays which are covered by or which could be covered by relocating the Total Float or a portion of it.
 - 10.8.2 Recovery of damages for delay on account of extensions in **Contractor's** Progress Schedule or in connection with acceleration alternatives thereof will be allowed only when said delays extend the Work, or a part thereof, beyond the applicable Contract Time(s).
 - 10.8.3 It is further expressly agreed and understood that **Contractor** will not be entitled to any compensation or damages on account of delays which meet the requirements of paragraph 10.12.3 of the General Conditions for time extensions but which can or could have been avoided by reallocating portions of the Total Float. Under this requirement, it is further understood and agreed that the only remedies for delays which are figured to cause an extension in the Contract Time or form the basis for a proposal for an acceleration alternative thereof solely due to the use of Total Float will consist of an increase in Contract Time only and shall exclude **Contractor's** right to recover any delay damages or compensation from **Department**.
- 10.9 In submitting proposals or asserting claims for changes under this Article, **Contractor** acknowledges and agrees that no adjustment shall be made: 1) for any escalation costs for any part of the Work which

is not delayed beyond the applicable latest possible dates specified in the approved Progress Schedule, or 2) for any acceleration costs incurred without prior authorization from **Department**, or 3) for which an adjustment has been provided for, limited as to extent, or excluded under any other provision of the Contract Documents.

- 10.10 **Contractor** quotations substantiating the amount or extent of any proposed adjustment in Contract Price or Contract Time shall cover all known amounts or extents (direct, indirect and overhead) to which **Contractor** is entitled as a result of the proposed change. Pursuant to this requirement, **Contractor** acknowledges and agrees to the following waivers when executing Proposed Change Orders and Change Orders authorized in accordance with Article 9:

10.10.1 **Contractor** acknowledges and agrees that the adjustments in Contract Price and Contract Time stipulated in the Change Order represent full compensation for all increases or decreases in the cost of, or the time required to perform, the entire Work under the Contract arising directly or indirectly from the Change Order. Acceptance of this waiver constitutes an agreement between **Contractor** and **Department** that the Change Order represents an all inclusive, mutually agreed upon, adjustment to the Contract for all direct, indirect and consequential costs and delays, and that **Contractor** will waive all rights to file a claim on the Change Order after it is duly executed.

10.10.2 Acceptance by **Contractor** is evidence of mutual accord and satisfaction for those adjustments in the Contract Price and Contract Time stipulated in the Proposed Change Order, that **Contractor** will submit detailed supporting data within fifteen days in accordance with Articles 10 and 11 of the General Conditions to allow negotiation of outstanding issues, and that the changes ordered and documented by the Proposed Change Order will be incorporated into a future Change Order subsequent to agreement on all outstanding issues.

- 10.11 Additional costs incurred due to acceleration or additional work performed by **Contractor** without an agreed upon Proposed Change Order will not entitle **Contractor** to an increase in Contract Price or Contract Time, except in the case of emergency work as provided in paragraph 5.22 of the General Conditions or in the case of uncovering Work as provided in paragraph 12.9 of the General Conditions.

- 10.12 The Contract Time may be changed only by a duly executed Change order. Any proposal for an extension or shortening of the Contract Time shall be based on a Proposed Change Order in accordance with the provisions of this Article.

10.12.1 **Contractor** requests substantiating the extent of increase in the Contract Time shall be delivered to **Engineer** within fifteen days of the event causing the proposed need for the extension in the Contract Time unless **Department**, in writing, allows an additional period of time. **Contractor** shall prove that the delays have materialized or will materialize despite reasonable, prudent, and diligent efforts to prevent such delays and meet the criteria set forth in this Article. Any delays by **Contractor** in submittal of proposals will not justify a delay or be basis for an extension of the Contract Time.

10.12.2 Extensions in Contract Time due to delays to parts of the Work will not be granted until all Total Float available for those parts of the Work has been used.

10.12.3 An extension in the Contract Time will not be granted unless **Contractor** can demonstrate, through an analysis of the Progress Schedule approved in accordance with the applicable provisions of the Standard Specifications, that the delay in completing the applicable parts of the Work within the applicable Contract Time(s) arises from unforeseeable causes beyond the control and without the fault or negligence of **Contractor** or its Subcontractors, Suppliers or

other persons or organizations, and which **Contractor** could not have guarded against, and that such causes do or will cause extension of the schedule for that part of the Work beyond the applicable Contract Time. Examples of such causes include 1) acts of God or of the public enemy, 2) fires, floods, epidemics, quarantine restrictions, 3) strikes, freight embargoes, 4) unusually severe weather, 5) delays of Subcontractors or Suppliers at any tier arising from unforeseeable causes beyond the control and without fault or negligence of both **Contractor** and the Subcontractors, Suppliers or other persons organizations.

- 10.12.4 All time limits stated in the Contract Documents are of the essence. They have been developed by taking into account:
- 10.12.4.1 The scope of the Work under the Contract Documents;
 - 10.12.4.2 Reasonable time for performance of the Work, or parts thereof, as a whole; and
 - 10.12.4.3 The perceived sensitivity of the Work, or parts thereof, as a whole, to the potential delaying effect of causes meeting the requirements of paragraph 10.12.3.
 - 10.12.4.4 Therefore, and as long as delays meeting the requirements of paragraph 10.12.3 are not to be considered by **Contractor** in the initial development of the Progress Schedule pursuant to paragraph 1.6 of the General Conditions and the Progress Schedule Section of the Standard Specifications, the initial Progress Schedule developed by **Contractor** could show Total Float with respect to the Contract Time, or contract Times. Pursuant to the Float sharing requirements of the Contract Documents (as set forth in the provisions of Progress Schedule Section of the Standard Specifications) any such Total Float materializing between **Contractor's** completion of the Work, or part thereof, as anticipated by **Contractor's** approved progress Schedule, and the corresponding Contract Time(s) will be available to **Department, Engineer, Contractor** and others to absorb delays that cannot be mitigated by any other means.
- 10.12.5 The provisions of Section 10.11 of this Article shall govern and be applicable to the following:
- 10.12.5.1 Changes in Contract Time initiated by **Department** or **Contractor** due to delays which meet the requirements of paragraph 10.12.4.
 - 10.12.5.2 **Contractor** proposals to accelerate the Progress Schedule, in lieu of the alternate extension of Contract Time, due to delays meeting the requirements of paragraph 10.12.3.
- 10.12.6 The provisions of paragraphs 10.11, 10.12.2, and 10.12.3 shall exclude recovery for damages arising out of an acceleration alternative to an extension in Contract Time on account of delays not meeting the requirements for extensions in Contract Time set forth in this Article.
- 10.12.7 The provisions of this Article 10 shall not exclude recovery for damages (including compensation for additional professional services and court costs) for delay by either party, except as otherwise specifically disallowed in this Article and in other provisions of the Contract Documents.

10.13 Failure, refusal or neglect by **Contractor** to comply with the time requirements for delivery of written Proposed Change Orders or notice of a claim shall be considered to be a waiver by **Contractor** of any request or claiming for extension in Contract Time.

10.13.1 **Contractor** proposals (or claims) substantiating **Contractor's** proposed adjustment in Contract Price shall be delivered within the time period stipulated in paragraph 9.3 (9.4), unless **Department** in writing, allows an additional period of time to ascertain accurate cost data. **Contractor** shall prove that additional costs were necessarily incurred, despite **Contractor's** reasonable, prudent, and diligent efforts to prevent such costs and which meet the criteria set forth in this Article. Any delays in the submittal of **Contractor** proposals relative to adjustments in Contract Price will not justify a delay or constitute basis for an increase in Contract Price or an extension in Contract Time.

10.13.2 **Contractor** proposals (or claims) shall be submitted on forms required by Contract Documents, and shall remain firm for a period of at least 60 days from delivery of the proposal (or claim). Proposals (or claims) shall include itemized estimates of all costs and schedule adjustments that will result directly or indirectly from the changes described. Unless otherwise specified, itemized estimates shall be in accordance with the requirements of this Article of the General Conditions and in sufficient detail to reasonably permit an analysis by **Engineer** and **Department** of all quantities involved, labor and payroll costs, productivity rates, material costs, Subcontractor and Supplier costs, supplemental costs as described in paragraph 10.4.8, special consultant costs as described in paragraph 10.4.4, equipment costs, general and administrative overhead costs, field office overhead costs, and profit and shall cover all aspects of the Work involved in the change, whether such was deleted, added, changed, or impacted. Any amount claimed for Subcontractors, Suppliers or other persons or organizations shall be similarly supported. Itemized schedule adjustments shall be sufficiently detailed to permit an analysis of effects on the Progress Schedule as required in the Standard Specifications.

ARTICLE 11 - Unit Price Work and Cash Allowances

Cash Allowances:

11.1 **Contractor** shall include in the Contract Price all cash allowances named in the Contract Documents and all Work covered by those cash allowances shall be performed for an amount not to exceed those allowances without prior approval in writing by **Engineer**.

11.1.1 The allowances include the cost to **Contractor** (less any applicable trade discounts) of materials labor and equipment required by the allowances to be delivered at the site, and all applicable taxes; and the cost documentation requirements of Articles 9, 10, 11 apply to cash allowances.

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

Unit Price Work:

11.2 Where the Contract Documents provide that all or part of the Work to be performed on the basis of Unit Prices, the following shall apply:

- 11.2.1 The original Contract Price shall include the sum of the bid unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated on the Contract Bid Form.
- 11.2.2 Unless otherwise provided by the Contract Documents, the estimated quantities of Unit Price Work are not guaranteed and are solely for the purpose of comparing Bids and determining the initial Contract Price.
- 11.2.3 **Engineer** shall determine the actual quantities and classifications of Unit Price Work performed by **Contractor** and will review with **Contractor** preliminary determinations before recommending an Application for Payment for those items.
- 11.2.4 **Contractor** shall have included overhead and profit in the price of each separately stated unit price item bid.
- 11.2.5 The Unit price of an item of Unit Price Work shall be subject to re-evaluation, negotiation, and possible adjustment under the following conditions:
 - 11.2.5.1 If the total cost of a particular item of Unit Price Work change by \$30,000 or 5% or more of the total Contract Price, whichever is less, and the variation in the quantity of that particular item of Unit Price Work performed by **Contractor** differs by more than 15% from the estimated quantity of such item indicated in the Agreement; and
 - 11.2.5.2 If **Contractor** justifies and adequately documents to the **Department's** satisfaction additional expenses have been incurred as a result thereof, or
 - 11.2.5.3 If **Department** believes that the quantity variation entitles **Department** to an adjustment in the Unit Price,either **Department** or **Contractor** may make a request for an adjustment in the Contract Price in accordance with the Contract Documents. If the parties are unable to agree as to the effect of any such variations in the quantity of Unit Price Work performed, a claim may be made.
- 11.2.6 The negotiated Unit Price shall be applicable only to the variation in quantities above 115% or below 85% of the quantities estimated or indicated.
- 11.2.7 If **Department** or **Contractor** believes that the quantity variation requires an extension or shortening in Contract Time, either party shall within seven working days of knowledge of the variation in quantities, submit a written Proposed Change Order to the other party and to **Engineer**, and substantiate the request within fifteen days thereafter in accordance with the analysis and documentation provisions of the Standard and Supplementary Specifications.

ARTICLE 12 - Warranty and Guarantee; Tests and Inspections; Correction, Removal or Acceptance of Defective Work

Warranty and Guarantee:

- 12.1 **Contractor** warrants and guarantees to **Department** that all Work shall be in accordance with the Contract Documents and shall not be defective. Immediate notice of all defects shall be given to

Contractor by **Engineer**. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article.

- 12.1.1 The obligations of **Contractor** under this paragraph 12.1 shall be in addition to and not in limitation of any obligation imposed upon it by special guarantees required by the Contract Documents or by Law.
- 12.1.2 Notwithstanding anything in these Contract Documents to the contrary, when a particular item of equipment or part of the Work reaches Substantial Completion upon successful performance of Pre-operational Testing, and a) is not placed in continuous service until the commencement of the Correction Period, or b) is placed in continuous service upon reaching Substantial Completion (as a segment of a completed Project) but use will be limited until all segments of the Project reach substantial completion thereby commencing the Correction Period, and notwithstanding anything in the Contract Documents to the contrary, **Contractor** shall maintain the particular item of equipment or part of the Work in good order and in proper working condition during the period between the particular Substantial Completion date and the commencement of the Correction Period, and for such maintenance **Contractor** shall receive no adjustment in Contract Price. Also **Contractor** shall maintain the warranties and guarantees required under paragraph 12.1 of the General Conditions in full force and effect during the period between the particular item's Substantial Completion date and the commencement of the Correction Period, and for such warranties and guarantees **Contractor** shall receive no adjustment in Contract Price.
- 12.1.3 The warranties and guarantees provided by **Contractor** under paragraph 12.1 of the General Conditions shall remain in full force and effect from the date of Substantial Completion of the Work, or part thereof, until one year after the date of commencement of the Correction Period or such a longer period as may be prescribed by Law or the terms of any applicable specific warranty or guarantee required by the Contract Documents or by any specific provision of the Contract Documents.

One Year Correction Period:

- 12.2 If within the period from the date of Substantial Completion of a particular item of equipment or a designated part of the Work to one year after the commencement of the Correction Period, or such longer period as may be prescribed by Federal or New York State Law or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, the particular item of equipment or designated part of the Work is found to be defective, **Contractor** shall promptly, without an adjustment in Contract Price and in accordance with **Department's** or **Engineer's** written instructions, either correct such Defective Work, or if it has been rejected by **Department** or **Engineer**, remove it from the site and replace it with Work which conforms to the requirements of the Contract Documents. **Department** or **Engineer** may direct the correction or removal and replacement of Defective or rejected Work. In addition to any other remedies which **Department** may have, **Contractor** shall pay the indirect and consequential costs of such correction or removal and replacement, including but not limited to fees and charges of engineers, architects, attorneys and other professionals, any additional expenses incurred by **Department** due to delays to others performing work under a separate contract with **Department**, and other contractual obligations, if the Defective Work is not corrected or the rejected Work is not removed and replaced within 30 days of the **Department's** or **Engineer's** written rejection or request for rejection of Work unless otherwise provided for in writing. In the event that **Contractor** fails to pay such costs within thirty days after receipt of an invoice from **Department**, a Change Order or Proposed Change Order may be issued incorporating the unpaid amount, and **Department** shall be entitled to an appropriate decrease in the

Contract Price. If the parties are unable to agree as to the amount thereof, a claim may be made therefore as provided in Articles 9 and 10 and 15 of the General Conditions.

- 12.2.1 At the date of Substantial Completion of the Work, the parties have agreed on the date for commencement of the Correction Period. However, **Department** may at its sole option advance or delay the date for commencement of the Correction Period, and **Contractor's** obligations to extend warranties and guarantees in accordance with paragraphs 12.1.2 and 12.1.3 or to maintain the Work in accordance with paragraph 12.1.2 and 12.1.3 until then shall remain absolute. Applicable Change Orders or Proposed Change Orders shall be executed by the parties to adjust the Contract Price, as appropriate, on the basis of the unit prices declared in **Contractor's** Bid for extended warranty and extended maintenance requirements.
- 12.2.2 No later than 30 days before the date for commencement of the Correction Period, **Engineer** shall notify **Contractor** in writing of the date upon which the Correction Period is expected to commence, and **Contractor** shall ensure that the parts of the Work which reached Substantial Completion upon successful performance of Pre-operational Testing but were not placed in continuous service, are ready in their entirety by such date for use by **Department** as contemplated in the Contract Documents. In addition to any other damages payable by **Contractor** under these Contract Documents, **Contractor** shall also be liable for any damages suffered by **Department** on account of the parts of the Work which reached Substantial Completion upon successful performance of Pre-operational Testing but were not placed in continuous service at the beginning of the Correction Period because they were not ready for continuous utilization for the purposes for which they are intended.
- 12.2.3 Each month during the period between the date of Substantial Completion of parts of the Work which reached Substantial Completion upon successful performance of Pre-operational Testing and the date of commencement of the Correction Period, **Contractor** shall certify to **Engineer** in writing that the said parts of the Work are being properly maintained and will be ready for use by **Department** upon commencement of the Correction Period.
- 12.2.4 During the period described in Section 12.2.3 until commencement of the Correction Period, **Contractor** shall bear all risks of injury, loss, or damage to any part of the Work arising from the elements or from any other cause. **Contractor** shall rebuild, repair, restore, and make good at no cost to **Department** all injuries, losses, or damage to any portion of the Work occasioned by any cause and shall at no expense to **Department** provide suitable drainage and erect such temporary structures and take all other actions as are necessary for the protection of the Work. Suspension of the Work or the granting of an extension in Contract Time for any cause shall not relieve **Contractor** of its responsibility for the Work as herein specified.
- 12.2.5 **Contractor's** responsibilities under this Paragraph 12.2 are in addition to, not in lieu of, all other obligations imposed by these Contract Documents.

Access to Work:

- 12.3 Representatives of **Department**, **Engineer**, and representatives of testing agencies and governmental agencies with jurisdictional interests will have access to the Work at all times for observation, inspection and testing. **Contractor** shall provide proper and safe conditions for such access. Inspections, tests or observations by **Engineer**, **Department** or third parties may be performed to provide information to **Department** on the progress of the Work, however, this provision is not intended to create any duty or obligation to **Contractor** by **Department** or **Engineer**, nor is the information provided intended to fulfill **Contractor's** obligations under the Contract.

Tests and Inspections:

- 12.4 **Contractor** shall give **Engineer** timely notice of readiness of the Work for all required inspections, tests or approvals.
- 12.5 If a Law specifically requires any Work (or part thereof) to be inspected, tested or approved, **Contractor** shall assume full responsibility therefor, pay all costs in connection therewith and furnish to **Engineer** the required certificates of inspection, testing or approval. Except as provided in Article 5, **Contractor** shall be responsible for and shall pay all costs in connection with any inspection or testing required in connection with **Department's** or **Engineer's** acceptance of materials or equipment proposed or submitted to **Department** and **Engineer** for approval prior or subsequent to **Contractor's** purchase thereof for incorporation in the work. The cost of all inspections, tests and approvals in addition to the above which are required by the contract documents shall be paid by **Contractor**.
- 12.6 All inspections, tests or approvals other than those required by Law to be performed or given by public body having jurisdiction over the Work or any part thereof, shall be performed by organizations acceptable to **Department** and **Engineer**. **Contractor** shall perform sufficient inspection and testing of the Work to support the warranty and guarantee requirements of paragraph 12.1 and 12.2 of the General Conditions. Reference is made to the Supplementary Conditions, Standard Specifications and Supplementary Specifications for provisions applicable to the procurement of an independent testing laboratory.
- 12.7 If any Work, including the work of others, that is to be inspected, tested or approved is covered without written concurrence of **Engineer**, it must, if requested by **Engineer**, be uncovered for inspection. Such uncovering shall be at **Contractor's** expense unless **Contractor** has given **Engineer** timely notice of **Contractor's** intention to cover the same and **Engineer** has not acted with reasonable promptness in response to such notice.
- 12.8 Neither inspections by **Engineer** nor inspections, tests or approvals by others shall relieve **Contractor** from **Contractor's** obligations to perform the Work in accordance with the Contract Documents.

Uncovering Work:

- 12.9 If any work is covered contrary to the written request of **Engineer**, it must, if requested by **Engineer**, be uncovered for **Engineer's** inspection and replaced at **Contractor's** expense.
- 12.10 If **Engineer** considers it necessary or advisable that covered Work be inspected by **Engineer** or inspected or tested by others, **Contractor**, at **Engineer's** request, shall uncover, expose or otherwise make available for observation, inspection or testing as **Engineer** may require, that portion of the Work in question, furnishing all necessary labor, material and equipment.
- 12.10.1 If it is found that such Work is Defective, **Contractor** shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing, and of satisfactory reconstruction, including but not limited to fees and charges of engineers, architects, attorneys and other professionals, any additional expenses incurred by **Department** due to delays to others performing work under a separate contract with **Department**, and other contractual obligations, **Contractor** shall further bear the responsibility for keeping the Work on schedule and shall not be entitled to any extension of Contract Time or recovery of any delay damages due to the uncovering.
- 12.10.2 If, however, such Work is not found to be Defective, **Contractor** shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction pursuant to Articles 9, 10 and 11.
- 12.10.3 When covered Work is uncovered and found to be Defective, all direct, indirect and consequential costs as established in paragraph 12.10.1 shall be paid by **Contractor**. In the event that **Contractor** fails to pay such costs within thirty days after receipt of an invoice from **Department**, a Change Order or Proposed Change Order may be issued incorporating the unpaid amount as an appropriate reduction in the Contract Price, and if the parties are unable to agree as to the amount thereof, the **Contractor** may make a claim therefore as provided in Articles 9 and 10 of the General Conditions.

Department May Stop the Work:

- 12.11 If the Work is defective, or **Contractor** fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, **Department** may order **Contractor** to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of **Department** to stop the Work shall not give rise to any duty on the part of **Department** to exercise this right for the benefit of **Contractor** or any other party.
- 12.11.1 **Contractor** shall bear all direct, indirect and consequential costs of such order to **Contractor** to stop Work including but not limited to fees and charges of engineers, architects, attorneys and other professionals, any additional expenses incurred by **Department** due to delays to others performing work under a separate contract with **Department**, and other contractual obligations, and **Contractor** shall further bear the responsibility for maintaining schedule and shall not be entitled to any extension of contract time or recovery of any delay damages due to the order to stop Work.
- 12.11.2 In the event that **Contractor** fails to pay such costs within thirty days after receipt of an invoice from **Department**, a Change Order or Proposed Change Order may be issued

incorporating the unpaid amount as an appropriate reduction in the Contract Price. If the parties are unable to agree as to the amount thereof, the **Contractor** may make a claim therefore as provided in Articles 9, 10, 11 and 15 of the General Conditions.

Correction or Removal of Defective Work:

- 12.12 If required by **Engineer**, **Contractor** shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by **Engineer**, remove it from the site and replace it with non-defective Work that conforms with the Contract Documents. **Contractor** shall bear all direct, indirect and consequential costs of such correction or removal including but not limited to fees and charges of engineers, architects, attorneys and other professionals, any additional expenses incurred by **Department** due to delays to others performing work under a separate contract with **Department**, and other contractual obligations. **Contractor** shall further bear the responsibility for keeping the Work on schedule and shall not be entitled to any extension in Contract Time or recovery of any delay damages due to the correction or removal. In the event that **Contractor** fails to pay such costs within thirty days after receipt of an invoice from **Department**, a Change Order or Proposed Change Order may be issued incorporating the unpaid amount, as an appropriate reduction in the Contract Price. If the parties are unable to agree as to the amount thereof, the **Contractor** may make a claim therefore as provided in Articles 9, 10, 11 and 15 of the General Conditions.

Acceptance of Defective Work:

- 12.13 If, instead of requiring correction or removal and replacement of defective Work, **Department** prefers to accept it, **Department** may do so. **Contractor** shall bear all direct, indirect and consequential costs attributable to **Department's** evaluation and determination to accept such Defective Work, such costs to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, any additional expenses incurred by **Department** due to delays to others performing work under a separate contract with **Department**, and other contractual obligations. **Contractor** shall further bear the responsibility for keeping the Work on schedule and shall not be entitled to any extension in Contract Time or recovery of any delay or acceleration damages due to **Department's** evaluation and determination to accept such Defective Work. If any such acceptance occurs prior to **Engineer's** recommendation of final payment, a Change Order may be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and **Department** shall be entitled to an appropriate reduction in the Contract Price. In the event that **Contractor** fails to pay such costs within thirty days after receipt of an invoice from **Department**, or if the parties are unable to agree as to the amount thereof, **Contractor** may make a claim therefore as provided in Articles 9, 10, 11 and 15 of the General Conditions. If the acceptance occurs after final payment, an appropriate amount will be refunded by **Contractor** to **Department**.

Department May Correct Defective Work:

- 12.14 If **Contractor** fails within a reasonable time after written notice of **Engineer** to proceed to correct and to correct Defective Work or to remove and replace rejected Work as required by **Engineer**, or if **Contractor** fails to perform the Work in accordance with the Contract Documents, or if **Contractor** fails to comply with any other provision of the Contract Documents, **Department** may, after seven days' written notice to **Contractor**, correct and remedy any such deficiency. To the extent necessary to complete corrective and remedial action, **Department** may exclude **Contractor** from all or part of the site, take possession of all or part of the work and suspend or terminate **Contractor's** services related thereto, take possession of **Contractor's** tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which **Department** has paid **Contractor** but which are stored elsewhere. **Contractor** shall allow **Department**, and

Department's representatives, agents and employees such access to the site as may be necessary to enable **Department** to exercise the rights and remedies provided by this paragraph and the Contract Documents. All direct, indirect and consequential costs of **Department** in exercising such rights and remedies will be charged against **Contractor** in an amount approved as to reasonableness by **Engineer**, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and **Department** shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, **Contractor** may make a claim therefore as provided in Article 9, 10, 11 and 15. Such direct, indirect and consequential costs shall include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all costs of delay and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of **Contractor's** Defective Work. **Contractor** shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by **Department** of **Department's** rights and remedies hereunder.

ARTICLE 13 - Payments to Contractor and Completion

Schedule of Values:

- 13.1 The schedule of values established as provided in paragraph 1.4 and 1.6 of the General Conditions shall serve as the basis for progress payments. Progress payments for Unit Price Work shall be based on the number of units completed. **Department** will furnish Application for Payment forms.

Application for Progress Payment:

- 13.2 At least fourteen days before each progress payment is scheduled to be submitted to the Department, **Contractor** shall submit to **Engineer** for review an Application for Payment on forms furnished by **Department** filled out and signed by **Contractor** covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by bills of sale, invoices or other documentation supporting the cost, together with documents warranting that **Department** has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (each and all of these terms are hereinafter referred to as "Liens"). Each Application for Payment shall contain a certification by **Contractor** that progress payments received from **Department** on account of the Work have been applied by **Contractor** and its Subcontractors to discharge in full all of **Contractor's** and its Subcontractors' obligations stated in the prior Application for Payment, and that **Contractor** has verified the accuracy of the progress reported to have been completed by **Contractor** or its Subcontractors in the Application for Payment. Notwithstanding any other provisions of the Contract Documents to the contrary, neither **Department** nor **Engineer** are under any duty or obligation whatsoever to any Subcontractor or Supplier to insure that payments due and owing by **Contractor** to any of them are or will be made. Such parties shall rely only on **Contractor's** surety bonds for remedy of nonpayment by **Contractor**. The amount of retainage with respect to progress payments will be as provided for by the laws of New York State.

- 13.2.1 An Application for Payment a) will not be approved if the as-built documents, including but not limited to Drawings legibly marked in accordance with Contract Documents to record actual construction, are not kept current, and b) will not be approved until the completed as-built documents, showing all variations between the Work as actually constructed and as originally shown on the Drawings and other Contract Documents, have been inspected by **Engineer**. For the purpose of this paragraph, the as-built documents will be considered

current if they include all of the documents itemized in paragraph 5.19 together with any other information that supplements or changes the original Contract Documents which has been delivered or otherwise made known to **Contractor** prior to the time when Application for Payment is to be reviewed by **Engineer**.

- 13.2.2 An Application for Payment will not be approved until **Contractor** has submitted and **Engineer** has reviewed the Progress Schedule and submittals required in Contract Documents which are due prior to that Application for Payment.

Contractor's Warranty of Title:

- 13.3 **Contractor** warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether or not incorporated in the Project, shall pass to **Department** no later than the time of payment free and clear of all Liens.

Review of Applications for Progress Payment:

- 13.4 **Engineer** shall, within five days after receipt of each Application for Payment, either recommend payment in writing and present the Application to **Department** or return the Application to **Contractor** indicating in writing **Engineer's** reasons for refusing to recommend payment. In the latter case, **Contractor** may make the necessary corrections and resubmit the application. After presentation of the application for payment with **Engineer's** recommendation, the amount recommended shall be paid in accordance with New York State Law upon approval of the **Department**.
- 13.5 **Department** may refuse to make payment of the full amount recommended by **Engineer** for one or more of the following reasons: claims have been made against **Department** on account of **Contractor's** performance, or furnishing of the Work, Liens have been filed in connection with the Work, there are other facts or circumstances entitling **Department** to a set-off against the amount recommended, or **Department** has determined that Work performed by **Contractor** does not conform to Contract Documents including, but not limited to, moneys payable by **Contractor** to **Department** pursuant to the requirements of Articles 5 and 12 of the General Conditions. In the event of such refusal to pay the full recommended amount, **Department** must give **Contractor** prompt written notice (with a copy to **Engineer**) stating the reasons for such action.

Substantial Completion:

- 13.6 When **Contractor** considers all or part of the Work ready for its intended use, **Contractor** shall notify **Department** and **Engineer** in writing that the Work, or specified part thereof, is substantially complete except for items specifically listed by **Contractor** as incomplete, and request that **Engineer** issue a certificate of Substantial Completion for the Work, or such specified part thereof. Within a reasonable time thereafter, not to exceed 30 days, **Department**, **Contractor** and **Engineer** shall make an inspection of the Work, or specified part thereof, to determine the status of completion. If **Engineer** or **Department** does not consider the Work, or specified part thereof, substantially complete, **Engineer** shall notify **Contractor** in writing giving the reasons therefor, after consultation with the **Department**. If **Engineer** considers the Work, or part thereof, substantially complete, **Engineer** shall prepare and deliver to **Department** a tentative certificate of Substantial Completion for the Work, or part thereof which shall fix the date of Substantial Completion. There shall be attached to the certificate a list of items to be completed or corrected before final payment, and **Engineer's** written recommendation as to a division of responsibilities between **Department** and **Contractor** pending final payment including but not limited to security, operation, safety, maintenance, heat, utilities, insurance and warranties. **Department** shall have seven days after receipt of the tentative certificate with attachments during

which to make written objection to **Engineer** as to any provisions of the referenced submittals and to direct a revision of the tentative certificate. Unless **Department** and **Contractor** agree otherwise in writing and so inform **Engineer** or **Department** directs the revision of the certificate of Substantial Completion for the Work, or specified part thereof, **Engineer's** recommendation will be binding on **Contractor** until final payment.

- 13.7 **Department** shall have the right to exclude **Contractor** from the Work, or part thereof, after the date of Substantial Completion for the Work, but **Department** shall allow **Contractor** reasonable access to complete or correct items on the tentative list.

Partial Utilization:

- 13.8 **Department** may use any finished part of the Work which has specifically been identified in the Contract Documents, or which **Department**, **Engineer**, and **Contractor** agree constitutes a separately functioning and usable part of the Work that can be used by **Department** without significant interference with **Contractor's** performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

13.8.1 **Department** at any time may direct **Contractor** in writing to permit **Department** to use any such part of the Work which **Department** believes to be ready for its intended use and substantially complete. **Contractor** may certify to **Department** and **Engineer** that said part of the Work is substantially complete and request **Engineer** to issue certificate of Substantial Completion for that part of the Work. Within a reasonable time after such direction, **Department**, **Contractor** and **Engineer** shall make an inspection of that part of the Work to determine its status of completion. If **Engineer** does not determine that part of the Work to be substantially complete, **Engineer** will notify **Department** and **Contractor** in writing giving the reasons therefor. The provisions of paragraphs 13.6 and 13.7 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

13.8.2 **Department** may at any time direct **Contractor** in writing to permit **Department** to take over operation of any such part of the Work although it is not substantially complete. A copy of such request will be sent to **Engineer** and within a reasonable time thereafter **Department**, **Contractor** and **Engineer** shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If **Contractor** does not object in writing to **Department** and **Engineer** that such part of the Work is not ready for separate operation by **Department**, **Engineer** shall submit to **Department** a list of items to be completed or corrected together with a written recommendation as to a division of responsibilities between **Department** and **Contractor**, including but not limited to security, operation, safety, maintenance, utilities, insurance and warranties pending final payment for such Work. **Department** shall have seven days to make written objection to **Engineer's** list and recommended division of responsibilities to direct a revision thereof. Such directed revision or otherwise objected list and recommended division of responsibilities, shall become binding upon **Department** and **Contractor** at the time when **Department** takes over such operation unless they shall have agreed otherwise in writing. During such operation and prior to Substantial Completion of such part of the Work, **Department** shall allow **Contractor** reasonable access to complete or correct items on said list and to complete other related Work.

Final Inspection:

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

Final Application for Payment:

- 13.10 After **Contractor** has completed all corrections to the satisfaction of **Engineer** and **Department** and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 5.19) and other documents - all as required by the Contract Documents, and after **Engineer** has indicated that the Work is acceptable (subject to the provisions of paragraph 13.12), **Contractor** may make application for final payment following the procedures for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers satisfactory to **Department** of all Liens arising out of or filed in connection with the Work. In lieu thereof and as provided for by the laws of New York State and approved by **Department**, **Contractor** may furnish receipts or releases in full and an affidavit of **Contractor** that such receipts and releases include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which **Department** or **Department's** property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, **Contractor** may furnish a Bond or other collateral satisfactory to **Department** to indemnify **Department** against any Lien.

Final Payment and Acceptance:

- 13.11 If, on the basis of **Engineer's** inspection of the work during construction and final inspection, and **Engineer's** review of the final application for payment and accompanying documentation, **Engineer** has determined that the work has been completed in substantial conformance with the contract documents and **Contractor's** other obligations under the contract documents have been fulfilled, **Engineer** will, within ten days after receipt of the final application for payment, indicate in writing **Engineer's** recommendation of payment and present the application to **Department** for payment along with a certificate that the work was completed in substantial conformance with the contract documents. Thereupon **Engineer** will give written notice to **Department** and **Contractor** that the work is acceptable subject to the provisions of paragraph 13.13. Otherwise, **Engineer** will return the application to **Contractor**, indicating in writing the reasons for refusing to recommend final payment, in which case **Contractor** shall make the necessary corrections and resubmit the Application. After presentation to **Department** of the application and accompanying documentation, in appropriate form and substance, and with **Engineer's** recommendation and certification of substantial conformance with the Contract Documents, final payment will be paid by **Department** to **Contractor** in accordance with New York State Law. If **Department** believes deficiencies exist, it will so notify **Engineer** and **Contractor** in writing.
- 13.12 If, through no fault of **Contractor**, final completion of the Work is significantly delayed and if **Engineer** so confirms, **Department** shall, upon receipt of **Contractor's** final Application for Payment and recommendation of **Engineer**, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted.

Waiver of Claims:

- 13.13 The making and acceptance of final payment will constitute:

- 13.13.1 A waiver of all claims by **Department** against **Contractor**, except claims arising from unsettled Liens, from Defective Work appearing after final inspection pursuant to paragraph 13.11 or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by **Department** of any claims or rights with respect to **Contractor's** continuing obligations under the Contract Documents; and
- 13.13.2 A waiver of all claims by **Contractor** against **Department** other than those previously made in writing and still unsettled.

ARTICLE 14 - Suspension of Work and Termination

Department May Suspend Work:

- 14.1 **Department** may for its convenience, order **Contractor** in writing at any time to suspend the Work or any portion thereof for such a period of time as **Department** may determine to be appropriate. A suspension of Work order will fix the date on which the Work, or portion thereof, will be resumed. **Contractor** shall resume the Work, or portion thereof, on the date so fixed.
 - 14.1.1 If the performance of the Work or portion thereof is suspended for a period of time which exceeds the Total Float available in the approved Progress Schedule for the portion or portions controlling the Work affected by a suspension of Work order pursuant to paragraph 14.1, or by an act of **Department** or **Engineer** in the administration of the Contract, or by **Department's** or **Engineer's** failure to act within the applicable latest dates substantiated in the approved Progress Schedule, **Contractor** will be allowed an increase in Contract Price or an extension in Contract Time, or both, necessarily caused by such suspension which extends the applicable latest dates in the approved Progress Schedule. However, no adjustment will be made under this paragraph of the General Conditions for any suspension to the extent: 1) that performance would have been so suspended by any other cause, including the fault and negligence of **Contractor**, or 2) for which an adjustment is provided, limited as to extent, or excluded under any other provision of the Contract Documents.
 - 14.1.2 **Contractor** shall deliver to **Engineer** a written Proposed Change Order including at a minimum, justification for the request within seven days or earlier if so required elsewhere in the Contract Documents, of the act or failure to act which **Contractor** believes gives rise to an adjustment in Contract Price or Contract Time pursuant to paragraph 14.1.1. Failure by **Contractor** to comply with the time requirements for delivery of written Proposed Change Orders will be considered to be a waiver by **Contractor** of any request for adjustment or claim for an increase in Contract Price or Contract Time for the period of time during which the Proposed Change Order has not been submitted.
 - 14.1.3 **Contractor's** proposal with all supporting data shall be delivered within 15 days of such notice or within twenty-two days of such occurrence, whichever is later, unless **Department** allows an additional period of time to obtain more accurate data. **Contractor** shall prove that additional costs and delays were necessarily incurred which meet the criteria set forth in Articles 9, 10 and 11 of the General Conditions, despite **Contractor's** reasonable, prudent, and diligent efforts to prevent such costs or delays.
- 14.2 In addition to the provisions of Appendix B, if **Department** stops Work in accordance with Article 12.10 of the General Conditions or suspends **Contractor's** services in accordance with article 12.11, or suspends the work or any portion thereof because of **Contractor's** failure to prosecute the work and to

protect persons and property, **Contractor** shall not be entitled to an extension of Contract Time or an increase in Contract Price.

Department May Terminate:

14.3 **Department** may terminate for cause upon the occurrence of any one or more of the following events:

- 14.3.1 If **Contractor** commences a voluntary case under any chapter of the Bankruptcy Code, as now or hereafter in effect, or if **Contractor** takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;
- 14.3.2 If a petition is filed against **Contractor** under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against **Contractor** under any other federal or state law in effect at the time relating to bankruptcy or insolvency;
- 14.3.3 If **Contractor** makes a general assignment for the benefit of creditors;
- 14.3.4 If a trustee, receiver, custodian or agent of **Contractor** is appointed under applicable law or under contract, whose appointment or authority to take charge of property of **Contractor** is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of **Contractor's** creditors;
- 14.3.5 If **Contractor** admits in writing an inability to pay its debts generally as they become due;
- 14.3.6 If **Contractor** fails to perform the Work in accordance with the Contract Documents, including, but not limited to, failure to supply sufficient skilled workers, or suitable materials or equipment, or failure to adhere to the progress schedule established under paragraph 1.6 as revised from time to time or failure to submit an updated schedule as required by paragraph 5.6;
- 14.3.7 If **Contractor** disregards Laws or Regulations of any public body having jurisdiction;
- 14.3.8 If **Contractor** disregards the authority of **Engineer**;
- 14.3.9 If **Contractor** filed certification in accordance with New York State Finance Law §139-k which was intentionally false or intentionally incomplete; or
- 14.3.10 If **Contractor** otherwise violates in any substantial way any provision of the Contract Documents;

Department may, after giving **Contractor** and its surety seven days written notice and to the extent permitted by Federal and New York State Law, terminate the services of **Contractor**, exclude **Contractor** from the site and take possession of the Work and of all **Contractor's** tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by **Contractor** without liability to **Contractor** for trespass or conversion, incorporate in the work all materials and equipment stored at the site or for which **Department** has paid **Contractor** but which are stored elsewhere, and finish the Work as **Department** may deem expedient. In such case **Contractor** shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work including but not

limited to fees and charges of engineers, architects, attorneys and other professionals and court costs, such excess will be paid to **Contractor**. If such costs exceed such unpaid balance, **Contractor** shall pay the difference to **Department**. Such costs incurred by **Department** will be approved as to reasonableness by **Engineer** and incorporated in a Change Order or Proposed Change Order.

- 14.4 Where **Contractor's** services have been so terminated by **Department**, the termination shall not affect any rights or remedies of **Department** against **Contractor** then existing or which may thereafter accrue. Any retention or payment or moneys due **Contractor** by **Department** will not release **Contractor** from liability.
- 14.5 Upon seven days written notice to **Contractor** and **Engineer**, **Department** may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, **Contractor** shall be paid for all Work accepted by **Department**.

Contractor May Stop Work or Terminate:

- 14.6 If, through no act or fault of **Contractor**, **Engineer** fails to act on any Application for Payment within thirty days after it is submitted, or **Department** fails for one hundred and twenty days to pay **Contractor** any sum finally determined to be due by **Department**, then **Contractor** may, upon seven days' written notice to **Department** and **Engineer**, terminate the Agreement and recover from **Department** payment for all Work accepted by **Department**. In lieu of terminating the Agreement, if **Engineer** has failed to act on an Application for Payment or **Department** has failed to make any payment as aforesaid, **Contractor** may upon seven days' written notice to **Department** and **Engineer** stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve **Contractor** of the obligations under paragraph 5.30 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with **Department**.

ARTICLE 15 - Disputes

Giving Notice:

- 15.1 All claims, counterclaims, disputes and other matters in question between **Department** and **Contractor**, arising out of or relating to the Contract Documents or the breach thereof (hereafter referred to claims) except for claims which have been waived by the making or acceptance of final payment as provided in paragraph 13.11, shall be resolved under this Article.

- 15.1.1 A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under this Article. Such a submission may be converted to a claim under this Article by complying with the requirements of this Article, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.
- 15.2 A claim by **Contractor** shall be made in writing and submitted to **Department** for evaluation with a copy to **Engineer**.
- 15.3 A written demand or written assertion by **Contractor** seeking the payment of money exceeding \$10,000 is not a claim under this Article until certified as required below. For claims exceeding \$10,000 **Contractor** shall submit with the claim a certification that:
 - 15.3.1 The claim is made in good faith,
 - 15.3.2 Supporting Cost and Pricing Data are current, accurate, and complete to the best of the **Contractor's** knowledge and belief, and
 - 15.3.3 The amount of the claim accurately reflects the adjustments in Contract Price or Contract Time which **Department** has agreed to or for which **Contractor** believes **Department** is liable.
- 15.4 The **Contractor's** certification shall be executed by **Contractor's** Authorized Representative specified in the Contract Documents.
- 15.5 For claims of \$10,000 or less, **Department** shall render a decision if requested in writing by **Contractor**. For **Contractor** certified claims over \$10,000, **Department** shall decide the claim or notify **Contractor** of the date by which the decision will be made.
- 15.6 **Department's** decision shall be final unless **Contractor** initiates legal action within 120 days of **Department's** final decision.
- 15.7 **Contractor** shall proceed diligently with performance of Work under this Contract, and comply with any decision of **Engineer** or **Department** pending final resolution of any request for relief, claim, appeal, or action arising under the Contract.
- 15.8 **Contractor** agrees that all claims shall be subject to resolution pursuant to **Department** procedures as described in the Disputes article of the Agreement.

ARTICLE 16 - Miscellaneous

Notice and Service:

- 16.1 All notices, demands, requests, instructions, approvals and claims shall be in writing.
 - 16.1.1 Any notice to or demand upon **Contractor** shall be deemed sufficient if delivered to **Contractor's** representative at the site or if delivered to the individual proprietor if **Contractor** is an individual, to a partner if **Contractor** is a partnership or to an officer of the corporation if **Contractor** is a corporation, at the office of **Contractor** specified in the Contract Documents, or if deposited in the United States mail in a sealed, postage prepaid envelope, addressed to the principal office of **Contractor** listed in the Agreement, or if delivered with charges prepaid to any telegraph company for transmission, in each case

addressed to the office of **Contractor** specified in the Contract Documents or faxed to the number provided in the Contract Documents and followed by written notice.

- 16.1.2 All notices or other papers required to be delivered by **Contractor** to **Department**, or to any of its representatives shall, unless otherwise specified in writing to **Contractor**, be delivered to **Department** at the office specified in the Contract Documents. Any other notice or demand upon **Department** shall be deemed sufficient if delivered to such office, or if deposited in the United States mail in a sealed, postage prepaid envelope, or if delivered, with the charges prepaid to any telegraph company for transmission, in each case addressed to such office or to such other representative of **Department** or to such other address as **Department** may subsequently specify in writing to **Contractor** for such purpose, or faxed to the number provided in the Contract Documents and followed by written notice.
- 16.1.3 Any written notice or other communication to **Contractor's** Surety or Sureties shall be delivered or mailed to the home office of the Surety or Sureties, or to the agent or agents who executed the Bonds on behalf of the Surety or Sureties.
- 16.1.4 Any such notice or demand shall be deemed to have been given or made as of the time of actual delivery, or, in the case of mailing or of telegrams, at the time of actual receipt thereof.

Computation of Time:

- 16.2 When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last calendar day of such period. If the last calendar day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the State of New York, such day will be omitted from the computation. This does not apply to contract completion time as set forth in Article 6 of the Agreement.

General:

- 16.3 Should **Department** or **Contractor** suffer injury or damage to person or property because of an act or omission to act of the other party, its employees or agents or others for whose acts the other party is legally liable, a Claim may be made therefore, in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.
- 16.4 The duties and obligations imposed by these General Conditions and the rights and remedies available to the parties hereunder, including but not limited to the warranties, guarantees and obligations imposed upon **Contractor** by Contract Documents and all of the rights and remedies available to **Department** thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by New York State Laws, by special warranty or guarantee or by other provisions of the Contract Documents. The provisions of this paragraph shall be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy. All representations, warranties and guarantees made in the Contract Documents shall survive final payment and termination or completion of the Agreement.
- 16.5 The obligation of **Contractor** to maintain the Work, or any part thereof, until the completion of the Correction Period shall survive final payment and termination or completion of the Agreement.

No Waiver of Legal Rights:

- 16.6.1 Inspection by **Engineer** or by any of its duly authorized representatives, any measurement or report by **Engineer**, any order by **Department** for the payment of money, any payment for or acceptance or possession of any Work or any extension in Contract Time or any possession taken by **Department** shall not operate as a waiver of any provision of the Contract Documents, or any power therein preserved to **Department**, or of any right to damages therein provided. Any Waiver of any breach of this Contract shall not be held to be a waiver of any other or subsequent breach.
- 16.6.2 **Department** reserves the right to correct any error that may be discovered in any estimate that may have been paid, and to adjust the same to meet the requirements of the Contract Documents. **Department** further reserves the right, should proof of Defective Work on the part of **Contractor** be discovered after the final payment has been made, to claim, and recover by process of law, such sums as may be sufficient to correct the error, or make good the defects in the Work.
- 16.6.3 Any waiver of any provision of the Contract Documents shall be specific, shall apply only to the particular item or matter concerned and shall not apply to other similar or dissimilar items or matters.

Affidavit and Release of Lien:

- 16.7.1 When the Work has been completed, **Contractor** shall execute a final release of Lien and an Affidavit declaring that all bills have been paid in full, and that the requirements of the New York State Labor Law have been complied with.
- 16.7.2 These documents will be furnished to **Department** on the forms included with the Contract Documents.
- 16.7.3 **Contractor** shall be responsible for obtaining and submitting these forms to **Department** for all subcontractors involved in the Work.

Recovery Rights Subsequent to Final Payment:

- 16.8 **Department** reserves the right, should an error be discovered in an Application for Payment or should proof of Defective Work or materials used by or on the part of **Contractor** be discovered after the final payment has been made, to claim and recover from **Contractor** or his Surety, or both, by process of law, such sums as may be sufficient to correct the error or make good the defects in the Work and materials.

General Guarantee:

- 16.9 Neither the final acceptance, nor final payment by **Department**, nor any provision of the Contract Documents, nor partial or entire use of the Work by **Department**, shall constitute an acceptance of Work not done in accordance with the Contract Documents or relieve **Contractor** of liability in respect to any express warranties or responsibility for faulty materials or workmanship. **Contractor** guarantees the remedy of all Defective Work and payment for all damage to other Work, persons or property resulting therefrom which shall occur within one year from the date of final acceptance unless a longer period is required by Contract Documents, by Law, or by standard practice. **Department** will give notice of observed Defective Work with reasonable promptness. **Contractor** shall ensure that its Surety shall be bound with and for **Contractor** in the faithful observance of this General Guarantee.

Audit; Access to Records:

- 16.10.1 In addition to the rights of access set forth in Appendix A, if **Contractor** has submitted Cost and Pricing Data in connection with the pricing of any Change Order, Proposed Change Order or Claim related to this Contract, **Department** and **Engineer** or any of their duly authorized representatives shall have the right to examine and audit all books, ledgers, records, and documents pertinent to all Cost and Pricing data available and relied upon by **Contractor** including but not limited to that used by **Contractor** in the determination of its Bid for the Work, in order to evaluate the accuracy, completeness, and currency of the Cost or Pricing data.
- 16.10.2 **Contractor** shall make available at **Contractor's** office at all reasonable times the materials described in paragraph 16.10.1 above, for examination, audit, or reproduction, until 6 years after final payment under this Contract.
 - 16.10.2.1 If this Contract is completely or partially terminated, the records relating to the Work terminated shall be made available for 6 years after any resulting final termination settlement.
 - 16.10.2.2 Records pertaining to appeals under Article 15 of Section 8, "General Conditions," to litigation or the settlement of claims arising under or relating to the performance of this Contract shall be made available until disposition of such appeals, litigation, or claims.
- 16.10.3 A provision stating that all the requirements of this Article of Section 8, "General Conditions" are applicable to Subcontracts under this Contract exceeding \$50,000 in value shall be inserted by **Contractor** in all such subcontracts.

Price Reduction for Defective Cost or Pricing Data:

- 16.11.1 This provision shall become operative only for any Change Order, or Proposed Change Order or claim settlement under this Contract involving aggregate increases and/or decreases in costs, plus applicable profits, of more than \$10,000; except that this provision shall not apply to any amendment to the Contract for which the price of the Work involved in the amendment is:
 - 16.11.1.1 Based on adequate price competition;
 - 16.11.1.2 Based on established catalog or market prices of commercial items sold in substantial quantities to the general public, or
 - 16.11.1.3 Set by New York State law.

- 16.11.2 If any price, including profit, negotiated in connection with any Change Order, Proposed Change Order or claim settlement under this provision, was increased because: 1) **Contractor** or a Subcontractor, Supplier, other person or organization furnished Cost and Pricing Data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data; 2) a designated or prospective Subcontractor, Supplier, other person or organization furnished **Contractor** Cost and Pricing Data that were not complete, accurate, and current as certified in the **Contractor's** Certificate of Current Cost and Pricing Data; or 3) any of these parties furnished data of any description that were not accurate, the price shall be changed accordingly and the Contract shall be adjusted to reflect the change. This right to a change in Contract Price is limited to that resulting from defects in data relating to amendments to the Contract for which this provision becomes operative under paragraph 16.11.1 above.
- 16.11.3 Any decrease in Contract Price under paragraph 16.11.2 above due to defective data from a designated or prospective Subcontractor, Supplier, other person or organization that was not subsequently awarded the Subcontract or purchase order shall be limited to the amount, plus applicable overhead and profit markup, by which 1) the actual Subcontract or purchase order or 2) the actual cost to **Contractor**, if there was no Subcontract or purchase order, was less than the prospective Subcontract or purchase order, cost estimate submitted by **Contractor**; provided, that the actual Subcontract or purchase order price was not itself affected by defective cost or Pricing data.
- 16.11.4 Before awarding any Subcontract or purchase order which exceeds or can be reasonably expected to exceed \$150,000 when entered into, or pricing any Change Order or Proposed Change Order or claim settlement involving a pricing adjustment expected to exceed \$10,000, **Contractor** shall require the Subcontractor, Supplier, other person or organization to submit Cost or Pricing data (actually or by specific identification in writing), unless the price is:
- 16.11.4.1 Based on adequate price competition;
- 16.11.4.2 Based on established catalog or market prices of commercial items sold in substantial quantities to the general public; or
- 16.11.4.3 Set by New York State law.
- 16.11.5 **Contractor** shall require such Subcontractor, Supplier, other person or organization to certify in the form prescribed in the Contract Documents, that to best of its knowledge and belief, the data submitted under paragraph 16.11.4 is accurate, complete, and current as of the date of agreement on the negotiated price of the Subcontract, purchase order, Change Order, Proposed Change Order, or claim settlement affecting the Subcontract.
- 16.11.6 **Contractor** shall make the provisions of this Article applicable to all Subcontracts or purchase orders that exceed or can be reasonably expected to exceed \$150,000.

No Waiver:

- 16.12.1 The rights and remedies set forth in the Contract Documents are not exclusive and are in addition to any other rights and remedies provided by law or equity. The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by New York State law.
- 16.12.2 No act or omission by **Department** or **Contractor** shall constitute a waiver of any right or duty afforded any of them under the Contract Documents, nor shall any such act or omission constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

Comparable or Equivalent Terms:

- 16.13.1 **Contractor** warrants, represents and guarantees that all of the prices, terms, warranties and benefits granted to **Department** under the Contract are comparable to or better than the equivalent terms, prices, warranties and benefits offered to any other existing customer for similar Work.
- 16.13.2 In addition to the other remedies available, **Department** may demand repayment for any excess payment, plus interest thereon, for failure of **Contractor** to comply with paragraph 16.13.1.

Unlawful Provisions Deemed Stricken:

- 16.14.1 If the Contract Documents contain any unlawful provisions, such unlawful provisions shall be of no effect. Any provision determined to be unlawful by a court of competent jurisdiction, shall be deemed stricken from the Contract Documents without affecting the validity of the remaining provisions of the Contract Documents.

All legal Provisions Included:

- 16.15.1 All provisions of Law required to be included in the Contract Documents shall be and are inserted herein. If through mistake, neglect, oversight or otherwise, any such provision has not been included or included in improper form, upon the application of either party, the Contract Documents shall be amended in writing at no increase in Contract Price nor extension in Contract Time, so as to comply with the Law.

No Estoppel:

- 16.16 **Department** or any officer, employee, servant or agent thereof, shall not be estopped, bound or precluded by any determination, return, decision, approval, order, letter, payment or certificate made or given by **Engineer** or any other officer, employee, servant or agent of **Department**, at any time, either before or after final completion and acceptance of the Work and payment therefor:
 - 16.16.1 From showing the true and correct amount, classification, quality, and character of the Work completed and materials furnished by **Contractor** or any other person under the Contract, or from showing at any time that any determination, return, decision, approval, order, letter, payment, or certificate is untrue and incorrect, or improperly made in any particular, or that

the Work or the materials or any part thereof, do not in fact conform to the Contract Documents; or,

- 16.16.2 From demanding the recovery of any overpayments made to **Contractor**, or such damages as **Department** may sustain by reason of failure to perform each and every term, provision or condition of the Contract in accordance with its terms.

Prohibited Interests:

- 16.17 No official of **Department** who is authorized in such capacity on behalf of **Department** to negotiate, make, accept or approve or to take part in the negotiating, making or approving any architectural, engineering, inspection, construction or material supply contract or any Subcontractor in connection with the Work or the Project of which the Work is a part, shall be knowingly permitted by **Contractor** to become directly or indirectly interested personally in this Contract or in any part thereof. No officer, employee, architect, attorney, engineer or project representative of or for **Department** who is authorized in such capacity and in behalf of **Department** to exercise any executive, supervisory or other similar function in connection with the Work or the Project of which the Work is a part shall be knowingly permitted by **Contractor** to become directly interested personally in this Contract or in any part thereof.

No Third Party Beneficiary:

- 16.18 Contractor acknowledges and agrees that it is not a third party beneficiary to any other agreement between the **Department** and any third party and/or any work product prepared or work performed for the **Department** by any third party, including but not limited to the contract between and/or work or work product performed by the **Engineer**; that nothing in the bid documents or the contract document shall be construed so as to give the contractor any legal or equitable claim, right or remedy against any other party with whom the **Department** has contracted, including but not limited to the **Engineer**; that nothing in any separate agreement between **Department** and any third party, including but not limited to the **Engineer** shall be construed to give the contractor any legal or equitable claim, right or remedy against such third party; rather such agreements are acknowledged and agreed to be intended to be for the sole exclusive benefit of the parties thereto. Contractor further acknowledges and agrees that its sole rights and remedies in connection with its bidding and performance of the work to be performed by it under the bid documents and contract documents are limited to such rights and remedies as are provided under the bid documents and contract documents. Further, contractor acknowledges and agrees that no claim against any third party, including but not limited to the **Engineer**, which is in separate contractual privity with the **Department**, shall arise out of such contractor's or the **Engineer's** performance of services for the **Department** pursuant to such separate contract.

Nothing herein shall release or waive any direct claim which the **Department** may have against any such separate contractor, including the **Engineer**, pursuant to the terms of the **Department's** contract with such third party.

Should any direct claim be brought by contractor against any third party in separate direct contractual relationship with the **Department**, contractor agrees to reimburse to the **Department** and to such separate contractor, including **Engineer**, their reasonable and necessary costs, including legal fees, incurred in the defense of such claim or claims.

SECTION IX

Supplementary Conditions

None

SECTION X

Standard Specifications

00001	Progress Schedule
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SECTION X

Standard Specifications

SPEC 00001

Progress Schedule

1) *Terms and Definitions*

The terms listed below (or pronouns in place of them) have the following intent and meanings which are applicable to both the singular and plural thereof.

- a) **Activity** - A part of the Work identified in the Progress Schedule, assigned a description, duration, certain codes, and other related Shop Drawing data, and Cost and Pricing data, and evaluated to start and finish in accordance with Early and Late Schedules.
- b) **Activity, Critical** - An Activity is considered to be Critical when it is evaluated to have the minimum value of Total Float Time available in the Progress Schedule.
- c) **Activity, Value** - That portion of the contract Price which represents a fair value for the part of the Work identified by that Activity.
- d) **As-Built Schedule** - Term used to denote record schedule drawings and data substantiating how the Work was performed as to timing, sequencing and rate of progress.
- e) **Bar Chart Diagram** - A graphical representation of how the Work is to be performed as shown by timing each activity between a single choice of anticipated start and finish dates.
- f) **Critical Path** - The sequence of Critical Activities from the Date for Commencement of the Contract Time, or Contract Times, to Substantial Completion of the Work, or part thereof.
- g) **Critical Path Method Diagram** - A graphical representation of how the Work is to be performed as represented by the sequencing and timing of the Activities. A CPM Diagram shall either follow an "arrow" (I-J) format, wherein the start of an Activity is dependent upon the finish of preceding Activities, or a "precedence" format, wherein either the start or finish of an Activity is dependent upon either the start or finish of preceding Activities.
- h) **Dummy restraints** - Activities not identifying a part of the Work, and used to preserve proper logic sequencing, avoid duplicate Activity numbering, to enforce Work Sequences indicated in or required by the Contract Documents, or to achieve other preferential sequencing chosen by **Contractor**.
- I) **Duration (Activity)** - Estimated or required time of performance for the part of the Work

represented by that Activity.

- j) **Free Float** - Working days by which an Activity may be delayed from its Early Schedule, without delaying any other Activities from their Early Schedules.
 - k) **Contract Float** - Working days between the date(s) for Substantial Completion shown for the Work, or part thereof, in **Contractor's** anticipated Early Schedule, and the corresponding Contract Time or Contract Times.
 - l) **Total Float** - Working days between the Early Schedule and the Late Schedule for an Activity by which that Activity may be delayed without necessarily extending the Contract time, or Contract Times.
 - m) **Early Schedule (Late Schedule)** - The proposed Early Dates (Late Dates) of performance for the parts of the Work represented by the Activities. The Early dates are predicated on proceeding with the Work, or part thereof, exactly on the date when the Contract Time, or applicable Contract Time, commences to run; and the Late dates are based on achieving Substantial Completion of the Work, or part thereof, exactly on the Contract Time, or applicable Contract Times.
 - n) **Percent Complete** - That portion of an Activity which when multiplied by the Activity Value will yield a fair proportion of the Contract Price for that part of the Work completed.
 - o) **Preferential Logic** - **Contractor's** approach to sequencing of the Work over and above those sequences indicated in or required by the Contract Documents. Examples include equipment restraints, crew movements, form reuse, special logic (lead/lag) restraints, etc. factored into the Progress Schedule instead of disclosing the associated Float Times.
- 2) **Requirements Included**
- a) Pursuant to the requirements of the Contract Documents, **Contractor** shall prepare and submit, finalize, and periodically adjust the Progress Schedule as required herein.
 - b) This Section of the Specifications requires **Contractor** to plan, manage, schedule and execute the Work in accordance with a Progress Schedule meeting the requirements of the Contract Documents; that **Contractor's** Progress Schedule stay current with **Contractor's** approach to performing Work remaining; that the Progress Schedule, when approved, be jointly used by **Owner**, **Engineer** and **Contractor** to substantiate or mitigate the impact of delays and Change Orders; and that **Contractor** prepare record schedule drawings and data showing how the Work is being performed as to sequencing, timing, and rate of progress.
- 3) **Bar Chart Description**
- a) A Bar Chart Diagram does not show express logic ties, nor does it compute Early or Late Dates as defined above. Although a Bar Chart Diagram may show Contract Float time, it does not disclose Activity Total Float values.

- b) Total Float and Contract Float are not for the exclusive benefit of **Owner, Engineer, Contractor**, or others, but is time available to all parties as needed for the Contract as a whole. Such Float times shall be shared between **Owner, Engineer, Contractor** and others to absorb delays which could not be mitigated by any other reasonable means.
- c) Activity representative quantities, Activity Value, Activity Percent Complete data, Activity Value of Work performed, and the applicable Value of significant subcomponents. The sum of all Activity Values shall equal the corresponding Contract Price for the Work. The sum of all Activity Values for Work performed divided by the Contract Price shall equal the Percent Complete for the Work.

4) ***Critical Path Method (CPM) Description***

- a) The Progress Schedule shall be based on the Critical Path Method (CPM) of planning and scheduling, and prepared, finalized, and revised in accordance with the principles, definitions and terms described hereafter and those standards of the industry for CPM scheduling which are not in conflict with this Specification.
- b) CPM Diagrams shall show in detail the priority, sequencing and interdependence of Activities, and the sequence in which the Work is to be accomplished to: a) to comply with the Contract Time(s), named allowances, and those sequences of Work indicated in or required by the Contract Documents; b) to anticipate foreseeable events that may in any manner affect cost, progress, schedule, performance, and furnishing of the Work; and c) to reflect the means, methods, techniques, sequences, and procedures of construction anticipated by **Contractor**, subject to the limitations on Float sequestering set forth by this Specification.
- c) Total Float and contract Float are not for the exclusive benefit of **Owner, Engineer, Contractor, OR OTHERS**, but is time available to all parties as needed for the Contract as a whole. Such Float Times shall be shared between **Owner, Engineer, Contractor** and others to absorb delays which could not be mitigated by any other reasonable means. Use of Float Time shown in the approved progress Schedule for interim milestones or Contract Times will be available to **Owner**, if required to effect proper interfacing between work performed.
- d) Use of float suppression techniques such as preferential sequencing, special lead/lag logic restraints, extended Activity times, imposed Activity dates, scheduling items of Work required for Final Completion as though they were prerequisites to Substantial Completion, and others, and 2) use of Float time disclosed or implied by the use of alternate Float suppression techniques will be allowed, provided: a) that **Contractor** not engage in Float manipulations which have the net effect of "sequestering" Float, that is to reduce unilaterally otherwise available Float Time by more than 50 percent; and b) that **Contractor** agrees that in order to mitigate the impact of delays to the Work, or parts thereof, adjustment or removal of such Float suppression techniques will be a prerequisite to consideration of any requests for compensation for delay or acceleration or for extensions in Contract Time.
- e) The finalized Schedule of Values will be acceptable to **Engineer** as to form and substance, and will serve as the basis for progress payments.

- f) The finalized Schedule of Shop Drawing submissions will be acceptable to **Engineer** as providing a workable arrangement for processing the submissions.

5) ***Progress Schedule Submittals for CPM Schedules***

- a) All CPM Diagrams, Schedule of Values, Schedule of Shop Drawing submissions, associated computer reports, and narratives submitted by **Contractor** shall be consistent with the requirements of this Specification.
- b) The "Preliminary" submittal set shall consist of:
 - 1) A CPM Diagram and associated Schedule of Values and a supporting narrative.
 - 2) A User Manual for the scheduling software to be used by **Contractor** for the purposes of computation of the Progress Schedule.
- c) The "Interim" submittals shall consists of the interim CPM Diagram and associated Schedule of Values and Schedule of Shop Drawings submissions and a supporting narrative.
- d) The "Detailed" submittal set shall consist of:
 - 1) The Detailed CPM Diagram, and the reports associated with the Schedule of Values, and Schedule of Shop Drawing submissions, and a supporting narrative.
 - 2) The five associated Activity reports described in paragraph 18.A sorted by each of the first four sequencing criteria described in paragraph 18.D.
- e) "Status" submittal sets shall consist of "mark-up" versions of the current Detailed CPM Diagram, Schedule of Values, and Schedule of Shop Drawings, together with a supporting narrative.
- f) "Update" submittal sets shall consist of revised Detailed CPM Diagrams, Schedule of Values and Schedule of Shop Drawings, the six associated computer reports, a detailed **Contractor's** Cost report, and a supporting narrative.
- g) The "Contract Completion" submittal set shall consist of the Detailed Contract Completion Schedule, and associated computer reports.
- h) The "As-Built" submittal set shall consist of the As-Built CPM Diagram, and a "Schedule Reconciliation" report.

6) ***Quality Assurance of Progress Schedule***

- a) **Engineer** will review and if acceptable, approve the Progress Schedule.
- b) In preparing a version of the Progress Schedule, pursuant to paragraph 1.6 of the General Conditions and Supplementary Conditions, it is the responsibility of **Contractor** 1) to inspect the preaward "Preliminary Progress Schedule" submitted in compliance with Article 11 of Section III of the Contract Documents, 2) to verify site conditions that may in any manner affect cost, scheduling, progress, performance and furnishing of the Work, 3) to work with each major Subcontractor, Supplier, or other relevant person or

organization to obtain information on Activities, sequencing, and Activity Durations for incorporation into the Progress Schedule, and 4) to request and obtain written interpretations from **Engineer** as needed.

- c) The Detailed Progress Schedule shall break down the Work into Activities in sufficient detail to identify clearly all individual parts of the Work and those factors which may in any manner affect the cost, schedule, progress, performance, and furnishing of the Work. At a minimum, the break down of the Work in the detailed Progress Schedule submittal for CPM schedules only, shall delineate the following:
- 1) Those Activities designating the date for commencement of the Contract Time, or Contract Times; those Activities leading to Substantial Completion of the Work, or parts thereof; and those Activities identifying parts of the Work to be performed or furnished leading from Substantial Completion to Final Completion.
 - 2) All special Work sequences, schedule milestones, intermediate Contract Times, and named allowances set forth in the Contract Documents.
 - 3) Items pertaining to securing prerequisite permits and approvals from those agencies with jurisdiction over Work to be performed under the Contract.
 - 4) All items of Work involved in the preparation, submittal, review and approval of Shop Drawings and samples required by the Specifications.
 - 5) Appropriate times required for the fabrication, delivery, receipt and inspection, and storage of items of materials and equipment.
 - 6) Work associated with installation, erection and other field construction activities.
 - 7) Items of Work required to work around existing physical conditions and Underground Facilities which are at or contiguous to the site including the time for permanent or temporary relocation of such existing physical conditions and/or underground facilities.
 - 8) Items of interface which relate to the responsibilities of **Owner, Engineer** or other contractors performing work under separate contracts with **Owner**.
 - 9) Work required to implement cut-offs or closures, power shutdowns or temporary or permanent take-down or interruptions to existing facilities or affecting the operations of **Owner**, utilities or similarly involved third-parties. Specific dates when such cut-offs, etc. are to take place shall be shown as milestone dates on the appropriate Activities.
 - 10) All items of Work related to shop and field testing, associated trimout activities and specified manufacturer or supplier training required prior to placing the facilities in service, including but not limited to manufacturer or supplier installation checks; leak, disinfection and pressure tests; removal or erection of temporary components; tie-ins; flushing and chemical/mechanical cleaning operations; specified performance tests; and other necessary non-operating tasks adjustments, cold-alignment checks, corrections, housekeeping and spare parts stocking required of **Contractor** to conform to the Pre-operational testing

requirements of the Contract Documents.

- 11) All items of Work associated with the performance of the Start-Up Testing requirements of the Contract Documents, including, but not limited to, trial operation tests and operator training, performance tests under simulated and design operating conditions, emission testing, final acceptance or guarantee tests.
 - 12) Work related to the tentative list of items to be completed or corrected before and subsequent to Pre-operational, Startup Testing and Final Testing.
- d) The following limitations shall also apply to the selection and scoping of Activities for CPM schedules only:
- 1) Activity Durations shall be in working days and represent **Contractor's** best estimate of the time required for completion based on the Work included and the resources planned for that Activity. The computation of the Activity dates shall be based on a calendar recognizing the applicable holidays and the limitations on Work during hours other than the normal working hours set forth in the General Conditions and the Supplementary Conditions.
 - 2) Unless otherwise provided in the Special Progress Schedule Requirements, all Activities, except those identifying Work related to Shop Drawings and deliveries, shall span twenty working days or less, and their Values shall not exceed \$45,000. Duration requirements for Activities identifying Work related to **Engineer's** review of Shop Drawing or sample submissions are prescribed in the Special progress Schedule Requirements.
 - 3) Installation Activities shall not combine Work located in separate structures, buildings or facilities, nor Work corresponding to different Divisions of the Specifications. Submittal and associated delivery Activities shall identify each submittal required by the Sections of the specifications. Activities identifying Work in connection with Pre-Operational or Start-up Testing shall not combine Work pertaining to the different Division within the specifications.
 - 4) Reference is made to Article 1.11 of this specification for the identification of allowances and their incorporation into the Progress Schedule.
 - 5) Items that qualify as (a) on-site stored materials, fixtures and equipment and (b) undelivered equipment, shall be separately identified on the Progress Schedule.

7) ***References for CPM Schedules***

- a) The text "Precedence and Arrow Networking Techniques for Construction," by R.B. Harris (Wiley, 1978), provides principles, definitions and terms common to CPM arrow and precedence diagrams, and schedule computations therefrom.
- b) The provisions of this Section are binding on **Contractor** in the event of a conflict between the Standard Specifications and this Specification.

8) ***Review of Progress Schedule Submittals***

- a) **Engineer's** and **Owner's** review of **Contractor's** Progress Schedule submittals will be

only for conformance with the Contract Time(s), those sequences of Work indicated in or required by the Contract Documents, the Float sharing concepts established in the Contract Documents, and for compliance with the requirements of this Specification and the information given in the Contract Documents. **Engineer's** and **Owner's** review, comments and exceptions taken, if any, shall not extend to, nor constitute directions nor approval of, the means, methods, techniques, sequences, or procedures of construction or safety precautions, the correctness of which shall be the sole responsibility of **Contractor**.

- b) **Engineer's** and **Owner's** review of progress schedule submittals will be predicated on a **Contractor's** stamp of approval signed off by **Contractor**. **Contractor's** stamp of approval on Progress Schedule submittals shall constitute a representation to **Owner** that **Contractor** has either determined or verified all data on the Progress Schedule submittal, or assumes full responsibility for doing so, and that **Contractor** and his Subcontractors, Suppliers or other persons or organizations have reviewed and coordinated the sequences shown in the Progress Schedule with the requirements of the Work under the Contract Documents.
- c) **Engineer's** and **Owner's** review will not be intended to be for the purpose of determining the accuracy of other matters that may be contained in the submittals. When the review of a Progress Schedule results in a number of comments or exceptions taken, **Engineer** and **Owner** does not warrant that these comments are inclusive of all variations, as it shall remain the responsibility of **Contractor** to meet the requirements of the contract documents and to identify expressly any proposed variations.
- d) **Engineer's** and **Owner's** review of progress schedule submittals shall not relieve **contractor** from responsibility for any variations from the requirements of the Contract Documents unless **Contractor** has in writing, by means of a specific notice, called **Engineer's** attention to each variation, and **Engineer** has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Progress Schedule submittal.
- e) **Engineer's** approval of Progress Schedule submittals will not relieve **Contractor** from responsibility for errors and omissions in the submittals or from responsibility for having complied with the provisions of General Conditions and Supplementary Conditions. Approval of a Progress Schedule with undisclosed variations or errors such as omitted Work or erroneous sequences will not relieve **Contractor** from completing the omitted or impacted Work within the applicable Contract Time(s).
- f) Progress Schedules that include Activities with negative Float Times, or Activities scheduled beyond the applicable Contract Time(s), will not be approved until a specific Change Order or Proposed Change Order authorizing appropriate changes to the impacted Contract Time(s) is agreed upon between **Owner** and **Contractor**.
- g) When reviewed by **Engineer** and **Owner**, each progress schedule submittal will be returned stamped as either "approved," "approved as noted," "resubmit with revisions," or "disapproved." Submittals stamped as "approved" or "approved as noted" will indicate approval thereof, subject to the limitations set forth, and will be considered to represent the approved progress schedule as of the date in the approval stamp until an updated progress schedule is submitted by **Contractor** and approved by **Owner** and **Engineer**.
- h) If **Contractor** believes that **Engineer's** approval of a progress schedule justifies an

increase or decrease in contract price or an extension or shortening in contract time, **Contractor** shall be required to deliver a proposed change order thereof to **Engineer** in accordance with the provisions of article 9 of the general conditions. If **Owner** and **Contractor** are unable to agree as to amount and extent thereof, a claim may be made pursuant to Articles 10 and 11 of the General Conditions.

- I) Costs associated with **Engineer's** and **Owner's** review and return of a progress schedule submission after the **Engineer's** second time review shall be borne by **Contractor**. **Owner's** charges to **Contractor** for additional reviews will be equal to **Engineer's** charges to **Owner** under the terms of **Engineer's** agreement with **Owner**. In the event **Contractor** fails to pay such costs within 30 days after receipt of an invoice from **Owner**, a change order or proposed change order will be issued incorporating the unpaid amount, and **Owner** will be entitled to an appropriate decrease in Contract Price.
- j) No partial submittals will be reviewed. Submittals not complete will be returned to **Contractor** for resubmittal.

9) ***Delays and Recovery***

- a) Reference is made to the General Conditions and the Supplementary Conditions for Contract requirements related to delays, conditions warranting extensions in Contract Time(s), and conditions applicable to reimbursement for delay costs.
- b) Whenever **Contractor** fails to complete an activity within its late date on the approved progress schedule, **Contractor** shall, within five days or with the next application for payment, whichever comes earlier, submit a written statement to **Engineer** describing the cause for the slippage in the Activity and the actions being considered by **Contractor** to recover the time lost and to prevent or mitigate any derived slippage beyond the applicable Contract Time(s).
- c) A written schedule recovery statement shall include, but not be limited to, such actions as overlapping of dependent Activities, sequencing changes to accommodate increased Activity concurrency, assignment of additional labor or equipment, shift or overtime Work, expediting of submittals or deliveries, or any combination of the foregoing.
- d) If **Contractor** refuses, fails or neglects to submit a required written schedule recovery statement, **Owner** may, at its option, withhold additional retainage pursuant to the Contract Documents and/or initiate default termination proceedings in accordance with Contract Documents or request **Engineer** to identify and to order alternate recovery actions on the basis of the information in the current Progress Schedule. If **Contractor** believes that a written order to recover schedule from **Engineer** justifies an increase in Contract Price or an extension in Contract Time, **Contractor** shall be required to deliver a written request thereof in accordance with the provisions of Article 9 of the General Conditions. If **Owner** and **Contractor** are unable to agree as to responsibility for the slippage in the schedule or the amount and extent thereof, a claim may be made pursuant to Articles 10 and 11 of the General Conditions.

10) ***Early-Completion Progress Schedules***

- a) Progress Schedules anticipating achievement of Substantial Completion ahead of the corresponding Contract Time(s), and disclosing appropriate Contract Float Time(s) for

the Work, or parts thereof, shall be considered equivalent or equal to Progress Schedules anticipating Substantial Completion exactly on the Contract Time(s). In accordance with requirements of the Contract Documents, the contract Float Time in these equivalent or equal Progress Schedules will be available to **Owner, Engineer, Contractor** and others to absorb delays to the Work as a whole which cannot be mitigated by any other means.

- b) Progress Schedules anticipating achievement of Substantial Completion ahead of the corresponding Contract Time(s), but with zero Contract Float as opposed to positive Contract Float, will be returned as either "Approved as Noted," "Resubmit with Revisions," or "Disapproved." Submittals stamped as "Approved as Noted" will indicate **Engineer's** approval thereof, subject to the limitations set forth, including **Engineer's** computation of the appropriate Contract Float implied by the anticipated early completion.
- c) If upon approval (or approval as noted) by **Engineer** of a Progress Schedule with disclosed or implied Contract Float Time, **Contractor** disputes the availability of Contract Float and proposes that compensation for delay shall be measured from the anticipated early completion date(s) as opposed to the corresponding Contract Time(s), **Contractor** agrees and understands that said proposal will represent a request to **Owner** that the approved Progress Schedule be evaluated as a substitute Progress Schedule for the purposes of changing the Contract Time(s) to those supported by the **Contractor's** early-completion Progress Schedule. Evaluation of that substitution will be in accordance with the requirements of paragraphs 5.7.1, 5.7.2 and 5.7.3 of the General conditions, and will require additional supporting data that explains and substantiates the basis of the anticipated Early Schedules. Such supporting data shall consist of: 1) notice of any scheduled Work during hours other than normal work hours, 2) information related to rates of production including pertinent quantities, crew sizes, man-day requirements, major items of equipment, etc., for Critical and other significant Activities, 3) express or implied contingency allowances figured in for Activities for such factors as weather, delays, activities of **Owner AND Engineer** to respond to reports of differing site conditions, and other relevant factors. Acceptance of that substitution will be evidenced by a Change Order shortening the Contract Time, or Contract Times accordingly, but maintaining the Contract Price and the provisions for liquidated and actual damages set forth in the Agreement.

11) ***Cash Allowance - Scheduling Subcontractor***

- a) It is understood that **Contractor** has included in the Contract Price the allowance stipulated in the Bid Form so named in the Contract Documents and shall cause the Work so covered to be done by the Scheduling Subcontractor and for such sums within the allowance as may be acceptable to **Owner** and **Engineer**.
- b) It is also understood that **Contractor** has included in the Contract Price sufficient funds to cover all costs in excess of the allowance in connection with Work to be done by the Scheduling Subcontractor.

- c) **Contractor's** costs for administering the performance of Work by the Scheduling Subcontractor, for participating in the preparation of the required progress Schedule submittals, for overhead, profit and other expenses contemplated for the allowance have been included in the Contract Price for the Work and not in the allowance for the Scheduling Subcontractor. No demand for additional payment on account of any costs thereof will be valid.

12) ***Time Allowance Requirements for Document Review and Other Activities***

- a) **Contractor** shall make allowances for time required for a) document review and approval of submittals of Shop Drawings and samples specified in this Specification, b) the requirements for anticipated repeat submissions for particular items of materials or equipment, and c) the requirements for anticipated or required time intervals for the performance of specific parts of the Work by **Contractor**.
- b) **Contractor** shall make allowances for time required by a) those other activities indicated in or required by the contract Documents which are the responsibility of **Owner** or **Engineer**, b) the potential time requirements of **Owner** and **Engineer** to investigate instances of potential differing site conditions, and c) those other named time allowances required by the Contract Documents.
- c) It is understood that **Contractor** has included in the Contract Price the effect of accommodating all of these time allowances and requirements in the planning, scheduling and execution of the Work; that **Contractor's** Progress Schedule will incorporate Activities and sequences contemplated by the time allowances based on the information indicated in or required by the Contract Documents; and that **Contractor** shall cause the Work or requirements covered by such time allowances to be done within the limits of the Contract Time(s).

13) ***Measurement and Payments***

- a) All costs in connection with these requirements, including the Work to be performed by the Scheduling Subcontractor, shall be borne by **Contractor**. Payments made to **Contractor** under the allowance for the Scheduling Subcontractor provided for in paragraph 11.A shall be disbursed in their entirety to the Scheduling Subcontractor.
- b) Payments for Work performed under this Section of the Specifications will be made pursuant to Article 9 of the Agreement. Payment for Work performed shall be in accordance with the schedule of payments in the Special Progress Schedule Requirements.

14) ***Compliance***

- a) If **Contractor** refuses, fails or neglects to provide the required Progress Schedules or related schedule, Pricing and cost data, Shop Drawing data, or schedule recovery data, he will be deemed not to have provided sufficient information to **Engineer** upon which progress can be evaluated, and **Engineer** may refuse to recommend the whole or part of any outstanding payment if, in the **Engineer's** opinion, it would be incorrect to make such representations to **Owner**. Further, and pursuant to the Article 14 of the General Conditions, **Owner** may refuse to make payment of those amounts recommended by **Engineer** because of **Contractor's** failure or refusal to provide the required Progress Schedule and related submittal data.

15) ***Acceptable CPM Diagrams***

- a) Interim and Detailed CPM Diagrams shall be based on an arrow or precedence diagram format, and sequenced by the separate structures, facilities, buildings or site areas.
- b) CPM Diagrams shall be allotted on a time-scaled calendar and expressly identify: 1) the Contract Times, 2) the approach taken to comply with the Work Sequence conditions, 3) the Critical Path(s), and 4) all Activities. Activities shall be shown on their Early Schedule, and their total Float Times noted beside them.
- c) CPM Diagrams shall include title blocks identifying the name and location of the Project, Contract designation, names of **Owner, Engineer, Contractor** and Scheduling Subcontractor, Progress Schedule issue number and date, and sheet title. Diagram sheets shall be dimensioned as the full-size Contract Drawings, be neat and legible and submitted on a medium suitable for reproduction. Connections between Activities on different sheets shall be shown on the different sheets of the CPM Diagrams to allow a complete schedule document.

16) ***Acceptable Activity Schedule Data for CPM Diagrams***

- a) Activity schedule information shall, at a minimum, include the following data:
 - 1) Activity identified, i.e., I-J numbers in arrow format, or alphanumeric numbers in precedence format, such that not more than one Activity, dummy, or restraint may have the same identifier.
 - 2) Activity Description for each Activity, dummy or preferential restraint shall fully convey the scope of the Work included.
 - 3) Special Activity codes designating: a) location of the Work, e.g., site areas, elevations, etc., b) Work breakdown, e.g., process, trade, performing organization, c) responsibility, e.g., **Contractor, Owner**, Subcontractors, etc., d) as-awarded from amended (added or deleted by a Change Order or Proposed Change Order) items of Work.
 - 4) Activity labor requirements, based on a proportionate share of the (direct) labor manhours and quantities in the associated items from the Contract Price Breakdown developed pursuant to the requirements of the Supplementary Conditions.
 - 5) The use of start or finish restraint dates must be annotated as to the basis for the chosen restraints.

17) ***Acceptable Activity Value and Shop Drawing Data***

- a) Activity data pertaining to the Schedule of Values shall at a minimum include the following for each Activity:
 - 1) Activity code and description as on the CPM Diagram.

- 2) Activity representative quantities, Activity Value, Activity Percent Complete data, Activity Value of Work performed, and the applicable Value of significant subcomponents. The sum of all Activity Values shall equal the corresponding Contract Price for the Work. The sum of all Activity Values for Work performed divided by the Contract Price shall equal the Percent Complete for the Work.
 - 3) Activity Values shall breakdown Value for anticipated stored materials from Value for Work installed, as applicable.
 - 4) Cost of equipment or materials to be incorporated in the Work shall be assigned to the appropriate fabrication and delivery Activities.
- b) Activity data pertaining to the Schedule of Shop Drawing submissions shall at a minimum include the following for each Activity:
- 1) Activity code and description as on the CPM Diagram.
 - 2) A list of specific submissions, Specification Section, Contract Drawing sheet numbers, and applicable submission dates.
- c) The Schedule of Values and the Schedule of Shop Drawing submissions shall be provided on forms acceptable to **Engineer**.

18) ***Acceptable Scheduling Software***

- a) **Contractor's** evaluation of the CPM Diagrams shall be based on scheduling software meeting the data management, computational, and reporting requirements of this Specification. Activity reports provided by the scheduling software selected shall, at a minimum, display the following data for each Activity, dummy, or restraint:
- 1) Activity identifier, activity description, activity duration, activity man-days, computed or restrained Early Start date, computed Early Finish date, computed Late Start date, computed or restrained Late Finish date, Total Float and Free Float, Activity Value, Percent Complete, Activity Value for Work performed, and associated Activity list items (e.g., Shop Drawing submissions).
 - 2) Dates shall be in calendar form. Contract Times representing Substantial Completion requirements shall be set as restrained Late Finish Dates where applicable; Contract Times representing Commencement of Work conditions shall be shown as restrained Early Start Dates as applicable. Contract Float times shall be computed and shown pursuant to the definition in Attachment A.
- b) If the CPM Diagram is based on the precedence format, an additional computer report tabulating the sequences on the Diagram shall be provided showing: a) each Activity together with a listing of all of its preceding and succeeding Activities, and b) the relationship type, lead/lag types, and lead/lag times between each Activity and each of its preceding and succeeding Activities.
- c) The scheduling software shall have the capability of sorting out computer reports by the special Activity codes designated in 17(a) above.
- d) The scheduling software shall have the capability of sequencing computer reports by:

- 1) Activity identifier, in order of ascending I-J number.
 - 2) Activity identifier, in order of descending J-I number.
 - 3) Total Float, in order of ascending Total Float values, and by ascending Early Start Dates, or by ascending I-J numbers, or by descending J-I numbers, within the same Total Float values.
 - 4) Early Start dates in chronological order of Early Start dates, and by ascending I-J numbers within the same Early Start Dates.
 - 5) Late Finish dates, in chronological order of Late Finish Dates and by descending J-I numbers within the same Late Finish Dates.
 - 6) Change Order or Proposed Change Order No.
- e) In addition to the ability to process the required Activity data, the scheduling software shall offer the following features: a) the capability of accepting and processing schedules with actual start and actual finish dates for the Activities; b) processing of CPM schedules with negative Total Float values; c) printing or plotting of rate of progress data, such as labor utilization and payment curves; d) the ability of drawing CPM Diagrams using plottergraphics.

19) ***Acceptable Progress Schedule Narratives***

- a) A narrative shall include sufficient information to substantiate the basis of the data used to develop that Progress Schedule submittal, and detail:
- 1) The status of the Progress Schedule in terms of number of days ahead or behind the Contract Time, or Contract Times.
 - 2) The progress status (i.e., progress achieved vs. that forecasted) for a) Activities designating accomplishment of Substantial Completion, b) Critical and other significant Activities, c) Work related to achieving milestones set forth by the Work Sequences indicated in or required by the Contract Documents, d) long-lead delivery items of material or equipment.
 - 3) The assumptions made in incorporating Work related to pending or authorized Change Orders and Proposed change Orders.
 - 4) Actual or potential delays, including causes, the steps taken or anticipated to mitigate their impact, and the anticipated effect on the Progress Schedule as a whole.
 - 5) Schedule recovery statement describing actions under consideration by **Contractor** to recover from a negative float or overrun in Late Finish Date condition.

- 6) Any significant changes in Progress Schedule sequences, and their basis thereof. Significant sequencing changes shall be those affecting Critical Activities, or causing a substantial reduction or increase in the Total Float Times available.
- 7) **Owner** and **Engineer** Activities which become due over the next two months on account of **Contractor's** requirements for performing Work which follows such **Owner** and **Engineer** Activities.
- 8) Rate of progress or "momentum" curves showing: a) the anticipated levels of labor utilization, e.g., man-days per week, and b) the anticipated level of payments for Work to be performed, all in accordance with the Activity time frames supported by the Early and Late Dates in the Progress Schedule.
- 9) Other information relevant to or of concern in the planning, scheduling and execution of Work over the next two months.
- 10) **Contractor's** responses to **Engineer's** comments raised in the review of the previous Progress Schedule submittal.
- 11) Actions taken to address schedule noncompliance issues which have negated **Engineer's** approval of a previous Progress Schedule submittal.

20) ***Acceptable Contractor's Cost Data***

- a) Cost data for inclusion in the **Contractor's** Cost reports required with each Progress Schedule Update submittal shall detail Contract financial and budget data available to and customarily relied upon by **Contractor** to monitor financial and cost performance.
- b) Acceptable financial and cost data for each cost account used by **Contractor** to apportion the contract Price to separable parts of the Work shall include:
 - 1) Account number and description.
 - 2) Account estimate data, identifying labor, material and equipment, and Subcontract costs for that account is included in the **Contractor's** Bid estimate, together with the sum increase or decrease in associated authorized Change Orders or Proposed Change Orders, and those sums anticipated by proposed Change Orders in negotiation or claims pending resolution.
 - 3) Current labor, material and equipment, and Subcontract cost data for the account; percent complete for the Work designated by that account; and **Contractor's** current forecast of the cost to complete Work designated by the account.

*** END OF SECTION ***

SECTION X - Standard Specifications

SPEC 00002
Concrete

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SECTION X - Standard Specifications

SPEC 00002

Concrete

1) *General*

1.1 *Scope of Work*

- a) The Contractor shall furnish all labor, materials, equipment, and incidentals needed for the cast-in-place and/or precast concrete required by the Contract Documents and as herein specified.

1.2 *Submittals*

- a) Cast-in-place concrete.
 - 1) Name and location of batch plant.
 - 2) Design mix.
 - 3) Shop drawings indicating placement of all reinforcing inserts, location of joints, sealing of joints, etc.
 - 4) Submittal on grating and frame.
- b) Precast concrete
 - 1) Name and location of precaster.
 - 2) Submittals of precast units.
 - 3) Certifications of design for loading.
 - 4) Submittal on manhole frame and cover.

1.3 *Quality Assurance*

- a) Codes and Standards
 - 1) Comply with the provisions of the following codes and standards, except as otherwise shown or specified:
 - a) ACI 301 - "Specifications for Structural Concrete for Buildings."
 - b) ACI 318 - "Building Code Requirements for Reinforced Concrete."
 - c) CRSI - "Manual of Standard Practice."
 - d) ACI 305 - "Recommended Practice for Hot Weather Concreting."

- 2) Where provisions of the above codes and standards are in conflict with the building code in force for the project, the more stringent code shall apply.

2) ***Products***

2.1 **Cast-In-Place Concrete**

- a) Portland Cement - ASTM C 150, Type III.
- b) Aggregates - ASTM C 33
 - 1) Fine aggregates - clean, sharp, natural sand free of dune sand, bank run sand, manufactured sand, loam, clay, etc.
 - 2) Coarse aggregate - clean processed natural limestone free of all foreign matter.
- c) Water - clean, fresh, free of all oils, acids organics, etc.
- d) Admixtures.
 - 1) Air-Entraining - ASTM C 260.
 - 2) Water-Reducing - ASTM C 494.
 - 3) Floor sealer - Sonoglaze is manufactured by Sonneborn Building Products or similar product by Master Builders.
- e) Concrete Qualifiers.
 - 1) Concrete mix shall be DOT Class E.
 - 2) Strength - 4,000 psi at twenty-eight (28) days with maximum water-cement ratio of 0.45.
 - 3) Air content - 6 percent.
 - 4) Slump limits - 3-4 inch.
- f) Reinforcing
 - 1) Bars - ASTM A615, Grade 40.
 - 2) Welded Wire Fabric - ASTM A185.
- g) Frame and Grating - (Reteculine)
 - 1) The frames, gratings, and appurtenances shall be fabricated from steel conforming to ASTM A36.
 - 2) All parts shall be galvanized according to the requirements of the NYSDOT 719-01 type 1.

- 3) Grating shall be provided with lock down bolt anchors.
- h) Waterstops
 - 1) Waterstops to be 6" PVC dumbbell style, made of virgin raw materials.
 - 2) Waterstops shall be #747 as manufactured by Greenstreak, #8046 as manufactured by Vulcan Metal Products, Inc., or equal.

2.2 **Precast Concrete Units**

- a) Precast concrete units shall be of sizes shown and built in accordance with ASTM standards C913-89. Units to be designated to withstand H-20 loading.
- b) Manhole cover and frame shall conform to NYSDOT Standard 715-05, Class No. 30. Units shall be supplied with lock down device.

3) ***Execution***

3.1 **Concrete Placement**

- a) General - Place concrete in compliance with the practices and recommendations of ACI-304, and herein specified.
- b) Deposit and consolidate concrete slabs in a continuous operation, within the limits of construction joints, until the placing of a panel or section is complete. In the event that the slab is placed in two sections, the sections shall have continuous waterstops.
- c) Consolidate concrete during placing operations using mechanical vibrating equipment, so that concrete is thoroughly worked around reinforcing and other embedded items and into corners.
- d) Bring slab surfaces to the correct level with a straight edge strike off. Use bull floats or darbies to smooth the surface, leaving it free of humps or hollows.

3.2 **Cold Weather Placing**

- a) Protect all concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures.
- b) When air temperature has fallen to or is expected to fall below 40° F, uniformly heat all water and aggregate before mixing, to obtain a mixture temperature of not less than 50° F and not more than 80° F at point of placement.
- c) Do not use calcium chloride, salt, and other materials containing antifreeze agents or chemical accelerators.

3.3 **Monolithic Slab Finish**

- a) Begin float finishing when surface water has disappeared or when concrete has stiffened sufficiently to permit the operation of a power-driven float. Check surface plane to a

tolerance not to exceed 1/4 inch in 10 feet, with uniform slopes to drains.

- b) Begin the final troweling when the surface produces a ringing sound as the trowel is moved over the surface.

3.4 Concrete Curing and Protection

- a) Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- b) Weather permitting, keep placed concrete continuously moist for not less than 72 hours.

3.5 Concrete Floor Sealer

- a) Concrete slab shall be fully cured, cleaned, and etched.
- b) Apply sealer as recommended by manufacturer or as specified in the contract documents.

*** END OF SECTION ***

SECTION X - Standard Specifications

SPEC 00003

Minimum Requirements for Health and Safety

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MINIMUM REQUIREMENTS FOR HEALTH AND SAFETY

1. GENERAL

1.01 Description

- A. The **CONTRACTOR** is solely responsible and liable for the health and safety of all on-site personnel and any off-site community potentially impacted by the remediation.
- B. This section describes the minimum health and safety requirements for this project including the requirements for the development of a written Health and Safety Plan (HASP). All on-site workers must comply with the requirements of the HASP. The **CONTRACTOR's** HASP must comply with all applicable federal and state regulations protecting human health and the environment from the hazards posed by activities during this site remediation. The HASP is a required deliverable for this project. The HASP will be reviewed by the **ENGINEER**. The **CONTRACTOR** will resubmit the HASP, addressing all review comments from the **ENGINEER**. The **CONTRACTOR** shall not initiate on-site work in contaminated areas until an acceptable HASP addressing all comments has been developed.
- C. Consistent disregard for the provision of these health and safety specifications shall be deemed just and sufficient cause for immediate stoppage of work and/or termination of the Contract or any Subcontract without compromise or prejudice to the rights of the **DEPARTMENT** or the **ENGINEER**.
- D. Any discrepancies between this HASP and the specifications (or OSHA requirements) shall be resolved in favor of the more stringent requirements as determined by the **ENGINEER**.

1.02 Basis

- A. The Occupational Safety and Health Administration (OSHA) Standards and Regulations contained in Title 29, Code of Federal Regulations, Parts 1910 and 1926 (20 CFR 1910 and 1926) and subsequent additions and/or modifications, the New York State Labor Law Section 876 (Right-to-Know Law), the Standard Operating Safety Guidelines by the United States Environmental Protection Agency (EPA), Office of Emergency and Remedial Response and the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (NIOSH, OSHA, USCG, and EPA) provide the basis for the safety and health program. Additional specifications within this section are in addition to OSHA regulations and reflect the positions of both the EPA and the National Institute for Occupation Safety and Health (NIOSH) regarding procedures required to ensure safe operations at abandoned hazardous waste disposal sites.

- B.** The safety and health of the public and project personnel and the protection of the environment will take precedence over cost and schedule considerations for all project work. Any additional costs will be considered only after the cause for suspension of operations is addressed and work is resumed. The **ENGINEER's** on-site representative and the **CONTRACTOR's** Superintendent will be kept apprised, by the Safety Officer, of conditions which may adversely affect the safety and health of project personnel and the community. The **ENGINEER** may stop work for health and safety reasons. If work is suspended for health and/or safety reasons, it shall not resume until approval is obtained from the **ENGINEER**. The cost of work stoppage due to health and safety is the responsibility of the **CONTRACTOR** under this Contract.

1.03 Health and Safety Definitions

- A.** The following definitions shall apply to the work of this Contract:

1. Project Personnel: Project personnel include the **ENGINEER**, the **ENGINEER's** On-site Representatives, **CONTRACTOR**, Subcontractors, and Federal and State Representatives, working or having official business at the Project Site.
2. Authorized Visitor: Authorized visitors who work for the State of New York shall receive approval to enter the site from the **DEPARTMENT**. The Safety Officer has primary responsibility on determining who is qualified and may enter the site. The Site Safety Officer will only allow authorized visitors with written proof that they have been medically certified and trained in accordance with 29 CFR 1910.120 to enter the contamination reduction zone and/or exclusion area.
3. Health and Safety Coordinator (HSC): The HSC shall be a Certified Industrial Hygienist (CIH) or Certified Safety Professional (CSP) retained by the **CONTRACTOR**. The HSC will be responsible for the development and implementation of the HASP.
4. Safety Officer (SO): The SO will be the **CONTRACTOR's** on-site person who will be responsible for the day-to-day implementation and enforcement of the HASP.
5. Health and Safety Technicians (HST): The HST(s) will be the **CONTRACTOR's** on-site personnel who will assist the SO in the implementations of the HASP, in particular, with air monitoring in active work areas and maintenance of safety equipment.
6. Medical Consultant (MC): The MC is a physician retained by the **CONTRACTOR** who will be responsible for conducting physical exams as specified under the Medical Monitoring Programs in this section.
7. Project Site: The area designated on the Site Sketch, which includes the Contractor Work Area.
8. Contractor Work Area: An area of the project site including the Support Zone, access road, staging area, and Exclusion Zone.

9. Contractor Support Zone: An area of the Contractor Work Area outside the Exclusion Zone, accessible for deliveries and visitors. No persons, vehicles, or equipment may enter these areas from the Exclusion Zone without having gone through specified decontamination procedures in the adjacent Contamination Reduction Zone.
10. Staging Areas: Areas within the Exclusion Zone for the temporary staging of contaminated soil and debris.
11. Exclusion Zone: The innermost area within the Contractor Work Area that encloses the area of contamination. Protective clothing and breathing apparatus as specified in the health and safety requirements and in the **CONTRACTOR's** approved HASP must be worn.
12. Contamination Reduction Zone: An area at the Exit Point of the Exclusion Zone through which all personnel, vehicles, and equipment must enter and exit. All decontamination of vehicles and equipment and removal of personal protective clothing and breathing apparatus must take place at the boundary between the Exclusion Zone and the Contamination Reduction Zone.
13. **ENGINEER's** on-site representative: The **ENGINEER's** representative assigned responsibility and authority by the **ENGINEER** for day-to-day field surveillance duties.
14. Work: Work includes all labor, materials, and other items that are shown, described, or implied in the Contract and includes all extra and additional work and material that may be ordered by the **ENGINEER**.
15. Monitoring: The use of direct reading field instrumentation to provide information regarding the levels of gases and/or vapor, which are present during remedial action. Monitoring shall be conducted to evaluate employee exposures to toxic materials and hazardous conditions.

1.04 Responsibilities

A. The **ENGINEER** will be responsible for the following:

1. Reviewing the HASP for the acceptability for its personnel and the impact on the site and human health.
2. Reviewing modifications to the HASP.

B. The **CONTRACTOR** will be responsible for the following:

C. The **CONTRACTOR** will perform all work required by the Contract Documents in a safe and environmentally acceptable manner. The **CONTRACTOR** will provide for the safety of all project personnel and the community for the duration of the Contract.

D. The **CONTRACTOR** shall:

1. Employ an SO who shall be assigned full-time responsibility for all tasks herein described under this HASP. In the event the SO cannot meet his responsibilities, the **CONTRACTOR** shall be responsible for obtaining the services of an "alternate" SO meeting the minimum requirements and qualifications contained herein. No work will proceed on this project in the absence of an approved SO.
2. Ensure that all project personnel have obtained the required physical examination prior to and at the termination of work covered by the contract.
3. Be responsible for the pre-job indoctrination of all project personnel with regard to the HASP and other safety requirements to be observed during work, including but not limited to (a) potential hazards, (b) personal hygiene principles, (c) personal protection equipment, (d) respiratory protection equipment usage and fit testing, and (e) emergency procedures dealing with fire and medical situations.
4. Be responsible for the implementation of this HASP, and the Emergency Contingency and Response Plan.
5. Provide and ensure that all project personnel are properly clothed and equipped and that all equipment is kept clean and properly maintained in accordance with the manufacturer's recommendations or replaced as necessary.
6. Alert appropriate emergency services before starting any hazardous work and provide a copy of the Emergency Contingency Plan to the respective emergency services.
7. Have sole and complete responsibility of safety conditions for the project, including safety of all persons (including employees).
8. Be responsible for protecting the project personnel and the general public from hazards due to the exposure, handling, and transport of contaminated materials. Barricades, lanterns, roped-off areas, and proper signs shall be furnished in sufficient amounts and locations to safeguard the project personnel and public at all times.
9. Ensure all OSHA health and safety requirements are met.
10. Maintain a chronological log of all persons entering the project site. It will include organization, date, and time of entry and exit. Each person must sign in and out.

1.05 Health and Safety Plan

- A.** The HASP is a deliverable product of this project. The **ENGINEER** will review and comment on the **CONTRACTOR's** HASP. Agreed upon responses to all comments will be incorporated into the final copy of the HASP. The HASP shall govern all work performed for this contract. The HASP shall address, at a minimum, the following items in accordance with 29 CFR 1910.120(I)(2):

1. Health and Safety Organization.
2. Site Description and Hazard Assessment.
3. Training.
4. Medical Surveillance.
5. Work Areas.
6. Standard Operating Safety Procedures and Engineering Controls.
7. Personal Protective Equipment (PPE).
8. Personnel Hygiene and Decontamination.
9. Equipment Decontamination.
10. Air Monitoring.
11. Emergency Equipment/First Aid Requirements.
12. Emergency Response and Contingency Plan.
13. Confined-Space Entry Procedures.
14. Spill Containment Plan.
15. Heat & Cold Stress.
16. Record Keeping.
17. Community Protection Plan.

B. The following sections will describe the requirements of each of the above-listed elements of the HASP.

1.06 Health and Safety Organization

- A.** The **CONTRACTOR** shall list in the HASP a safety organization with specific names and responsibilities. At a minimum, the **CONTRACTOR** shall provide the services of a Health and Safety Coordinator, SO, Health and Safety Technician, and a Medical Consultant.
- B.** Health and Safety Coordinator: The **CONTRACTOR** must retain the services of a Health and Safety Coordinator (HSC). The HSC must be an American Board of Industrial Hygiene (ABIH) Certified Industrial Hygienist (CIH) or a Certified Safety Professional (CSP). The HSC must have a minimum of two years experience in hazardous waste site remediations or related industries and have a working knowledge of federal and state occupational health and safety regulations. The HSC must be familiar with air monitoring techniques and the development of health and safety programs for personnel working in potentially toxic atmospheres.

In addition to meeting the above requirements the HSC will have the following responsibilities:

1. Responsibility for the overall development and implementation of the HASP.
2. Responsibility for the initial training of on-site workers with respect to the contents of the HASP.
3. Availability during normal business hours for consultation by the Safety Officer.
4. Availability to assist the Safety Officer in follow-up training and if changes in site conditions occur.

C. Safety Officer: The designated SO must have, at a minimum, two years of experience in the remediation of hazardous waste sites or related field experience. The SO must have formal training in health and safety and be conversant with federal and state regulations governing occupational health and safety. The SO must be certified in CPR and first aid and have experience and training in the implementation of personal protection and air monitoring programs. The SO must have "hands-on" experience with the operation and maintenance of real-time air monitoring equipment. The SO must be thoroughly knowledgeable of the operation and maintenance of air-purifying respirators (APR) and supplied-air respirators (SAR) including SCBA and airline respirators.

In addition to meeting the above qualifications, the SO will be responsible for the following minimum requirements:

1. Responsibility for the implementation, enforcement, and monitoring of the health and safety plan.
2. Responsibility for the pre-construction indoctrination and periodic training of all on-site personnel with regard to this safety plan and other safety requirements to be observed during construction, including:
 - a. Potential hazards.
 - b. Personal hygiene principles.
 - c. PPE.
 - d. Respiratory protection equipment usage and fit testing.
 - e. Emergency procedures dealing with fire and medical situations.
 - f. Conduct daily update meetings in regard to health and safety.
3. Responsibility for alerting the **ENGINEER's** on-site representative prior to the **CONTRACTOR** starting any particular hazardous work.
4. Responsibility for informing project personnel of the New York State Labor Law Section 876 (Right-to-Know Law).

5. Responsibility for the maintenance of separation of Exclusion Zone (Dirty) from the Support Zone (Clean) areas as described hereafter.
- D. Health and Safety Technicians: The Health and Safety Technician (HST) must have one year of hazardous waste site or related experience and be knowledgeable of applicable occupational health and safety regulations. The HST must be certified in CPR and first aid. The HST will be under direct supervision of the SO during on-site work. The HST must be familiar with the operations, maintenance and calibration of monitoring equipment used in this remediation. An HST will be assigned to each work crew or task in potentially hazardous areas.
- E. Medical Consultant: The **CONTRACTOR** is required to retain a Medical Consultant (MC) who is a physician, certified in occupational medicine. The physician shall have experience in the occupational health area and shall be familiar with potential site hazards of remedial action projects. The MC will also be available to provide annual physicals and to provide additional medical evaluations of personnel when necessary.

1.07 Site Description and Hazard Assessment

- A. The **CONTRACTOR** shall perform a hazard assessment to provide information to assist in selection of PPE and establish air monitoring guidelines to protect on-site personnel, the environment, and the public. The **CONTRACTOR** shall provide a general description of the site, its location, past history, previous environmental sampling results, and general background on the conditions present at the site.
1. Chemical Hazards: A qualitative evaluation of chemical hazards shall be based on the following:
 - Nature of potential contaminants;
 - Location of potential contaminants at the project site;
 - Potential for exposure during site activities; and
 - Effects of potential contaminants on human health.
 2. Biological Hazards: A qualitative evaluation of biological hazards consisting of the elements listed for chemical hazards.
 3. Physical Hazards: The **CONTRACTOR** shall assess the potential for physical hazards affecting personnel during the performance of on-site work.
- B. The **CONTRACTOR** shall develop a hazard assessment for each site task and operation established in the HASP.

1.08 Training

A. OSHA Training

1. The **CONTRACTOR** is responsible to ensure that all project personnel have been trained in accordance with OSHA 1910.120 regulations.
2. The **CONTRACTOR** shall ensure that all employees are informed of the potential hazards of toxic chemicals to the unborn child and of the risks associated with working at the project site.
3. The **CONTRACTOR** shall be responsible for, and guarantee that, personnel not successfully completing the required training are not permitted to enter the project site to perform work.

B. Safety Meetings

1. The SO will conduct daily safety meetings for each working shift that will be mandatory for all project personnel. The meetings will provide refresher courses for existing equipment and protocols, and will examine new site conditions as they are encountered.
2. Additional safety meetings will be held on an as-required basis.

- C.** Should any unforeseen or site-specific safety-related factor, hazard, or condition become evident during the performance of work at this site, the **CONTRACTOR** will bring such to the attention of the SO in writing as quickly as possible for resolution. In the interim, the **CONTRACTOR** will take prudent action to establish and maintain safe working conditions and to safeguard employees, the public, and the environment.

1.09 Medical Surveillance

- A.** The **CONTRACTOR** shall utilize the services of a Physician to provide the minimum medical examinations and surveillance specified herein. The name of the Physician and evidence of examination of all **CONTRACTOR** and Subcontractor on-site personnel shall be kept by the SO.

- B.** **CONTRACTOR** and Subcontractor project personnel involved in this project shall be provided with medical surveillance prior to onset of work. Immediately at the conclusion of this project, and at any time there is suspected excessive exposure to substances that would be medically detectable, all project personnel will be medically monitored. The costs for these medical exams, including state field representatives, (four maximum) are to be borne by the **CONTRACTOR**.

- C.** Physical examinations are required for:

1. Any and all personnel entering hazardous or transition zones or performing work that required respiratory protection.
2. All **CONTRACTOR** personnel on site who are dedicated or may be used for emergency response purposes in the Exclusion Zone.

3. **CONTRACTOR** supervisors entering hazardous or transition zones, or on site for more than 16 hours during the length of the contract.
- D.** Physical examinations are not required for people making periodic deliveries provided they do not enter hazardous or transition zones.
 - E.** In accordance with good medical practice, the examining Physician or other appropriate representative of the Physician shall discuss the results of such medical examination with the individual examined. Such discussion shall include an explanation of any medical condition that the Physician believes required further evaluation or treatment and any medical condition which the Physician believes would be adversely affected by such individual's employment at the project site. A written report of such examination shall be transmitted to the individual's private physician upon written request by the individual.
 - F.** The examining Physician or Physician group shall notify the SO in writing that the individual has received a medical examination and shall advise the SO as to any specific limitations upon such individual's ability to work at the project site that were identified as a result of the examination. Appropriate action shall be taken in light of the advice given pursuant to this subparagraph.
 - G.** The physical examination shall also include but not be limited to the following minimum requirements:
 1. Complete blood profile;
 2. Blood chemistry to include: chloride, CO₂, potassium, sodium, BUN, glucose, globulin, total protein, albumin, calcium, cholesterol, alkaline phosphatase, triglycerides, uric acid, creatinine, total bilirubin, phosphorous, lactic dehydrogenase, SGPT, SGOT;
 3. Urine analysis;
 4. "Hands on" physical examination to include a complete evaluation of all organ systems including any follow-up appointments deemed necessary in the clinical judgement of the examining physician to monitor any chronic conditions or abnormalities;
 5. Electrocardiogram;
 6. Chest X-ray (if recommended by examining physician in accordance with good medical practice);
 7. Pulmonary function;
 8. Audiometry - To be performed by a certified technician, audiologist, or physician. The range of 500 to 8,000 hertz should be assessed.
 9. Vision screening - Use a battery (TITMUS) instrument to screen the individual's ability to see test targets well at 13 to 16 inches and at 20 feet. Tests should include an assessment of muscle balance, eye coordination, depth perception, peripheral vision, color discrimination, and tonometry.

10. Tetanus booster shot (if no inoculation has been received within the last five years); and
11. Complete medical history.

1.10 Site Control

A. Security

1. Security shall be provided and maintained by the **CONTRACTOR**.
2. The **CONTRACTOR** shall contact law enforcement officials, emergency medical care units, local fire departments and utility emergency teams to ascertain the type of response required in any emergency situation and to coordinate the responses of the various units. A standard operating procedure describing security force response to foreseeable contingencies shall be developed. The **CONTRACTOR** shall also prepare and update a list of emergency points of contact, telephone numbers, radio frequencies, and call signs to ensure dependable responses.
3. Security personnel shall record their presence while patrolling the site using a watchman's clock. The Tapes or punch cards shall be delivered to the **ENGINEER** once a week.
4. Security identification, specific to the project site, shall be provided by the **CONTRACTOR** for all project personnel entering the project site. The **CONTRACTOR** shall be responsible for and ensure that such identification shall be worn by each individual, visible at all times, while the individual is on the site. Vehicular access to the site, other than to designated parking areas, shall be restricted to authorized vehicles only.
5. Use of on-site designated parking areas shall be restricted to vehicles of the **ENGINEER**, **ENGINEER's** on-site representative, **CONTRACTOR**, subcontractor, and service personnel assigned to the site and actually on duty but may also be used on short-term basis for authorized visitors.
6. The **CONTRACTOR** shall be responsible for maintaining a log of security incidents and visitor access granted.
7. The **CONTRACTOR** shall require all personnel having access to the project site to sign-in and sign-out, and shall keep a record of all site access.
8. All approved visitors to the site shall be briefed by the SO on safety and security, provided with temporary identification and safety equipment, and escorted throughout their visit.
9. Site visitors shall not be permitted to enter the hazardous work zone unless approved by the **DEPARTMENT** with appropriate site access agreement.
10. Project sites shall be posted, "Warning Hazardous Work Area, Do Not Enter Unless Authorized," and access restricted by the use of a snow fence or equal at a minimum. Warning signs shall be posted at a minimum of every 500 feet.

B. Site Control

1. The **CONTRACTOR** shall provide the following site control procedures as a minimum:
 - A site map;
 - A map showing site work zones;
 - The use of a "buddy system"; and
 - Standard operating procedures or safe work practices.

C. Work Areas

1. The **CONTRACTOR** will clearly lay out and identify work areas in the field and will limit equipment, operations and personnel in the areas as defined below:
 - a. Exclusion Zone (EZ) - This will include all areas where potential environmental monitoring has shown or it is suspected that a potential hazard may exist to workers. The level of PPE required in these areas will be determined by the SO after air monitoring and on-site inspection has been conducted. The area will be clearly delineated from the decontamination area. As work within the hazardous zone proceeds, the delineating boundary will be relocated as necessary to prevent the accidental contamination of nearby people and equipment. The Exclusion Zone will be delineated by fencing (e.g., chain link, snow fencing, or orange plastic fencing).
 - b. Contamination Reduction Zone - This zone will occur at the interface of "Hazardous" and "Clean" areas and will provide for the transfer of equipment and materials from the Support Zone to the Exclusion Zone, the decontamination of personnel and clothing prior to entering the "Clean" area, and for the physical segregation of the "Clean" and "Hazardous" areas. This area will contain all required emergency equipment, etc. This area will be clearly delineated by fencing (e.g., chain link, snow fencing, or orange plastic fencing). It shall also delineate an area that although not contaminated at a particular time may become so at a later date.
 - c. Support Zone - This area is the remainder of the work site and project site. The Support Zone will be clearly delineated and procedures implemented to prevent active or passive contamination from the work site. The function of the Support Zone includes:
 1. An entry area for personnel, material and equipment to the Exclusion Zone of site operations through the Contamination Reduction Zone;
 2. An exit for decontamination personnel, materials and equipment from the "Decontamination" area of site operations;
 3. The housing of site special services; and
 4. A storage area for clean, safety, and work equipment.

1.11 Standard Operating Safety Procedures (SOSP), Engineering Controls

A. General SOSP

1. The **CONTRACTOR** will ensure that all safety equipment and protective clothing is kept clean and well maintained.
2. All prescription eyeglasses in use on this project will be safety glasses and will be compatible with respirators. No contact lenses shall be allowed on site.
3. All disposable or reusable gloves worn on the site will be approved by the SO.
4. During periods of prolonged respirator usage in contaminated areas, respirator filters will be changed upon breakthrough. Respirator filters will always be changed daily.
5. Footwear used on site will be covered by rubber overboots or booties when entering or working in the Exclusion Zone area or Contamination Reduction Zone. Boots or booties will be washed with water and detergents to remove dirt and contaminated sediment before leaving the Exclusion Zone or Contamination Reduction Zone.
6. All PPE used on site will be decontaminated or disposed of at the end of the work day. The SO will be responsible for ensuring decontamination of PPE before reuse.
7. All respirators will be individually assigned and not interchanged between workers without cleaning and sanitizing.
8. **CONTRACTOR**, subcontractor and service personnel unable to pass a fit test as a result of facial hair or facial configuration shall not enter or work in an area that requires respiratory protection.
9. The **CONTRACTOR** will ensure that all project personnel shall have vision or corrected vision to at least 20/40 in one eye.
10. On-site personnel found to be disregarding any provision of this plan will, at the request of the SO, be barred from the project.
11. Used disposable outerwear such as coveralls, gloves, and boots shall not be reused. Used disposable outerwear will be removed upon leaving the hazardous work zone and will be placed inside disposable containers provided for that purpose. These containers will be stored at the site at the designated staging area and the **CONTRACTOR** will be responsible for proper disposal of these materials at the completion of the project. This cost shall be borne by the **CONTRACTOR**.
12. Protective coveralls that become torn or badly soiled will be replaced immediately.
13. Eating, drinking, chewing gum or tobacco, smoking, etc., will be prohibited in the hazardous work zones and neutral zones.
14. All personnel will thoroughly cleanse their hands, face, and forearms and other exposed areas prior to eating, smoking or drinking.
15. Workers who have worked in a hazardous work zone will shower at the completion of the work day.
16. All personnel will wash their hands, face, and forearms before using toilet facilities.

17. No alcohol, firearms or drugs (without prescriptions) will be allowed on site at any time.
18. All personnel who are on medication should report it to the SO who will make a determination whether or not the individual will be allowed to work and in what capacity. The SO may require a letter from the individual's personal physician stating what limitations (if any) the medication may impose on the individual.

B. Engineering Controls - Air Emissions

1. The **CONTRACTOR** shall provide all equipment and personnel necessary to monitor and control air emissions.

1.12 Personal Protective Equipment

A. General

1. The **CONTRACTOR** shall provide all project personnel with the necessary safety equipment and protective clothing, taking into consideration the chemical wastes at the site. The **CONTRACTOR** shall supply the **ENGINEER's** on-site personnel (average two people for the project duration) with PPE as specified. The **ENGINEER** will require specific manufacturers and styles of PPE, which are detailed in the Safety Equipment Specifications portion of this section. At a minimum, the **CONTRACTOR** shall supply all project personnel with the following:
 - a. Two (2) sets of cotton work clothing to include underwear, socks, work shirts, and work pants. Leather steel-toed work boots, and such other clothing and outer garments as required by weather conditions (e.g., insulated coveralls and winter jacket);
 - b. Sufficient disposable coveralls;
 - c. One pair splash goggles;
 - d. Chemical-resistant outer and inner gloves;
 - e. Rubber overshoes (to be washed daily);
 - f. Hard hat;
 - g. One full-face mask with appropriate canisters. The **ENGINEER** and the **DEPARTMENT** will supply their own full-face mask. The **CONTRACTOR** will supply the appropriate canisters to all on-site project personnel including the **ENGINEER** and the **DEPARTMENT**. The **CONTRACTOR** shall supply MSA canisters; and
 - h. For all project personnel involved with Level B protection, a positive-pressure SCBA or in-line air. A 5-minute escape bottle must be included with the in-line air apparatus.

B. Levels of Protection

1. It is planned that Levels C and D PPE will be required in this remediation. Although Levels A and B are not planned, site conditions may be encountered that

require their use. The following sections described the requirements of each level of protection.

a. Level A Protection

1. PPE:
 - a. Supplied-air respirator approved by the Mine Safety and Health Administration (MSHA) and NIOSH. Respirators may be:
 - Positive-pressure SCBA; or
 - Positive-pressure airline respirator (with escape bottle for Immediately Dangerous to Life and Health [IDLH] or potential for IDLH atmosphere).
 - b. Fully encapsulating chemical-resistant suit.
 - c. Coveralls.
 - d. Cotton long underwear.*
 - e. Gloves (inner), chemical-resistant.
 - f. Boots, chemical-resistant, steel toe and shank. (Depending on suit construction, worn over or under suit boot.)
 - g. Hard hat (under suit).*
 - h. Disposal gloves and boot covers (worn over fully encapsulating suit).
 - i. Cooling unit.*
 - j. Two-way radio communications (inherently safe).*

* Optional

2. Criteria for Selection:

Meeting any of these criteria warrants use of Level A protection:

- a. The chemical substance has been identified and requires the highest level of protection for skin, eyes, and the respiratory system based on:
 - Measures (or potential for) high concentration of atmospheric vapors, gases, or particulates, or
 - Site operations and work functions involves high potential for splash, immersion, or exposure to unexpected vapors, gases, or particulates of materials highly toxic to the skin.
- b. Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible.
- c. Operations must be conducted in confined, poorly ventilated areas until the absence of substances requiring Level A protection is determined.
- d. Direct readings on field Flame Ionization Detectors (FID) or Photoionization Detectors (PID) and similar instruments indicate high levels of unidentified vapors and gases in the air.

3. Guidance on Selection:

- a. Fully encapsulating suits are primarily designed to provide a gas- or vapor-tight barrier between the wearer and atmospheric contaminants. Therefore, Level A is generally worn when high concentrations of airborne substances could severely effect the skin. Since Level A requires the use of SCBA, the eyes and respiratory system are also more protected.

Until air surveillance data become available to assist in the selection of the appropriate level of protection, the use of Level A may have to be based on indirect evidence of the potential for atmospheric contamination or other means of skin contact with severe skin affecting substances.

Conditions that may require Level A protection include:

- Confined spaces: Enclosed, confined, or poorly ventilated areas are conducive to the buildup of toxic vapors, gases, or particulates. (Explosive or oxygen-deficient atmospheres are also more probable in confined spaces). Confined-space entry does not automatically warrant wearing Level A protection, but should serve as a cue to carefully consider and to justify a lower level of protection.
- Suspected/known highly toxic substances: Various substances that are highly toxic, especially skin absorption, for example, fuming corrosives, cyanide compounds, concentrated pesticides, Department of Transportation

Poison "A" materials, suspected carcinogens, and infectious substances may be known or suspected to be involved. Field instruments may not be available to detect or quantify air concentrations of these materials. Until these substances are identified and concentrations measured, maximum protection may be necessary.

- Visible emissions: Visible air emissions from leaking containers or railroad/vehicular tank cars, as well as smoke from chemical fires and others, indicate high potential for concentrations of substances that could be extreme respiratory or skin hazards.
- Job Functions: Initial site entries are generally walk-throughs, in which instruments and visual observations are used to make a preliminary evaluation of the hazards.

In initial site entries, Level A should be worn when:

- There is a probability for exposure to high concentrations of vapors, gases, or particulates; and
- Substances are known or suspected of being extremely toxic directly to the skin or by being absorbed.

Subsequent entries are to conduct the many activities needed to reduce the environmental impact of the incident. Levels of protection for later operations are based not only on data obtained from the initial and subsequent environmental monitoring, but also on the probability of contamination and ease of decontamination.

Examples of situations where Level A has been worn are:

- Excavating of soil to sample buried drums suspected of containing high concentrations of dioxin;
- Entering a cloud of chlorine to repair a valve broken in a railroad accident;
- Handling and moving drums known to contain oleum; and
- Responding to accidents involving cyanide, arsenic, and undiluted pesticides.

- b. The fully encapsulating suit provides the highest degree of protection to skin, eyes, and respiratory system if the suit material resists chemicals during the time the suit is worn. While Level A provides maximum protection, all suit material may be rapidly permeated and degraded by certain chemicals from extremely high air concentrations, splashes, or immersion of boots or gloves in concentrated liquids or sludges. These limitations should be recognized when specifying the type of fully encapsulating suit. Whenever possible, the suit material should be matched with the substance it is used to protect against.

b. Level B Protection

1. PPE:
 - a.. Positive-pressure SCBA (MSHA/NIOSH approved); or
 - b. Positive-pressure air line respirator (with escape bottle for IDLH or potential for IDLH atmosphere) MSHA/NIOSH approved;
 - c. Chemical-resistant clothing (overalls and long-sleeved jacket; coveralls or hooded, one- or two-piece chemical-splash suit; disposable chemical-resistant, one-piece suits);
 - d. Cotton long underwear;*
 - e. Coveralls;
 - f. Gloves (outer), chemical-resistant;
 - g. Gloves (inner), chemical-resistant;
 - h. Boots (inner), leather work shoe with steel toe and shank;
 - I. Boots (outer), chemical-resistant, (disposable);
 - j. Hard hat (face shield*);
 - k. 2-way radio communication;* and
 - l. Taping between suit and gloves, and suit and boots.

*Optional

2. Criteria for Selection:

Any one of the following conditions warrants use of Level B Protection:

- a. The type and atmospheric concentration of toxic substances have been identified and require a high level of respiratory protection, but less skin protection than Level A. These atmospheres would:
 - Have IDLH concentrations; or
 - Exceed limits of protection afforded by an air-purifying mask; or
 - Contain substances for which air-purifying canisters do not exist or have low removal efficiency; or
 - Contain substances requiring air-supplied equipment, but substances and/or concentrations do not represent a serious skin hazard.

- b. The atmosphere contains less than 19.5% oxygen.
- c. Site operations make it highly unlikely that the work being done will generate high concentrations of vapors, gases or particulates, or splashes of material that will affect the skin of personal wearing Level B protection.
- d. Working in confined spaces.
- e. Total atmospheric concentrations, sustained in the breathing zone, of unidentified vapors or gases range from 5 ppm above background to 500 ppm above background as measured by direct reading instruments such as the FID or PID or similar instruments, but vapors and gases are not suspected of containing high levels of chemicals toxic to skin.

3. Guidance on Selection Criteria:

Level B equipment provides a reasonable degree of protection against splashes and to lower air contaminant concentrations, but a somewhat lower level of protection to skin than Level A. The chemical-resistant clothing required in Level B is available in a wide variety of styles, materials, construction detail, permeability, etc. Taping joints between the gloves, boots and suit, and between hood and respirator reduces the possibility for splash and vapor or gas penetration. These factors all affect the degree of protection afforded. Therefore, the SO should select the most effective chemical-resistant clothing based on the known or anticipated hazards and/or job function. (It is anticipated that Level B protection will not be required under this contract.)

Level B does provide a high level of protection to the respiratory tract. Generally, if SCBA is required, Level B clothing rather than a fully encapsulating suit (Level A) is selected based on needing less protection against known or anticipated substances affecting the skin. Level B skin protection is selected by:

- a. Comparing the concentrations of known or identified substances in air with skin toxicity data;
- b. Determining the presence of substances that are destructive to or readily absorbed through the skin by liquid splashes, unexpected high levels of gases, vapor or particulates, or other means of direct contact; and
- c. Assessing the effect of the substance (at its measured air concentrations or splash potential) on the small area of the head and neck left unprotected by chemical-resistant clothing.

For initial site entry at an open site, Level B protection should protect site personnel, providing the conditions described in selecting Level A are known or judged to be absent.

c. Level C Protection

1. PPE
 - a.. Full-face, air-purifying, cartridge- or canister-equipped respirator (MSHA/NIOSH approved) with cartridges appropriate for the respiratory hazards;
 - b. Chemical-resistant clothing (coveralls, hooded, one-piece or two-piece chemical splash suit; chemical-resistant hood and apron; disposable chemical-resistant coveralls);
 - c. Coveralls;
 - d. Cotton long underwear;*
 - e. Gloves (outer), chemical-resistant;
 - f. Gloves (inner), chemical-resistant;
 - g. Boots (inner), leather work shoes with steel toe and shank;
 - h. Boots (outer), chemical-resistant (disposable);*
 - i. Hard hat (face shield);*
 - j. Escape SCBA of at least 5-minute duration;
 - k. 2-way radio communications (inherently safe);* and
 - l. Taping between suit and boots, and suit and gloves.

* Optional

2. Criteria for Selection

Meeting all of these criteria permits use of Level C protection:

- a. Measured air concentrations of identified substances will be reduced by the respirator to, at or below, the substance's Threshold Limit Value (TLV) or appropriate occupational exposure limit and the concentration is within the service limit of the canister.
- b. Atmospheric contaminant concentrations do not exceed IDLH levels.
- c. Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect the small area of the skin left unprotected by chemical-resistant clothing.
- d. Job functions do not require SCBA.
- e. Total readings register between background and 5 ppm above background as measured by instruments such as the FID or PID.
- f. Oxygen concentrations are not less than 19.5% by volume.

g. Air will be monitored continuously.

3. Guidance on Selection Criteria

Level C protection is distinguished from Level B by the equipment used to protect the respiratory system, assuming the same type of chemical-resistant clothing is used. The main selection criterion for Level C is that conditions permit wearing air-purifying devices. The air-purifying device must be a full-face mask (MSHA/NIOSH approved) equipped with a cartridge suspended from the chin or on a harness. Cartridges must be able to remove the substances encountered.

A full-face, air-purifying mask can be used only if:

- a. Oxygen content of the atmosphere is at least 19.5% by volume;
- b. Substance(s) is identified and its concentrations(s) measured;
- c. Substance(s) has adequate warning properties;
- d. Individual passes a qualitative fit-test for the mask; and
- e. Appropriate cartridge is used, and its service limits concentration is not exceeded.

An air monitoring program is part of all response operations when atmospheric contamination is known or suspected. It is particularly important that the air be monitored thoroughly when personnel are wearing air-purifying respirators (Level C). Continual surveillance using direct-reading instruments and air sampling is needed to detect any changes in air quality necessitating a higher level of respiratory protection. Total unidentified vapor/gas concentrations exceeding 5 ppm above background require Level B.

d. Level D Protection

- 1. PPE:
 - a. Coveralls, chemical resistant;

- b. Gloves (outer), chemical resistant;
- c. Gloves (inner), chemical resistant;*
- d. Boots (inner), leather work shoes with steel toe and shank;
- e. Boots (outer), chemical resistant (disposable);*
- f. Hard hat;
- g. Face shield;*
- h. Safety glasses with side shields or chemical splash goggles;* and
- i. Taping between suit and boots, and suit and gloves.

* Optional

2. Criteria for Selection:

- a. No atmospheric contaminant is present.
- b. Direct reading instruments do not indicate any readings above background.
- c. Job functions have been determined not to require respirator protection.

3. Guidance on Selection Criteria:

Level D protection is distinguished from Level C protection in the requirement for respiratory protection. Level D is used for non-intrusive activities or intrusive activities with continuous air monitoring. It can be worn only in areas where there is no possibility of contact with contamination.

e. Anticipated Levels of Protection

- 1. It is anticipated that most of the work shall be performed in Level D. A respirator shall be immediately available in the event that air monitoring indicates an upgrade to Level C is required. The determination of the proper level of protection for each task shall be the responsibility of the **CONTRACTOR**. These task specific levels of protection shall be stated in the **CONTRACTOR's** HASP.

C. Safety Equipment Specifications

Note: Prior to purchasing any equipment or supplies required by this HASP, the **CONTRACTOR** shall notify the **ENGINEER** of the type, model and manufacturer/supplier of that particular safety equipment he is proposing to use or purchase for use on this project. The specifications for PPE that the **CONTRACTOR** is to supply to the **ENGINEER** and which differ from the minimum requirements shown below are provided at the end of this section.

D. Self-Contained Breathing Apparatus

1. The **CONTRACTOR** shall provide positive-pressure SCBA for possible upgrades in respiratory protection. The **CONTRACTOR** shall further supply all the SCBA for all field personnel for the duration of normal work activities. The units must be a MSHA/NIOSH-approved pressure-demand type with a 30-minute service life, manufactured/supplied by Scott, MSA, or other appropriate manufacturers. The **CONTRACTOR** shall inspect and maintain respirators in accordance with OSHA regulations (29 CFR 1910.13-4) and as recommended by the manufacturer.

E. Disposable Coveralls

1. The **CONTRACTOR** shall provide, as necessary, protective coveralls for all project personnel each day with extra sets provided for authorized visitors. The coveralls shall be of the disposable type made of Tyvek or equivalent material, and shall be manufactured/supplied by Durafab, Koppler, or other appropriate manufacturers. To protect project personnel from exposure to liquids, splash-resistant suits (Saranex suits, from appropriate manufacturers) shall be provided. Ripped suits will be immediately replaced after all necessary decontamination has been completed to the satisfaction of the SO.

F. Hard Hat

1. The **CONTRACTOR** shall provide and maintain one hard hat per person on site (authorized visitors included). The hard hats shall comply with OSHA Health and Safety Standards (29 CFR 1910.135).

G. Face Shields

1. The **CONTRACTOR** shall provide and maintain one face shield per person on site. The face shields shall be of the full face type meeting OSHA Health and Safety Standards (29 CFR 1910.133) and shall have brackets for mounting on hard hats. Hard hats and face shields shall be from the same manufacturer to ensure proper fit and shall be manufactured/supplied by Bullard, Norton, or other appropriate manufacturers.

H. Work Clothing

1. The **CONTRACTOR** shall provide a minimum of two sets of work clothing per personnel to allow for changing if contaminated. The work clothing shall include a minimum of underwear, socks, work shirts, work pants, and other clothing as weather conditions dictate. All work clothes shall be put on clean, before entering the site and shall not be kept in same lockers as the workers street clothes. All project personnel shall shower and change to street clothing prior to leaving the site. All contaminated work clothing shall be laundered on site with wash water drained to the decontamination water holding tank.

I. Escape-Type Respirator

1. The **CONTRACTOR** shall provide and maintain one self-contained breathing escape-type respirator per person working on site. The small self-contained device shall be capable of providing oxygen to the worker while protecting an escaping worker from toxic gases. The respirator shall be made by Scott, MSA, or other appropriate manufacturer. The **CONTRACTOR** shall inspect and ensure all devices are in working order before issuing to personnel. Employees must be trained to use equipment prior to being allowed to work on site and carry the escape-type respirator with them. An escape-type respirator must be provided if positive-pressure SCBA are not part of the ensemble worn by each person on site.

J. Full Face Organic Vapor Respirator

1. The **CONTRACTOR** shall provide and maintain a dedicated air-purifying organic vapor respirator per person working in hazardous work and neutral work zones. The respirator shall be of the full-face canister type with cartridges appropriate for the respiratory hazards. Respirators and cartridges shall be MSHA/NIOSH approved, manufactured/supplied by MSA, Scott, or other appropriate manufacturers. The **CONTRACTOR** shall inspect and maintain respirators and canisters in accordance with OSHA regulations (29 CFR 1910.134) and in accordance with manufacturer's instructions. The **CONTRACTOR** shall ensure that proper fit testing training and medical surveillance of respirator users is in accordance with OSHA regulations (29 CFR 1910.134).

K. Gloves (outer)

1. The **CONTRACTOR** shall supply a minimum of one pair of gloves per workman in areas where skin contact with hazardous material is possible. Work gloves shall consist of nitrile (NCR) or Neoprene material. Other gloves may be selected if required based on the potential chemical present. Cotton liners will be provided by the **CONTRACTOR** during cold weather.

L. Gloves (inner)

1. The **CONTRACTOR** shall supply Latex or equivalent surgical gloves to be worn inside the outer gloves.

M. Boots (inner)

1. The **CONTRACTOR** shall supply one pair of safety shoes or boots per workman and shall be of the safety-toe type meeting the requirements of 29 CFR 1910.136.

N. Boots (outer)

1. The **CONTRACTOR** shall provide and maintain one pair of overshoes for the on-site person entering a hazardous work area. The overshoes shall be constructed of rubber and shall be 12 inches high minimum.

PERSONAL PROTECTIVE EQUIPMENT SPECIFICATIONS				
Description	Manufacturer	Model Number	Size	Comments
Tyvek coveralls	Kappler/Abanda	1427/1428	xl/lg	NA
Saranex coveralls	Kappler/Abanda	77427/77428/77434	xl/lg	NA
Sijal acid suit	Chemtex Bata	91522-G	xl/lg	NA
Surgical gloves	Best	7005	xl/lg	NA
Neoprene gloves	Edmont	8-354	xl/lg	NA
Nitrile gloves	Granet	1711	10	NA
Butyl gloves	North	B-161	10	NA
Viton gloves	North	F-124	10/11	NA
Long gauntlet neoprene	Edmont	19-938	xl	NA
Cotton work gloves	North	Grip-N/K511M	men's	or equal
Latex booties	Rainfair	1250-Y	xl	NA
PAPR pesticide cartridges	Racal	AP-3	NA	NA
PAPR asbestos cartridges	Racal	SP-3	NA	NA
APR organic cartridges	MSA	GMC-H	NA	NA
APR asbestos cartridges	MSA	Type H	NA	NA
APR pesticide cartridges	MSA	GMP	NA	NA

1.13 Personnel Hygiene and Decontamination

A. On-Site Hygiene Facility

1. The **CONTRACTOR** shall provide a hygiene facility on site. The hygiene facility shall include the following:
 - Adequate lighting and heat;
 - Shower facilities for project personnel;
 - Laundry facilities for washing work clothes and towels;
 - Areas for changing into and out of work clothing. Work clothing should be stored separately from street clothing;
 - Clean and "dirty" locker facilities; and

- Storage area for work clothing, etc.

a. Portable "Boot Wash" Decontamination Equipment

1. The **CONTRACTOR** shall provide a portable decontamination station, commonly referred to as a "Boot Wash" facility for each hazardous work zone requiring decontamination for project personnel. These facilities shall be constructed to contain spent wash water, contain a reservoir of clean wash water, a power supply to operate a pump for the wash water, a separate entrance and exit to the decontamination platform, with the equipment being mobile, allowing easy transport from one hazardous work zone to the next. All such wash water shall be disposed of at the dewatering facility. An appropriate detergent such as trisodium phosphate shall be used.

b. Personnel Decontamination

1. The **CONTRACTOR** shall provide full decontamination facilities at all hazardous zones. Decontamination facilities must be described in detail in the HASP.

c. Disposal of Spent Clothing and Material

1. Contaminated clothing, used respirator cartridges and other disposable items will be put into drums/containers for transport and proper disposal in accordance with TSCA and RCRA requirements.
2. Containers/55-gallon capacity drums shall conform to the requirements of 40 CFR Part 178 for Transportation of Hazardous Materials. The containers/drums containing excavated and other hazardous material shall be transported by the **CONTRACTOR** to the staging area.
3. The **CONTRACTOR** is responsible for the proper container packaging, labeling, transporting, and disposal.

1.14 Equipment Decontamination

A. General

1. All equipment and material used in this project shall be thoroughly washed down in accordance with established federal and state procedures before it is removed from the project. With the exception of the excavated materials, all other contaminated debris, clothing, etc. that cannot be decontaminated shall be disposed at the **CONTRACTOR's** expense by a method permitted by appropriate regulatory agencies. The cost for this element of work shall be incorporated in the lump sum bid for mobilization/demobilization the unit prices bid for disposal of decontamination liquids or as otherwise directed on this project. All vehicles and equipment used in the "Dirty Area" will be decontaminated to the satisfaction of the SO in the decontamination area on site prior to leaving the project. The **CONTRACTOR** will certify, in writing, that each piece of equipment has been decontaminated prior to removal from the site.

2. Decontamination shall take place within the designated equipment and materials decontamination area. The decontamination shall consist of degreasing (if required), followed by high-pressure, hot-water cleaning, supplemented by detergents as appropriate. Wash units shall be portable, high-pressure with a self-contained water storage tank and pressurizing system (as required). Each unit shall be capable of heating wash waters to 180 degrees Fahrenheit and providing a nozzle pressure of 150 psi.
3. Personnel engaged in vehicle decontamination will wear protective clothing and equipment as determined in the HASP. If the **CONTRACTOR** cannot or does not satisfactorily decontaminate his tools or equipment at the completion of the project, the **CONTRACTOR** will dispose of any equipment which cannot be decontaminated satisfactorily and will bear the cost of such tools and equipment and its disposal without any liability to the **ENGINEER**. At the completion of the project the **CONTRACTOR** shall completely decontaminate and clean the decontamination area.

B. Decontamination Station

1. The **CONTRACTOR** shall construct a decontamination station as described. The decontamination station shall be located in the Contamination Reduction Zone and shall be used to clean all vehicles leaving the Exclusion Zone prior to entering the Support Zone or leaving the site.
2. Each decontamination pad will be equipped with a drain system and holding tank on a properly graded area that has no deleterious material. The **CONTRACTOR** shall obtain and analyze one soil sample at the area where the decontamination pad is to be built and one soil sample after the pad has been dismantled, as directed by the Engineer. The cost associated with the samples shall be included in the cost of providing health and safety at the site.
3. Shop drawings of the decontamination pad shall be submitted to the **ENGINEER** for approval.
4. The **CONTRACTOR** shall be responsible for the provision of an adequately equipped decontamination pad which shall meet the following requirements:
 - a. Adequate dimensions to contain wash water and debris from the largest sized vehicles to be utilized in this contract. All vehicles and construction equipment leaving a contaminated zone shall be decontaminated.
 - b. Perimeter to be curbed and provided with splash guards.
 - c. 40 mil impervious HDPE membrane is required to prevent seepage into the ground.
 - d. Sumps, pumping facilities, and temporary storage facilities to be adequate for anticipated use.
 - e. Temporary storage facility may be mobile tankers or suitable fixed tanks. Fixed tanks shall be located within secondary containment areas capable of containing 100% of the tank capacity, or 110% of the largest tank where the secondary containment area holds more than one tank. The secondary containment area shall have a permeability of not more than 1.0×10^{-7} cm/sec.
 - f. The decontamination pad is to be located at the exit of each contaminated zone such that previously non-contaminated areas are not contaminated during

remedial activities. This may require the construction and use of multiple decontamination pads.

- g. The **CONTRACTOR** shall place a minimum of six (6) inches of sand under the decontamination pad.
- h. There shall be side wall panels, six (6) feet high minimum on two sides to prevent over spray.

C. The **CONTRACTOR** shall clean the decontamination pad after daily use. No contamination shall be left behind. The **CONTRACTOR** will be required to dismantle, remove and properly dispose of the pad at their own expense.

1.15 Air Monitoring Program

A. General

1. The **CONTRACTOR** shall develop, as part of the HASP, an air monitoring program (AMP). The purpose of the AMP is to determine that the proper level of personnel protective equipment is used, to document that the level of worker protection is adequate, and to assess the migration of contaminants to off-site receptors as a result of site work.
2. The **CONTRACTOR** shall supply all personnel, equipment, facilities, and supplies to develop and implement the air monitoring program described in this section. Equipment shall include at a minimum real-time aerosol monitors, depending on work activities and environmental conditions.
3. The **CONTRACTOR's** AMP shall include both real-time and documentation air monitoring (personal and area sampling as needed). The purpose of real-time monitoring will be to determine if an upgrade (or downgrade) of PPE is required while performing on-site work and to implement engineering controls, protocols, or emergency procedures if **CONTRACTOR**-established action levels are encountered.
4. The **CONTRACTOR** shall also use documentation monitoring to ensure that adequate PPE is being used and to determine if engineering controls are mitigating the migration of contamination to off-site receptors. Documentation monitoring shall include the collection and analysis of samples for total nuisance dust.
5. To protect the public in the neighboring residential neighborhood, the **CONTRACTOR** must include in the AMP provisions for suspending work and implementing engineering controls based upon detectable odors, as well as upon instrument monitoring results.
6. During the progress of active remedial work, the **CONTRACTOR** will monitor the quality of the air in and around each active hazardous operation with real-time instrumentation prior to personnel entering these areas. Sampling at the hazardous work site will be conducted on a continuous basis. Any departures from general background will be reported to the SO prior to entering the area. The SO will determine when and if operations should be shut down.

7. Air monitoring (both real time and documentation monitoring) shall be conducted by a minimum of one dedicated person with communication to the foreman whenever intrusive activities (such as excavation, tank removal, and soil treatment) are performed in an exclusion zone. After completion of intrusive activities involving contaminated materials and removal of the exclusion zone, air monitoring may be discontinued.
8. Air monitoring equipment will be operated by personnel trained in the use of the specific equipment provided and will be under the control of the SO. A log of the location, time, type and value of each reading and/or sampling will be maintained. Copies of log sheets will be provided on a daily basis to the **ENGINEER's** on-site representative.

B. Action Levels

1. VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

a. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

b. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

c. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

d. All 15-minute readings must be recorded and be available for State (DEPARTMENT and New York State Department of Health (NYSDOH)) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

2. Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance

of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

a. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m³) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m³ above the upwind level and provided that no visible dust is migrating from the work area.

b. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m³ above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m³ of the upwind level and in preventing visible dust migration.

c. All readings must be recorded and be available for State (DEPARTMENT and NYSDOH) and County Health personnel to review.

C. Real-Time Monitoring

1. The **CONTRACTOR** shall submit a written copy of the real time air monitoring results for each Workday, by 10:00 a.m. the following Workday, which shall include an appropriately scaled map of the Work area depicting sample locations, wind direction and other pertinent meteorological data: date; time; analytical results; applicable standards and engineering controls implemented (if necessary).
2. Real-time monitoring shall be conducted using the following equipment:
3. Organic vapor photoionizers shall be Photovac TIP, total organic vapor analyzer as manufactured by Photovac International, 739B Park Avenue, Huntington, New York 11743 or equal. The **CONTRACTOR** shall provide one Photovac TIP for each and every hazardous work zone operation.
4. Particulate monitoring must be performed using real-time particulate monitors (MiniRam Model MIEPDM-3, or equal) and shall monitor particulate matter in the range of 0-10 microns diameter (PM₁₀) with the following minimum performance standards:

Object to be measured: Dust, Mists, Aerosols

Measurement Ranges: 0.001 to 400 mg/m³ (1 to 400,000 µg/m³)

Precision (2-sigma) at constant temperature:

+/- 10 µg/m³ for one second averaging; +/- 1.5 µg/m³ for sixty second averaging

Accuracy:

+/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 µm, g= 2.5, as aerosolized)

Resolution: 0.1% of reading or 1 µg/m³, whichever is larger

Particle Size Range of Maximum Response: 0.1-10 µ

Total Number of Data Points in Memory: 10,000

Logged Data:

Each Data Point: average concentration, time/date, and data point number

Run Summary:

overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number.

Alarm Averaging Time (user selectable):

real-time (1-60 seconds) or STEL (15 minutes)

Operating Time: 48 hours (fully charged NiMH battery); continuously with charger

Operating Temperature: -10 to 50°C (14 to 122°F)

Automatic alarms are suggested.

5. Particulate levels will be monitored and integrated over a period not to exceed 15 minutes. Consequently, instrumentation shall require necessary averaging hardware to accomplish this task. A monitor such as the personal DataRAM, manufactured by Monitoring Instruments for the Environment, Inc., or equivalent, can be used as a real time particulate screening tool. Although the instrument's design does not allow it to make a sharp differentiation of particulates at the PM₁₀ standard, the instrument could be used in the passive mode without a pump to provide readings in the 0.1 to 10μ range in the immediate vicinity of construction activities.
6. Monitor the air, using the same equipment, for 10-15 minutes upwind of the work site to establish background level. The background level shall be established before the start of each shift every day. In the event that downwind particulates are detected at levels in excess of 150 ug/m³ or 2.5 times the established background level at the work site, re-measure the background concentrations upwind of the work zone using the same equipment. If the measured particulate level at the work zone is 100 ug/m³ above background, monitor the downwind site perimeter and implement additional dust controls in the work zone. Continue to take hourly measurements of the upwind background concentrations and compare such concentrations with the particulate level at the work zone, until the downwind level at the work zone is less than 100 ug/m³ above the upwind level. If at any time the measured particulate level at the work zone is more than 150 ug/m³ over background concentration, the CONTRACTOR shall immediately suspend work at the site, promptly notify the Safety Officer, and implement suitable corrective action or engineering controls before work resumes.
7. Real-time monitoring will be conducted at any excavation of contaminated soil or sediments. Real-time monitoring will also be conducted at perimeter locations including an upwind (background) and three downwind locations. A background reading will be established daily at the beginning of the work shift. If the wind direction changes during the course of the day, a new background reading will be made. Downwind readings at the perimeter will be made when **CONTRACTOR** action levels have been exceeded at the excavation face or at a minimum of twice a day.
8. If action levels are exceeded at the perimeter location for fugitive dust, work must be suspended and engineering controls must be implemented to bring concentrations back down to acceptable levels.
9. Construction activities generate dust which could potentially transport contaminants off site. There may be situations when visible dust is being generated and leaving the site and the monitoring equipment does not measure PM₁₀ at or above the action level. Therefore, if dust is observed leaving the working site, additional dust suppression techniques must be employed by the **CONTRACTOR**.

D. Documentation Monitoring

1. Documentation monitoring will be conducted at the perimeter at a minimum of four locations (one upwind and three downwind) for total dust. Documentation monitoring will be conducted only during excavation, consolidation, staging, removal, or decontamination activities (i.e., intrusive activities).
 - a. Collect total nuisance dust using PVC collection filter and personnel sampling pump and analyze gravimetrically according to NIOSH 89-127 Method 0500.
 - b. Documentation samples will be collected at established perimeter locations. The four locations will be chosen according to site activities and expected wind direction.
 - c. The perimeter locations will be established and marked with high visibility paint or flagging at approximately equidistant points around the site. Samples will be collected at a height of 6 feet above ground surface.
 - d. Documentation samples will be collected continuously, during the normal work hours when activities are occurring on site. At the end of the week, one days worth of sampling (i.e. three downwind locations and one upwind location) will be selected by the Engineer for analysis by the Contractor.
 - e. The documentation samples will be collected over an eight (8) hour work period.
 - f. In addition to perimeter monitoring, personnel documentation samples will be collected on site once a week. On-site samples will be collected by choosing “high risk” workers to wear appropriate collection media for pesticides, metals, and particulate. “High risk” workers are those who are most likely to encounter contamination on a particular task. At a minimum, two high risk workers will be chosen to wear collection media for a particular day each week and the media will be analyzed with the documentation air monitoring samples.
 - g. The **CONTRACTOR** shall submit a written copy of the documentation air monitoring results within 7 days of sampling, which shall include an appropriately scaled map of the Work area depicting sample locations, wind direction and other pertinent meteorological data: date; time; analytical results; applicable standards and engineering controls implemented (if necessary).
 - h. The documentation sampling submitted shall also identify the “high risk” workers chosen to wear appropriate collection media for contaminants; date media was worn; task involved; analytical results and applicable standards.
 - i. Payment for air monitoring will not be approved until the above submittals have been received and approved by the **ENGINEER**.

E. Community Air Monitoring

1. Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion

zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEPARTMENT/NYSDOH staff.

- a. **Continuous monitoring** will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.
- b. **Periodic monitoring** for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or Final DER-10 Page 205 of 226 Technical Guidance for Site Investigation and Remediation May 2010 overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

1.16 Emergency Equipment and First Aid Requirements

A. Communications

1. The **CONTRACTOR** shall provide telephone communication at the site field office. Emergency numbers, such as police, sheriff, fire, ambulance, hospital, poison control, DEPARTMENT, EPA, NYSDOH, and utilities, applicable to this site shall be prominently posted near the telephone.
2. The **CONTRACTOR** shall establish a signaling system for emergency purposes.

B. Emergency Shower and Emergency Eye Wash

1. The **CONTRACTOR** shall supply and maintain one portable eyewash/body wash facility per active hazardous work zone. The facility shall have a minimum water capacity of 10 gallons and shall conform to OSHA regulations 29 CFR 1910.151. The portable eyewash/body wash facility shall be manufactured/ supplied by Direct Safety Company, Lab Safety Supply Company, or other appropriate suppliers.

C. Fire Extinguishers

1. The **CONTRACTOR** shall supply and maintain at least one fire extinguisher in the **CONTRACTOR's** office and one at each hazardous work zone. The fire extinguisher shall be a 20-pound Class ABC dry fire extinguisher with UL-approval per OSHA Safety and Health Training Standards 29 CFR 1910.157. The fire extinguisher shall be manufactured/supplied by Direct Safety Company, Lab Safety Supply Company, or other appropriate suppliers.

D. First Aid Kit

1. The **CONTRACTOR** shall supply and locate in his project office and at each and every hazardous work zone one 24-unit (minimum size) "industrial" or "Contractor" first aid kit, required by OSHA requirements 29 CFR 1910.151. The first aid kit shall be manufactured/supplied by Norton, Scott, or other appropriate suppliers.

E. Emergency Inventory

1. In addition to those items specified elsewhere, the SO will maintain the following inventory of equipment and protective clothing for use at the site in the event of emergencies.
 - a. Washable coveralls;
 - b. Gloves (outer);
 - c. Gloves (inner);
 - d. SCBA;
 - e. Escape SCBA (authorized visitor use);
 - f. Face shields;
 - g. Safety glasses;
 - h. Respirators and appropriate cartridges;
 - i. Disposable coveralls;
 - j. Chemical-resistant boots and latex boot covers;
 - k. Hard hats;
 - l. Bottled breathing air; and
 - m. Rain suits.

1.17 Emergency Responses/contingency Plan and Procedures

A. Daily Work

1. During the progress of work, the **CONTRACTOR** will monitor the quality of the air in and around each active hazardous operation prior to personnel entering these areas. Sampling shall be conducted on a continuous basis. Based on the air monitoring data, the proper level of protection will be chosen by the SO.

B. Emergency Vehicle Access

1. In the event that emergency services vehicles (police, fire, ambulance) need access to a location which is blocked by the working crew operations, those operations (equipment, materials, etc.) will be immediately moved to allow those vehicles access. Emergency crews will be briefed as to site conditions and hazards by the SO. All vehicles and personnel will be decontaminated prior to leaving the site.

2. The **CONTRACTOR** shall schedule a site briefing with the local Fire Department at the completion of mobilization to familiarize emergency response personnel with his operations and site layout.

C. Personal Injury Response Plan

1. In cases of personal injuries, the injured person or the crew personnel in charge will notify the SO. The SO will assess the seriousness of the injury, give first aid treatment if advisable, consult by telephone with a physician if necessary, and arrange for hospitalization if required. The SO will arrange for an ambulance if required.
2. If soiled clothing cannot be removed, the injured person will be wrapped in blankets for transportation to the hospital.
3. Personnel, including unauthorized personnel, having skin contact with chemically contaminated liquids or soils shall be flushed with water after any wet or soiled clothing has been removed.
4. These personnel should be observed by the SO to ascertain whether there are any symptoms resulting from the exposure. If there is any visible manifestation of exposure such as skin irritation, the project personnel will refer to a consulting physician to determine whether the symptoms were the result of a delayed or acute exposure, a secondary response to exposure such as skin infection, or occupational dermatitis. All episodes of obvious chemical contamination will be reviewed by the SO in order to determine whether changes are needed in work procedures.

D. Route to the Hospital

1. The **CONTRACTOR** shall post in conspicuous places in the Support Zone a map with written directions to the nearest hospital or emergency medical treatment facility.

E. Fire Service

1. The **CONTRACTOR** will make arrangements to take immediate fire fighting and fire protection measures with the local Fire Chief. If there is a fire, the crewmen or their person in charge will immediately call the SO. The SO will immediately call the fire personnel.
2. The air downwind from any fire or explosion will be monitored immediately in order to protect workers and the nearby community. If personal injuries result from any fire or explosion, the procedures outlined in the Personal Injury Response Plan are to be followed.

F. Master Telephone List

1. The attached master telephone list will be completed and prominently posted at the field office. The list will have telephone numbers of all project personnel, emergency services including hospital, fire, police, and utilities. In addition, two copies with telephone numbers are to be given to the **DEPARTMENT** for emergency reference purposes.

<u>Emergency Service</u>		<u>Telephone Number</u>
Fire Department		911
Police Department		911
Ambulance		911
Hospital/Emergency Care Facility		To be determined
Poison Control Center		(800) 336-6997
Chemical Emergency Advice (CHEMTREC)		(800) 424-9300
NYSDEC Albany Office	Work Hours	To be determined
	After Hours	To be determined
NYSDEC Regional Office	Work Hours	To be determined
County Dept. of Health		To be determined
New York State Dept. of Health - Albany		To be determined
New York State Dept. of Health - Regional		To be determined

1.18 Heat Stress Monitoring

- A. Site personnel who wear protective clothing allow body heat to be accumulated with an elevation of the body temperature. Heat cramps, heat exhaustion, and heat stroke can be experienced, which, if not remedied, can threaten life or health. Therefore, an American Red Cross Standard First Aid book or equivalent will be maintained on site at all times so that the SO and site personnel will be able to recognize symptoms of heat emergencies and be capable of controlling the problem.
- B. When protective clothing is worn, especially Levels A and B, the suggested guidelines for ambient temperature and maximum wearing time per excursion are:

Ambient Temperature (°F)	Maximum Wearing Time Per Excursion (Minutes)
Above 90	15
85 to 90	30
80 to 85	60
70 to 80	90
60 to 70	120
50 to 60	180

- C. One method of measuring the effectiveness of employees' rest-recovery regime is by monitoring the heart rate. The "Brouha guideline" is one such method:
- During a 3-minute period, count the pulse rate for the last 30 seconds of the first minute, the last 30 seconds of the second minute, and the last 30 seconds of the third minute.
 - Double the count.
- D. If the recovery pulse rate during the last 30 seconds of the first minute is at 110 beats/minute or less and the deceleration between the first, second, and third minutes is at least 10 beats/minute, the work-recovery regime is acceptable. If the employee's rate is above that specified, a longer rest period is required, accompanied by an increased intake of fluids.
- E. In the case of heat cramps or heat exhaustion, "Gatorade" or its equivalent is suggested as part of the treatment regime. The reason for this type of liquid refreshment is that such beverages will return much-needed electrolytes to the system. Without these electrolytes, body systems cannot function properly, thereby increasing the represented health hazard.
- F. This liquid refreshment will be stored in a cooler at the edge of the decontamination zone in plastic squeeze bottles. The plastic bottles will be marked with individual's names. Disposable cups with lids and straws may be used in place of the squeeze bottles. Prior to drinking within the decontamination zone, the project personnel shall follow the following decontamination procedures:

1. Personnel shall wash and rinse their outer gloves and remove them.
2. Personnel shall remove their hard hats and respirators and place on table.
3. Personnel shall remove their inner gloves and place them on table.
4. Personnel shall wash and rinse their face and hands.
5. Personnel shall carefully remove their personal bottle or cup from the cooler to ensure that their outer clothes do not touch any bottles, cups, etc.
6. The used bottle or cups will not be returned to the cooler, but will be placed in a receptacle or container to be cleaned or disposed of.
7. Personnel shall replace their respirators, hard hats, gloves and tape gloves prior to re-entering the hazardous zone.

G. When personnel are working in situations where the ambient temperatures and humidity are high--and especially in situations where protection Levels A, B, and C are required--the SO must:

- Assure that all employees drink plenty of fluids ("Gatorade" or its equivalent);
- Assure that frequent breaks are scheduled so overheating does not occur; and
- Revise work schedules, when necessary, to take advantage of the cooler parts of the day (i.e., 5:00 a.m. to 1:00 p.m., and 6:00 p.m. to nightfall).

1.19 Cold Stress

A. Whole-body protection shall be provided to all site personnel that have prolonged exposure to cold air. The right kind of protective clothing shall be provided to site personnel to prevent cold stress. The following dry clothing shall be provided by the **CONTRACTOR** as deemed necessary by the SO:

- Appropriate underclothing (wool or other);
- Outer coats that repel wind and moisture;
- Face, head, and ear coverings;
- Extra pair of socks;
- Insulated safety boots; and
- Glove liners (wool) or wind- and water-repellant gloves.

B. The SO will use the equivalent chill temperature when determining the combined cooling effect of wind and low temperatures on exposed skin or when determining clothing insulation requirements.

- C. Site personnel working continuously in the cold are required to warm themselves on a regular basis in the on-site hygiene facility. Warm, sweet drinks will also be provided to site personnel to prevent dehydration. The SO shall follow the work practices and recommendations for cold stress threshold limit values as stated by the 1991-1992 Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices by the American Conference of Governmental Industrial Hygienists or equivalent cold stress prevention methods.

1.20 Logs, Reports and Record Keeping

A. Security Log

1. A daily log of security incidents and visitors granted access to the site will be maintained, as well as a log of all personnel entering and exiting the site.
2. All approved visitors to the site will be briefed by the SO on safety and security, provided with temporary identification and safety equipment, and escorted throughout their visit. Site visitors will not be permitted to enter a hazardous work zone.
3. Project site shall be posted, "Warning: Hazardous Work Area, Do Not Enter Unless Authorized," and access restricted by the use of a snow fence.

B. Safety Log

1. The **CONTRACTOR's** SO will maintain a bound safety logbook. The log will include all health and safety matters on site and include, but not be limited to, the following information:
 - Date and weather conditions on site;
 - A description of the proposed work for the day;
 - Times when site personnel arrive and depart;
 - Air monitoring data;
 - Heat and/or cold stress monitoring;
 - Decontamination procedures;
 - Type and calibration of air sampling/monitoring equipment used;
 - Safety meeting summaries; and
 - Accidents.

C. Emergency Or Accident Report

1. Any emergency or accident will be reported immediately to the SO. The **ENGINEER** will also be notified. The **CONTRACTOR** will submit a written report immediately, but no later than 24 hours of its concurrence. The report will include, but not be limited to, the nature of the problem, time, location, areas affected, manner and methods used to control the emergency, sampling and/or monitoring data, impact, if any, to the surrounding community, and corrective actions the **CONTRACTOR** will institute to minimize future occurrences. All spills will be treated as emergencies.

D. Daily Work Report

1. The **CONTRACTOR** shall maintain a daily work report that summarizes the following:

- Work performed,
- Level of protection,
- Air monitoring results,
- Safety-related problems, and
- Corrective actions implemented.

1.21 Posting Regulations

- A.** The **CONTRACTOR** will post signs at the perimeter of the Exclusion Zone that state "Warning, Hazardous Work Area, Do Not Enter Unless Authorized." In addition, a notice directing visitors to sign in will be posted at the project site. Also, the **CONTRACTOR** will post a sign stating that any questions about the site should be directed to the New York State Department of Environmental Conservation.
- B.** Safety regulations and safety reminders will be posted at conspicuous locations throughout the project area. The following safety regulations and safety reminders are at a minimum to be posted around the job site:

SAFETY REGULATIONS

(To be Posted for Project Personnel)

The main safety emphasis is on preventing personal **contact** with gases, soils, sludge and water. Towards that end, the following rules have been established.

Regulations

- A. Eating, drinking and smoking on the site is PROHIBITED except in specifically designated areas.
- B. All project personnel on the site must wear clean or new gloves daily.
- C. If you get wet to the skin, you must wash the affected area with soap and water immediately. If clothes in touch with the skin are wet, these must be changed.
- D. You must wash your hands and face before eating, drinking or smoking.
- E. Observe regulations on washing and removing boots before entering the dressing room or a clean area and showering before going home.

Recommendations

- A. Do not smoke on site with dirty hands; better yet, do not smoke.
- B. Check for any personal habit which could get soil or water into your body.

Examples: food off your fingers, wiping your face or nose with a dirty hand or running a dirty hand through your hair.

- C. Check that any regularly worn clothing is clean. Examples include dirty watchbands, neck chains and a dirty liner on your safety helmet. Safety practices with poisonous chemicals can be summed up with a few words:

Don't breathe in chemical odors and don't touch the water, soil, and sludge.

If you do get dirty or wet, clean up as soon as possible.

SAFETY REMINDER FOR TOXIC CHEMICALS

(Post for Project Personnel)

Chemicals can't cause problems unless you breathe them, eat them, or put them on your skin.

Chemicals in Gases, Soils, Sludge, and Water

Don't let them go into your mouth, nose, or stay on your skin.

Use common personal hygiene.

- A. Don't eat or drink on the site.
- B. No smoking in the area of work.
- C. Wear protective clothing.
- D. Glove liners must be **clean**.
- E. Wash your hands whenever practical. Wash before eating, drinking, or smoking.
- F. Don't carry chemicals home to your family. (For example, on clothing, mud in the car, dirty hands.)
- G. Follow strictly the HASP.

1.22 Community Protection Plan

A. General

1. Develop, as part of this HASP, a Community Protection Plan (CPP). The CPP shall outline those steps to be implemented to protect the health and safety of surrounding human population and the environment.

B. Air Monitoring

1. As part of the Air Monitoring Program, use real-time monitoring and documentation sampling as described in the Subpart "Air Monitoring Program" of this section to determine if off-site emission, as a result of site work, poses a threat to the surrounding community.
2. Provide real-time air monitoring for volatile compounds and particulate levels as the perimeter of the work area as necessary. Include the following:
 - a. Volatile organic compounds must be monitored at the downwind perimeter of the work area on a continuous basis. If total organic vapor levels exceed 5 ppm above background, work activities shall be halted and monitoring continued under the provisions of a Vapor Emission Response Plan. All readings shall be recorded and be available for State (DEC & DOH) personnel to review.
 - b. Particulates shall be continuously monitored at the 4 documentation sampling stations for a total of 4 dust monitors. If the downwind particulate level is 150 ug/m³ greater than the upwind particulate level, dust suppression techniques shall be employed. All readings shall be recorded and be available for State (DEC & DOH) personnel to review.

C. Vapor Emission Response Plan

1. If the ambient air concentration of organic vapors exceed 5 ppm above background at the perimeter of the work area, activities shall be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, work activities may resume. If the organic vapor levels are greater than 5 ppm over background but less than 225 ppm over background at the perimeter of the work area, activities may resume provided the organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background.
2. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities shall be shutdown. When work shutdown occurs, downwind air monitoring as directed by the SO shall be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

D. Major Vapor Emission

1. If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, all work activities shall be halted.

2. If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, the air quality shall be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).
3. If efforts to abate the emission source are unsuccessful and if organic vapor levels are approaching 5 ppm above background and persist for more than 30 minutes in the 20 Foot Zone, the Major Vapor Emission Response Plan shall automatically be placed into effect.
4. However, the Major Vapor Emission Response Plan shall be immediately placed into effect if organic vapor levels are greater than 10 ppm above background levels.

E. Major Vapor Emission Response Plan

1. Upon activation, the following shall be undertaken:
 - a. All Emergency Response Contracts as listed in the Subpart titled "Emergency Response and Contingency Plan" paragraph titled "Telephone List."
 - b. The local police authorities shall immediately be contacted by the SO and advised of the situation. Coordinate with local officials to arrange for notification and evacuation of the surrounding community.
 - c. Frequent air monitoring shall be conducted at 30 minutes intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring say be halted or modified by the SO.
2. The Air Monitoring Program shall include real-time air monitoring and shall be conducted at the perimeter of the site. Particulates should be continuously monitored upwind, downwind and within the Exclusion Zone at temporary particulate monitoring stations. If the downwind particulate level is more than 2.5 times greater than the upwind particulate level and greater than 150 ug/m³, then dust suppression techniques shall be employed. This is a general action level. A site-specific action level shall be developed based on available analytical data. All readings shall be recorded and be available for ENGINEER, DEPARTMENT, and NYSDOH personnel to review.
3. Coordinate with local officials to arrange for notification and evacuation of the surrounding community in the event that off-site emissions pose a threat.

F. Odor

1. Foam active work areas to reduce odors if odor complaints are received from nearby residences during site activities. Odor masking agents or other odor control methods may be used subject to **ENGINEER's** review. Continue odor suppression during each day that odor complaints are received.

G. Off-Site Spill Response

1. Produce as part of the HASP a Spill Response Plan, also coordinated with local officials, in case of an off-site spill of either liquid or solid wastes. The plan shall include transportation routes and times, as well as the minimum requirements set forth in the Subpart titled "On-Site Spill Containment Plan." The driver shall be supplied with Material Safety Data Sheets (MSDSs), a 24-hour emergency phone number, and instructions for reporting emergencies to local agencies and the project site.

1.23 Confined Space Work

- A. Evaluate the work areas and determine if there are any permit-required confined spaces. If the **CONTRACTOR** determines that personnel will not need to enter a permit-required confined space, appropriate measures to prevent personnel from entering such shall be taken. If the **CONTRACTOR** determines that personnel will need to enter a permit-required confined space, develop and implement a written permit-required confined space program.
- B. The written program shall comply with 29 CFR 1910.146 and shall include the following:
 1. Implement methods to prevent unauthorized entry;
 2. Identify and evaluate the hazards of permit-required confined spaces before personnel entry;
 3. Develop and implement procedures for safe permit-required confined space entry;
 4. Provide the appropriate equipment to evaluate permit-required confined spaces;
 5. Evaluate permit-required confined spaces when entry operations are conducted;
 6. Provide at least one attendant outside the permit-required confined space which will be entered;
 7. Designate the personnel who will have active roles in entry operations;
 8. Develop and implement procedures for obtaining rescue and emergency services;
 9. Develop and implement a system for the preparation, issuance, use, and collection of entry permits;
 10. Develop and implement procedures to coordinate entry operations when personnel from more than one employer are working;
 11. Develop and implement procedures for concluding the entry;
 12. Review and revise entry operations if measures may not protect personnel; and
 13. Review the permit-required confined space program to ensure personnel are protected from the hazards present.
- C. Copies of the permit-required confined space program and employee training certificates shall be included with the HASP.

2. PRODUCTS

Not Used.

3. EXECUTION

Not Used.

*** END OF SECTION ***

SECTION XI

Supplementary Specifications

SECTION XI

Supplementary Specifications

Division 0 – Bidding and Contracting Requirements

00015	List of Drawings
00330	Existing Conditions

Division 1 – General Requirements

01011	Work Restrictions
01040	Coordination
01045	Project Identification and Signs
01100	Decontamination Pad
01110	Summary of Work
01330	Submittal Procedures
01352	Environmental Protection Procedures
01410	Regulatory Requirements
01450	Contractor Quality Control
01500	Temporary Facilities and Controls
01505	Traffic Control
01510	Temporary Sewer Bypass
01520	Site Security
01541	Protection of the Work and Property
01560	Dust and Odor Control
01591	Field Trailer
01600	Operation and Maintenance Manual
01611	Storage of Material
01680	Start-up, Prove-Out, and Operation and Maintenance
01720	Field Engineering and Surveying
01750	Spare Parts and Maintenance Materials
01770	Project Closeout Procedures

Division 2 – Site Construction

02105	Chemical Sampling and Analysis
02110	Waste Removal and Handling
02120	Off-Site Transportation and Disposal
02221	Selective Site Demolition
02240	Dewatering
02250	Shoring
02300	Earthwork
02370	Erosion and Sediment Control
02521	Wells

02531 Field Testing of Non-Pressure Pipe
Division 2 – Site Construction (continued)

02539 Sewer Pipe
02540 Remediation Piping
02602 Pre-Cast Concrete Structures
02650 Aboveground Storage Tank Removal
02740 Hot Mix Asphalt
02900 Topsoil and Seeding

Division 3 – Concrete

03050 Cellular Concrete Fill
03300 Cast-in-Place Concrete

Division 11 – Equipment

11001 Equipment, General Requirements
11318 Extraction Well Pumps

Division 13 – Special Construction

13280 Packaged Soil Vapor Extraction and Groundwater Treatment System

Division 15 – Mechanical

15011 Mechanical, General Requirements
15060 Piping and Valves
15140 Hangers and Supports

Division 16 – Electrical

16010 Electrical – General
16050 Basic Materials and Methods
16400 Service and Distribution

SECTION 00015

LIST OF DRAWINGS

G-001	Cover Sheet
G-002	General Notes, Abbreviations, and Legend
C-101	Existing Conditions Plan
C-102	Remedial Excavation Plan
C-103	Piping Plan
C-104	Final Conditions Plan
C-201	Cross Sections
C-301	Soil Erosion and Sedimentation Control Details
C-302	Civil Details 1 of 2
C-303	Civil Details 2 of 2
C-304	Soil Vapor and Groundwater Extraction Details
D-601	Proposed Piping and Instrumentation Diagram, Legend, and Abbreviations
D-602	Proposed Piping and Instrumentation Diagram
E-101	Electrical 1-Line and Details

SECTION 00330

EXISTING CONDITIONS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Subsurface explorations have been conducted for the sole purpose of assisting the DEPARTMENT and the ENGINEER in the evaluation of the extent of on-site contamination. A summary of this data is included in the Limited Site Data document.
- B. Analytical testing of soil and water samples collected at the Site have been performed for the sole purpose of assisting the DEPARTMENT and the ENGINEER in the evaluation of the type, concentrations, and extent of contamination present in the vicinity of the Site. Summary data for the laboratory testing is included in the Limited Site Data document.
- C. Existing features for the Site are based on:
 - 1. A plan titled "Topographic & Boundary Map, Being Part of Lot No. 22, Township 13, Range 7, Carriage Cleaners Site, Town of Brighton, County of Monroe, State of New York", by Popli Consulting Engineers & Surveyors, dated March 30, 2009, using a field instrument survey.
 - 2. Shape file data provided by O'Brien & Gere locating the sewer break and soil borings collected as part of the remedial investigation. The shape file data was likely located using global positioning system (GPS) instrumentation.
- D. Existing known utilities are shown on the Drawings. Utilities are shown diagrammatically and should be considered incomplete. Identified utilities that are part of the Work or within the Limit of Work include below grade sanitary and storm sewer and electrical services. Utility locations shown on the Drawings shall be considered approximate. It is the responsibility of the CONTRACTOR to accurately locate utilities.
- E. It is uncertain whether both sanitary and storm sewer utilities exist within the Limit of Excavation. Conservatively, both are shown on the Drawings and referenced in the Supplementary Specifications. If only one of these utilities is determined to be present, disregard all references to the other.

1.02 LIMITATIONS OF SUBSURFACE EXPLORATIONS

- A. Explorations are not intended to indicate subsurface conditions except at the locations of the borings and are based on the information available and the ENGINEER's interpretations at the time borings were made.
- B. Explorations were not made for the purposes of determining or facilitating the constructability of the project or the cost thereof. Therefore, they may not be suitable or adequate for any purpose other than for the ENGINEER's use in designing the project.
- C. Any reuse of the exploration logs or other subsurface information, including, without limitation, any subsurface investigation prepared by the ENGINEER on behalf of the DEPARTMENT, by the CONTRACTOR or its subcontractors, regardless of tiers, shall be at its own risk and without legal liability on the ENGINEER or DEPARTMENT. Therefore, the CONTRACTOR shall indemnify and hold the ENGINEER and DEPARTMENT harmless from all claims, damages, expenses, or costs resulting from the CONTRACTOR's interpretation of this information.

1.03 LIMITATIONS OF EXISTING KNOWN UTILITIES

- A. It should not be inferred that utility locations shown on the Drawings are precise, or that all existing utilities or structures are depicted. It is the responsibility of the CONTRACTOR to identify the location of the utilities required to complete the work.
- B. Underground utilities shown are based on surface indicators such as valves, manholes, utility mark-outs and/or the results of ground penetrating radar.

PART 2 - PRODUCTS

Not Applicable

PART 3- EXECUTION

3.01 SUPPLEMENTAL SUBSURFACE INVESTIGATION

- A. The CONTRACTOR shall review the available subsurface information and conduct additional explorations and investigations as deemed necessary to develop independent soil parameters for the purposes of shoring design, slope stability, and constructability.
- B. Additional test borings and other exploratory operations may be made by the CONTRACTOR at no cost to the DEPARTMENT.

3.02 SUPPLEMENTAL UTILITY LOCATION AND RESPONSIBILITY

- A. The CONTRACTOR shall locate or have located all existing utilities or underground structures in the vicinity of the Work Area on the Site.
- B. All utilities shall be identified and marked in the field in accordance with required New York regulations. The CONTRACTOR shall contact DIG SAFELY NEW YORK at 811 or 1-800-962-7962 prior to commencing any on-site excavation.
- C. The CONTRACTOR shall be responsible for any and all work-related damage to any existing utilities, which are to remain in service.
- D. The CONTRACTOR shall contact the affected utility or property owner as soon as any damage is discovered.
- E. The cost for performing the Work described in Subpart 3.02 is considered incidental to the Work.

END OF SECTION

SECTION 01011

WORK RESTRICTIONS

PART 1 – GENERAL

1.01 USE OF PREMISES

- A. Limit use of premises to Work in areas indicated. Do not disturb portions of Site beyond areas in which Work is indicated.
 - 1. Limits: Confine construction operations to within the Limit of Work, as designated on Contract Drawings. Provide storage areas and support facilities as necessary for execution of the Work. Do not enter areas located outside the Limit of Work. The CONTRACTOR shall coordinate work activities with the OWNER. The entire Limit of Work area shall not be in use at a single time; parking and vehicle and pedestrian access shall be available for Carriage Cleaners employees and patrons at all times.
 - 2. Driveways and Entrances: At all times, keep driveways and entrances serving premises clear and available to DEPARTMENT, DEPARTMENT'S employees, and emergency vehicles. Do not use these areas for parking or storage of materials unless otherwise approved by the ENGINEER/DEPARTMENT. Vehicle and pedestrian access shall be available for Carriage Cleaners employees and patrons at all times.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for on-site storage of materials and equipment.
 - c. Schedule deliveries to minimize disruption to the business(es) within the areas of Work.
 - d. Work conducted in driveways/entrances shall be limited to a maximum of 3 calendar weeks.
 - 3. Parking Lot: The asphalt parking lot surrounding the Carriage Cleaners Dry Cleaners building shall be available for employee and patron parking during regular business hours, 7 days per week, except during the following construction:
 - a. Installation of soil vapor extraction and groundwater treatment system piping shall be completed within one calendar week.
 - b. Installation of groundwater extraction well and associated piping, SVE wells, and vacuum monitoring points shall be completed within one calendar week.
 - c. Demolition and repair work to Carriage Cleaners Dry Cleaners building shall be limited to the work areas identified within the Contract Drawings.
 - d. Repair of the sidewalk shall be completed within 3 days.
- B. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Protect building and its occupants during construction.
- C. Promptly repair damage to premises caused by construction operations. Upon completion of the Work, restore premises to original condition.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

SECTION 01040

COORDINATION

PART 1 – GENERAL

1.01 DESCRIPTION

This section includes: requirements for CONTRACTOR coordination, subcontractor approvals and project schedule status and updating.

1.02 SUBMITTALS

- A. Submit the following in accordance with Section VIII, Article 5.23-5.29, “Shop Drawings and Samples” and Section 01330.
 - 1. Subcontractor List: submit for review and approval. This list shall be updated and submitted each time a new subcontractor is proposed for employment on the project (see section VIII, article 5.8.1).
 - 2. Vendor Responsibility Questionnaire: submit in accordance with instructions in Section V, Article 2(e). Submit properly executed New York State Vendor Responsibility Questionnaire for subcontracts valued at greater than \$10,000. The DEPARTMENT requires a minimum of two (2) weeks to review.
 - 3. Project Schedule Status Reports: submit biweekly 48 hours prior to project meetings.
 - 4. Project Schedule Updates: submit proposed updates for approval prior to updating the project schedule.

PART 2 - PRODUCTS

2.01 SUBCONTRACTOR LIST

- A. The CONTRACTOR shall submit a complete list of proposed subcontractors (including disposal facilities) identifying name, address, telephone number, contact, type of work to be subcontracted, dollar amount and M/WBE status. No subcontractors can begin work without the prior written approval of the DEPARTMENT.

2.02 PROJECT SCHEDULE STATUS REPORTS AND UPDATES

- A. Project Schedule status reports shall be based on the current approved Project Schedule and shall show the previous two weeks and succeeding two weeks as of the corresponding project meeting date. The schedule shall be updated for actual progress. Project schedule updates shall be in accordance with Section X, Specification 00001.

PART 3 – EXECUTION

3.01 SCHEDULE

- A. The CONTRACTOR shall be solely responsible for coordinating the schedules of their subcontractors. The ENGINEER shall approve schedules and the CONTRACTOR shall coordinate with the ENGINEER to make appropriate changes to the schedule.
- B. The CONTRACTOR shall cooperate with the ENGINEER’S review of the project schedule and promptly furnish the ENGINEER with such data as may be requested in accordance with ENGINEER’s review of the project schedule and incorporate required revisions.
- C. The CONTRACTOR shall conform to the specified schedule and arrange work in such a manner that it will be completed within the time limits indicated.
- D. The CONTRACTOR shall coordinate his letting of subcontracts (if any), material purchases, and delivery of materials and sequence of operations to conform to the schedule and shall

SECTION 01045

PROJECT IDENTIFICATION AND SIGNS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The sign shall be 4' high by 8' wide, and constructed of 3/4- to 1-inch medium density overlay plywood, with a resin coating on both sides. The edges shall be framed with a snap trim edge cap consisting of an aluminum channel with a polyvinyl coating. An aluminum sign of equal size may also be used. The sign's background will be painted with white exterior oil base sign enamel. The fourth line will have green letters. The first, second and third lines will have blue letters. The NYSDEC logo will be painted as noted. All adhesives are solvent resistant.

1.02 REFERENCES

- A. Lumber Standard: American Softwood Lumber Standard; U.S. DEPARTMENT of Commerce Product Standard PS20.
- B. Softwood Plywood Standard: Construction and Industrial; U.S. DEPARTMENT of Commercial Product Standard PS1.

1.03 QUALITY ASSURANCE

- A. Painter's Qualifications: All paint shall be applied by a professional sign painter.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. Posts: Standard Grade Douglas Fir, White Pine or Southern Pine; preservative treated; 4 inch x 4 inch x 12 feet long.
- B. Plywood: Overlaid Plywood; MDO B-B EXT-APA; 3/4 to 1 inch.
- C. Framing: Snap trim edge cap of polyvinyl coated aluminum channel.
- D. Paint:
 - 1. Background Enamel: Exterior, alkyd, glass enamel with primer as recommended by finish coat manufacturer.
 - 2. Lettering and Striping Enamel: Exterior, long oil, alkyd; high gloss enamel manufactured for lettering signs.
 - 3. Colors: As per attached illustration.

2.02 FABRICATION

- A. Painting:
 - 1. Paint both sides and all edges of signs with two coats of primer and one coat of background enamel.
 - 2. Paint lettering and striping with two coats of lettering enamel.
 - 3. Do not apply succeeding coat until previous coat has completely dried.
 - 4. Apply even coats of uniform thickness without brush marks, runs or lap marks.
 - 5. Lettering and striping shall be uniform with sharp, neat profiles.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Install signs within two weeks of Notice to Proceed.
- B. Install signs where directed by ENGINEER.
- C. Set posts plumb, 4 feet into the ground. Compact backfill around posts.
- D. Fasten sign, in a level position, securely to posts. The center of the sign should be located approximately 6 to 7 feet from ground level.

3.02 MAINTENANCE AND REMOVAL

- A. Maintain the signs plumb and level for the duration of the work.
- B. When directed, at the completion of the project, remove the signs.

END OF SECTION

- furnish proof of same as required by the ENGINEER.
- E. See Section X, Specification 00001 for further requirements.
- 3.02 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES
- A. The CONTRACTOR shall coordinate a list of required submittal packages with the ENGINEER prior to any submittals being made, beyond those described in Section III, Article 5 as Required Bid Submittals.
- B. The CONTRACTOR shall coordinate with the ENGINEER the transmittal form and content prior to any submittals.
- C. Refer to Specification Section 01330 for further information.
- 3.03 TIME AND MATERIAL (T&M) WORK
- A. If T&M work is initiated, the CONTRACTOR shall submit labor classes, materials and equipment, along with associated rates for time and material work to the ENGINEER for review and approval.
- B. The ENGINEER and CONTRACTOR shall agree on the format of a time and material work sheet prior to initiating any T&M work.
- C. ENGINEER'S and CONTRACTOR'S field representatives will sign a T&M summary worksheet on a daily basis. Signatures from field representatives do not represent that the work shown is an extra or that rates are acceptable; rather, it is merely to document that the materials, labor and equipment shown were in fact used for the work in question.
- D. Agreements for additional costs (if any) will be formalized in a change order in accordance with the terms of the Contract Documents.
- E. Daily T&M worksheets without the signature of the ENGINEER'S representative will not be the basis for a claim for additional compensation. The CONTRACTOR is solely responsible for the costs arising from the CONTRACTOR'S own inefficiencies.

END OF SECTION

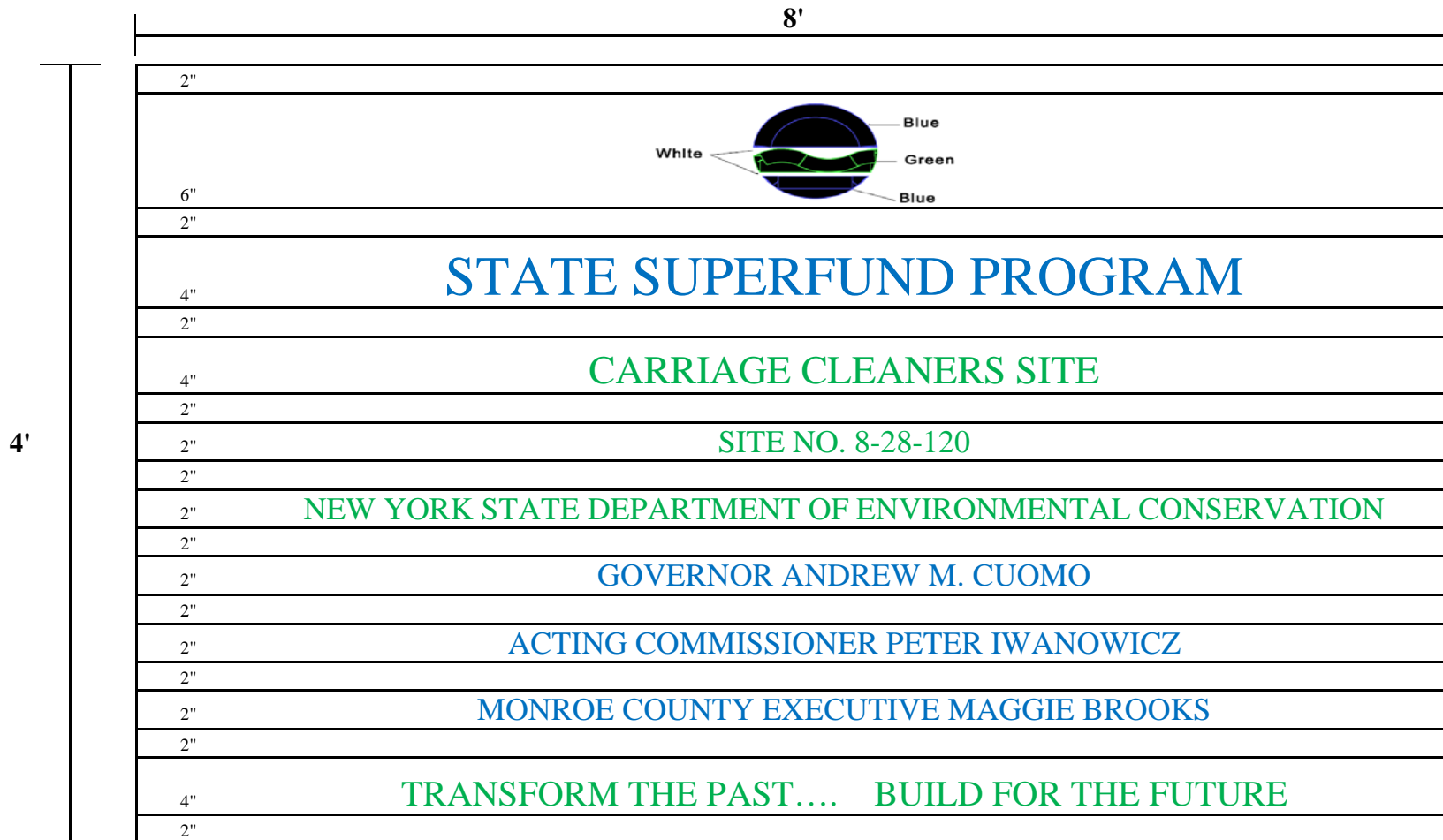


FIGURE 01045-1
PROJECT SIGN

SECTION 01100

DECONTAMINATION PAD

PART 1 - GENERAL

1.01 General Requirements

The CONTRACTOR shall construct and place a decontamination pad. The decontamination pad will be equipped with a drain system and holding tank on a properly graded area that has no deleterious material.

1.02 Related Work Specified Elsewhere

- A. All Plans and provisions of the Agreement, including Amendments and Specific Conditions and other Division 1 sections, apply to the work of this section.
- B. Section X - SPEC 00003: Minimum Requirements for Health and Safety
- C. Section 01500: Temporary Facilities and Controls
- D. Section 02110: Waste Removal and Handling
- E. Section 02120: Off-Site Transportation and Disposal
- F. Section 02300: Earthwork

1.03 Submittals

Shop drawings of the decontamination pad shall be submitted to the ENGINEER for approval in accordance with Specification Section 01330.

PART 2 - PRODUCTS

- A. Facilities shall be constructed as shown on the Construction Drawings.
 - 1. Sand and 2-inch crushed stone materials as described in Section 02300 – Earthwork.
 - 2. Geomembrane shall be minimum 40-mil scrim-reinforced high density polyethylene. Panels shall be sized so that no seams are required.
 - 3. Geotextile shall be a minimum 16 ounce per square yard nonwoven geotextile.

PART 3 – EXECUTION

3.01 The CONTRACTOR shall be responsible for the provision of an adequately equipped decontamination pad which shall meet the following requirements:

- A. Decontamination pad shall be constructed as shown on Contract Drawing C-301.
- B. Construct to facilitate the cleaning of equipment and trucks prior to leaving the Site. Adequate dimensions to contain wash water and debris from the largest sized vehicles to be utilized in this contract. All vehicles and construction equipment leaving a contaminated zone shall be decontaminated.
- C. The decontamination pad is to be located at the exit of each contaminated zone such that previously non-contaminated areas are not contaminated during remedial activities. This may require the construction and use of multiple decontamination pads.
- D. Locate as close to the active work as possible to prevent tracking of contaminated material beyond the Limit of Work.
- E. Decontamination Pad shall consist of an aggregate (sand and crushed stone) working base, impervious geomembrane, nonwoven geotextile, and a collection sump and pumping system as shown on the Construction Drawings.

1. The subgrade surface beneath the liner shall be free of stones, debris, or other objects greater than one half inch in size.
 - F. Collect and store liquid waste from the sump in a storage tank adjacent to the Decontamination Pad.
 - G. Sumps, pumping facilities, and temporary storage facilities to be adequate for anticipated use.
 - H. Temporary storage facility may be mobile tankers or suitable fixed tanks. Fixed tanks shall be located within secondary containment areas capable of containing 100% of the tank capacity, or 110% of the largest tank where the secondary containment area holds more than one tank. The secondary containment area shall have a permeability of not more than 1.0×10^{-7} cm/sec.
 - I. Liquid waste treatment, transportation, and disposal shall occur as described in Section 02110 - Waste Removal and Handling and Section 02120 - Off-Site Transportation and Disposal.
- 3.02 The CONTRACTOR shall clean the decontamination pad after daily use. No contamination shall be left behind. The CONTRACTOR shall dismantle, remove, and properly dispose of the pad at the CONTRACTOR's own expense upon completion of the project.
- 3.03 The CONTRACTOR shall regularly containerize, characterize, stage, and transport all generated decontamination water and sediments offsite for disposal at a licensed and permitted facility.

END OF SECTION

SECTION 01110

SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section is intended to provide a summary of the project and the various elements of work associated with it. This summary should be used in conjunction with other noted specification sections, the Drawings and other project documents included with the Contract Documents. This section does not provide the technical detail of the referenced sections for particular work activities, but describes the work as a whole, providing an overall perspective to the separate tasks and their interrelationships.
- B. The New York State Department of Environmental Conservation (DEPARTMENT) classifies the Site as a Class 2 inactive hazardous waste disposal site due to dry cleaning operations and associated activities. Volatile organic compounds (VOCs) have impacted soil and groundwater at the Site; the primary contaminant of concern has been identified as tetrachloroethene (PCE). The contamination poses a potential risk to downgradient groundwater receptors and to indoor air quality for the on-site dry cleaner building.
- C. The work is being performed in accordance with the "Record of Decision" (hereinafter referred to as the "ROD") for the Carriage Cleaners – Brighton Site, Town of Brighton, Monroe County, New York, Site Number 8-28-120 by the DEPARTMENT dated March 2008. Additional investigation and conceptual design evaluation was undertaken subsequent to the ROD and is summarized in the "Final Pre-Design Investigation Report – Carriage Cleaners – Site No. 8-28-120" (MACTEC), dated May 2009. The remediation is being undertaken by the DEPARTMENT using State Superfund monies.
- D. The scope of work for the Carriage Cleaners Site includes excavation of an identified area of soil contamination near a historic sewer line break (since repaired); removal and replacement of underground utilities within the remedial excavation limits; shoring; installation of a reagent injection point and infiltration piping; proper disposal of contaminated soil; backfill and compaction of completed excavations; removal and proper disposal of an aboveground storage tank; installation of an on-site soil vapor extraction (SVE) system; and installation of a groundwater extraction and treatment system using the existing on-site groundwater extraction well.
- E. Additional Site information relevant to the remediation measures is provided in the Limited Site Data document.
- F. The CONTRACTOR shall purchase a compact disc containing the Town of Brighton's standard details and specifications, which is pertinent to work within the right of way. The compact disc can be purchased by contacting the Town of Brighton DEPARTMENT of Public Works at (585) 784-5223. Discrepancies between the Town's details and specifications and those found within these Contract Documents shall be brought to the attention of the ENGINEER in advance of the work being performed. In general, the more restrictive requirement shall apply to work within the right of way.

1.02 DEFINITIONS

- A. Refer to Section II "Definitions" of the Contract Documents for a complete list of terms and definitions.

- B. "DEPARTMENT" shall mean the New York DEPARTMENT of Environmental Conservation (NYSDEC).
- C. "ENGINEER" as used in the Contract Documents shall mean MACTEC Engineering and Consulting, Inc. (MACTEC).
- D. "Owner" as used in these Contract Documents shall mean Carriage Cleaners (Bob Jascot, Manager).

1.03 WORK COVERED BY THE CONTRACT DOCUMENTS

The work shall primarily consist of, but not necessarily be limited to, the following activities:

- A. Comply with the requirements of all permits, and providing all services, utilities, equipment, and facilities required to perform the work activities in accordance with these Specifications, the Drawings, and the ROD.
- B. CONTRACTOR must yield to all Town of Brighton, Monroe County, State of New York, and/or Federal government inspections without change in work schedule.
- C. CONTRACTOR shall submit a Construction Work Plan for review and acceptance by the ENGINEER and DEPARTMENT, which contains, at a minimum:
 - 1. Proposed sequence, equipment, and methods for the performance of site preparation (e.g., temporary site facilities and controls including utilities; soil erosion and sediment control requirements; etc.);
 - 2. Proposed sequence, equipment, and methods for the excavation and removal of contaminated and non-contaminated material (e.g., required shoring for excavation support/protection; construction dewatering; storm water management, etc.);
 - 3. Proposed sequence and methods for removal and replacement of existing utility services located within the excavation area;
 - 4. Proposed sequence and methods for temporarily by-passing existing utility services located within the excavation area;
 - 5. Proposed method(s) of handling, managing, transporting, and disposing of non-contaminated material (debris and soil);
 - 6. Proposed method(s) of handling, managing, transporting, and disposing of contaminated material (debris and soil), including decontamination of equipment and vehicles;
 - 7. Proposed methods of handling, managing, transporting, treating, and disposing of contaminated stormwater and groundwater;
 - 8. Proposed method(s) of handling, stockpiling, placing and compacting backfill material;
 - 9. Proposed method(s) of site restoration;
 - 10. Proposed sequence and methods for removal and disposal of the existing aboveground storage tank;
 - 11. Proposed sequence and methods for abandoning interior floor drains; and
 - 12. Traffic and Site access control plan.
- D. Pre-Construction Activities
The CONTRACTOR shall prepare, submit, and implement the required plans prior to commencing construction.
- E. Mobilization and Site Preparation
Mobilization and site preparation activities shall include furnishing all labor, material and equipment to provide the following:
 - 1. Necessary CONTRACTOR utilities (e.g., power, water, and sanitary);

2. Site support facilities (e.g., trailer, wastewater storage tank);
 3. Equipment and material staging and storage areas;
 4. Personnel decontamination and hygiene facilities as required per the HASP;
 5. Access and site controls (e.g., temporary fencing and barricades) to isolate the work area;
 6. Decontamination pad for equipment and vehicles;
 7. Temporary by-pass for storm and sanitary sewers as needed to perform the Work (note: the floor drains are believed to connect to the sanitary sewer system);
 8. Engineered shoring system design plan; and
 9. Set up and perform vibration monitoring throughout construction, including the demolition, excavation and restoration phases.
- F. Erosion and Sedimentation Control:
Erosion and Sedimentation Control activities shall include furnishing all labor, material and equipment to provide the following:
1. The means and methods required to minimize erosion and sedimentation in accordance with Section 02370 - Erosion and Sedimentation Control; and
 2. Temporary soil erosion and sedimentation control shall be installed and maintained for the construction activities as shown on the Drawings.
- G. Select Site Demolition:
All applicable areas of the Site shall be prepared for excavation as specified in Section 02221 – Select Site Demolition. The demolition work shall include all labor, equipment, and materials to perform the following:
1. Remove and properly dispose of bituminous pavement within the defined pavement saw cut limit; and
 2. Remove and properly dispose of all existing utilities not designated for reuse within the limit of excavation, or as needed to perform the Work.
- H. Excavation
Excavation work shall include furnishing all labor, equipment, and materials to perform the following:
1. Conduct soil investigations as required to design and install shoring/bracing as needed to perform the excavation adjacent to buildings as shown on the Drawings and as evaluated and recommended by a New York licensed Professional ENGINEER;
 2. Excavate soil to the limits (horizontal and vertical) described on the Drawings;
 3. Handle, transport, and properly dispose of contaminated and non-contaminated subsurface material removed within the limit of excavation including soils, asphalt, piping, etc;
 4. Manage stormwater and construction dewatering as needed to perform the Work. As required, conduct pumping/dewatering of groundwater from the excavation and treatment prior to disposal/discharge to the sanitary sewer with appropriate permit approval or transport and properly dispose offsite; and
 5. Control dust and odor as needed or as directed by the ENGINEER/DEPARTMENT.
- I. Chemical Oxidation Application
1. Prior to backfilling completed excavations, apply a chemical oxidant reagent to the bedrock interface;
 2. Install injection points and trench within the completed excavation areas as shown on the Drawings to allow future application of oxidant to subsurface soils.

- J. On-site soil vapor extraction (SVE) system
 - 1. Install on-site SVE system; operate and maintain the SVE system for a two-month period following prove out. The SVE system consists of:
 - a. five vapor extraction wells
 - b. four vacuum monitoring wells (with dual purpose as future potential injection wells)
 - c. extraction piping
 - d. extraction blower and treatment equipment housed in a packaged system built off site
 - e. discharge stack
- K. Groundwater extraction and treatment (GWET) system
 - 1. Install on-site GWET system; operate and maintain the GWET system for a two-month period following prove out. The GWET system consists of:
 - a. completion of one existing extraction well into an active pumping well
 - b. buried piping from the well to the package treatment system (combined with SVE system)
 - c. treatment by diffused aeration
 - d. discharge to the sanitary sewer.
- L. Restoration - The work shall include furnishing all labor, equipment, and materials to perform the following:
 - 1. Place and compact test-certified Unrestricted Use clean fill from an approved off-site source; and
 - 2. Saw cut existing pavement and install new pavement section (Subbase Course and hot mix asphalt Base and Top Course) to the limits of the saw cut as depicted in the Drawings.
- M. Demobilize from the Site - The work shall include furnishing all labor, equipment, and materials to perform the following:
 - 1. Decontaminate Site equipment and vehicles as required prior to removing from Site;
 - 2. Remove temporary facilities, site/access controls, and erosion and sedimentation controls; and
 - 3. Clean the Site.

1.04 WORK SEQUENCE

- A. The work shall be planned, scheduled, and performed in stages in order to complete the work within the requirements of the Contract Documents and the appropriate regulatory agencies and permits.
- B. The CONTRACTOR shall select a work sequence that minimizes:
 - 1. Impacts to the Carriage Cleaners dry cleaning business, which shall remain open for business throughout the duration of construction activities.
 - 2. Existing and proposed utility piping conflicts.
- C. Project Startup:
 - 1. Project startup shall include the following activities, which are not necessarily in order:
 - a. Attend a Pre-Construction Meeting as outlined in Section 01312 – Project Meetings;
 - b. Develop and submit all required pre-construction submittals for acceptance;

- c. Complete assessments and plans as outlined in Sub-Part 1.03D and submit to ENGINEER and DEPARTMENT for review;
 - d. Provide required entrance medical examinations for employees designated to work on the project in accordance to the HASP;
 - e. Conduct site-specific safety training in accordance with the HASP; and
 - f. Secure permits outlined in Section 01410 – Regulatory Requirements.
- 2. Begin construction after receipt of and meeting the conditions noted in the Notice to Proceed.
- D. Remedial Construction:
 - 1. The remedial construction shall include the activities described in Item 1.03 (Work Covered by the Contract Documents) above. The objectives of the SVE and GWET system are to remediated vadose zone soil beneath the active facility and contain off-site migration of contaminated groundwater.
- E. Project Closeout:
 - 1. Request a Certificate of Substantial Completion;
 - 2. Perform a Site inspection with the DEPARTMENT and ENGINEER to accept work and identify remaining work to be completed (punch list);
 - 3. Complete all remaining work noted in the punch list;
 - 4. Perform a final Site inspection with the DEPARTMENT and ENGINEER to verify all work is complete;
 - 5. Submit final record documents including final certification report with record drawings to the ENGINEER and DEPARTMENT;
 - 6. Complete final pay requisition with accompanying balancing change order as required; and
 - 7. Achieve Final Completion.

1.05 SCHEDULE

- A. Construction shall start no later than 14 calendar days following award of contract with substantial completion date within 200 calendar days following award of contract unless otherwise stipulated in the signed contract.
- B. Normal working hours are specified in the Contract Documents within Section VIII, Article 5.2 of General Conditions.

1.06 OTHER GENERAL REQUIREMENTS

- A. Comply with all project related permits and apply/obtain all CONTRACTOR responsible permits prior to the commencement of work. Refer to Section 01400 – Regulatory Requirements for a list of applicable permits.
- B. Make arrangements for temporary storage of materials and supplies and for timely delivery to the job site.
- C. Assist the ENGINEER/DEPARTMENT and City/County/State inspectors as required in the review of construction.
- D. Maintain up-to-date records on site.
- E. Maintain the project Site in a neat condition.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 HEALTH AND SAFETY

- A. The CONTRACTOR is advised that the Work will be performed on a Site that may contain hazardous waste. The CONTRACTOR is responsible for developing a Site Specific Health and Safety Plan (HASP) for its operations. The CONTRACTOR shall implement this plan taking precautions as necessary to protect the public and work force personnel from potential hazards. The CONTRACTOR shall utilize personnel with approved hazardous waste training as required.
- B. Refer to Section X, Specification 00003 – Minimum Requirements for Health and Safety.

3.02 PROTECTION OF PROPERTY AND OPERATIONS

- A. The CONTRACTOR shall utilize every precaution to protect the property from damage during execution of the work. Buildings including siding, windows, paint, canopies, awnings, etc.; utilities; trees; and walls and other structures shall be protected as appropriate. Any damage that the CONTRACTOR may inflict shall be repaired or replaced in a prompt manner as directed by the ENGINEER/DEPARTMENT at no additional cost to the DEPARTMENT.
- B. The CONTRACTOR shall take all measures required to minimize adverse impacts from execution of the work on property tenants or abutters and shall not interfere with their operations.
- C. The CONTRACTOR shall coordinate site restrictions and vehicular/pedestrian traffic control plans with the property tenants as appropriate.
- D. CONTRACTOR shall record baseline video and take photos of the Site structures and surroundings prior to commencing work.

3.03 CONTRACTOR'S USE OF PREMISES

- A. The CONTRACTOR shall use only those designated areas of the Site for staging and storage. Staging and storage areas are to be agreed upon and accepted by ENGINEER/DEPARTMENT and the Owner.
- B. The Site includes active commercial operations that utilize the Site for sales, shipments, cleaning, and deliveries. The CONTRACTOR shall limit impacts to these operations to the extent practicable. When necessary to change traffic patterns, access areas outside the identified work area or ingress/egress routes, or obtain building access, proper notifications shall be given to the property tenant.
- C. **NO SMOKING** will be allowed within the Site work area.
- D. The CONTRACTOR shall assume full responsibility for the protection and safe keeping of products and equipment under this Contract that are stored on-site during the project construction.
- E. Interior work to install VE and VP wells and extraction piping is likely to disrupt the Owner's use of the premises. Scheduling of this work shall be coordinated with the Owner at least two weeks in advance and the CONTRACTOR shall work with the Owner to facilitate the Owner's ongoing business operations to the extent possible.

3.04 OTHER REQUIREMENTS

- A. It is the responsibility of the CONTRACTOR to coordinate and provide timely notification to the Owner and operators of underground utilities when construction, excavation, or other work may affect such utilities.

- B. It is the responsibility of the CONTRACTOR to notify the appropriate local authority in the City and/or County when construction or associated impacts will occur within the road right-of-way and/or may affect roadways or sidewalks.
- C. The CONTRACTOR is responsible for using special care and/or special considerations which may be necessary for proper execution of the Work, but which may not be specifically identified in this section. The CONTRACTOR shall comply with the entire requirements of the Contract Documents and shall exercise special care wherever required for proper execution of the intended work of this contract.
- D. The CONTRACTOR shall comply with all the requirements of any permits, which have been obtained, or applied for by the ENGINEER or DEPARTMENT and are included (permit or application) as part of Contract Documents.
- E. Work of others at the Site is not to interfere with CONTRACTOR schedule.

3.05 COMPENSATION

- A. Compensation for execution of the intended work as defined by the Contract Documents is specified in Section XII - Measurement for Payment.

END OF SECTION

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Required Submittals are identified in each technical specification section of the Contract Documents. A summary of Submittals is provided at the end of this section. Submittals shall be provided to the Engineer, as required, unless otherwise specified. Submittals may include:
 - 1. Data;
 - 2. Drawings;
 - 3. Instructions;
 - 4. Schedules;
 - 5. Statements;
 - 6. Reports;
 - 7. Plans;
 - 8. Certificates;
 - 9. Samples;
 - 10. Records; and
 - 11. Operation and Maintenance Manuals.
- B. The CONTRACTOR shall make Submittals as required by the Contract Documents, including the individual specification sections and drawings. Submittal items are summarized in Table 01330-1, which is provided at the end of this section. The CONTRACTOR is responsible for all submittals indicated in the Contract Documents, whether listed in Table 01330-1 or not.
- C. Submittal procedures shall conform to the requirements of Articles 5.23 and 5.29 of Section VIII – General Conditions, and as described in this section.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

3.01 GENERAL

- A. Submittals shall be provided to the ENGINEER. Additional copies shall be provided to the DEPARTMENT upon request.
- B. Submittals shall include items such as:
 - 1. Manufacturer's or fabricator's drawings;
 - 2. Descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves;
 - 3. Test reports;
 - 4. Samples;
 - 5. Operation and Maintenance Manuals (including parts list);
 - 6. Certifications;
 - 7. Warranties; and
 - 8. Other pertinent data.

- C. The CONTRACTOR is responsible for providing submittals well in advance of the need for the material or equipment for construction. Consideration shall be given to material lead times, delivery schedules, and time required for submittal review and acceptance by the ENGINEER.

3.02 SUBMITTAL REQUIREMENTS

- A. Transmittal Form:
1. A Transmittal Form shall accompany all Submittals.
 2. The Transmittal Form shall be developed and furnished by the ENGINEER.
 3. Submittals shall include the following information, at a minimum:
 - a. Submittal number in sequence, beginning with 1 (subsequent revised Submittals shall be identified with a number and letter, for example, 1A, 1B, etc.);
 - b. Date;
 - c. Project title and project number;
 - d. CONTRACTOR's name and address;
 - e. Identification of each item submitted under the single Transmittal Form with a separate sequential number (e.g. 1.1, 1.2, etc.). Group only like items in a single Submittal; five items per Submittal maximum;
 - f. Reference to the specification section and sub-part number and/or Contract Drawing sheet and detail number (if applicable) pertinent to the data submitted.
 - g. Notification of any deviations from Contract Documents;
 - h. Return date required by CONTRACTOR; and
 - i. Other pertinent data.
- B. CONTRACTOR Certification: The CONTRACTOR's Certification that the Submittal meets contract requirements shall contain the following:
1. CONTRACTOR firm name;
 2. Point of contact name, signature, and title;
 3. Date; and
 4. CONTRACTOR's corrections as noted on Submittal data and/or attached sheets(s).
 5. The certification may be provided as part of the Transmittal, on a separate sheet attached to the Transmittal, or as a stamp on the Submittal itself.
- C. Procedures:
1. The CONTRACTOR shall schedule submissions at least 14 days before Submittal approvals will be needed, except where different lead time is specified.
 2. Submittals shall be delivered electronically. The CONTRACTOR shall provide hardcopies to the ENGINEER and/or DEPARTMENT upon request.
 3. The CONTRACTOR shall deliver Submittals to the ENGINEER and to the Department in electronic form by email. The CONTRACTOR-signed Transmittal shall be scanned and attached to the other electronic Submittal documents. The subject line of the email shall clearly note the project name and Submittal number.
 4. The CONTRACTOR shall maintain one copy of the Submittal and Transmittal on site.
 5. At the time of each submission, the CONTRACTOR shall call to the ENGINEER's attention, in writing, any deviations that the Submittal may have from the requirements of the Contract Documents.
- D. Submittals shall include:
1. Date and revision dates;
 2. Project title and number;

3. The names of:
 - a. ENGINEER;
 - b. CONTRACTOR;
 - c. Subcontractor;
 - d. Supplier;
 - e. Manufacturer; and
 - f. Separate detailer when pertinent.
 4. Identification of product or material;
 5. Field dimensions, clearly identified as such;
 6. Specification section and sub-part number and/or Drawing sheet and detail number;
 7. Applicable standards, such as ASTM or Federal Specification number;
 8. For Submittals which include proposed deviations requested by the CONTRACTOR, "variation" shall be clearly indicated on the Transmittal. The CONTRACTOR shall state the reason for any deviations and annotate such deviations on the Submittal. The ENGINEER reserves the right to rescind inadvertent acceptance of Submittals containing unnoted deviations.
- E. Submittals shall be of standardized sizes.
1. Approved standard sizes shall be:
 - a. 24 inches by 36 inches;
 - b. 11 inches by 17 inches; and
 - c. 11 inches by 8 1/2 inches.
 2. Provision shall be made in preparing Submittals to afford a binding margin on left hand side of sheet.
 3. Submittals put forward other than as specified herein may be returned for resubmittal without being reviewed.

SUBMITTAL Table 01330-1: Submittal Summary

No.	Specification Section	Specification Part	Submittal Item	Schedule
1	00001	5b	Preliminary Bar Chart Diagram, Schedule of Values, and supporting narrative	Within 5 days of Apparent Low Bidder notification
2	00001	5c	Interim Bar Chart Diagram, Schedule of Values, Schedule of Shop Drawing Submissions, and supporting narrative	Prior to commencing construction
3	00001	5d	Detailed Bar Chart Diagram, Schedule of Values, Schedule of Shop Drawing Submissions, and supporting narrative	To accompany each request for progress payment
4	00001	5h	As-Built Bar Chart Diagram and Schedule Reconciliation Report	To accompany request for final payment
5	00002	1.2b	Name and location of Precaster; Precaster Product Data/Shop Drawings for Precast Units; Certification of design loading; and Manufacturer's Product Data on manhole frames, covers, and grates	14 days prior to day approval is required
6	00003	1.01B	Health and Safety Plan (HASP)	Within 5 days of Apparent Low Bidder notification
7	00003	1.15C	Real time air monitoring results	By 10:00 a.m. the following day
8	00003	1.15D	Documentation air monitoring results	Within 7 days of sampling
9	01040	1.02A	Subcontractor List	Within 5 days of notice of award
10	01040	1.02A	New York State Vendor Responsibility Questionnaire	Within 5 days of notice of award
11	01040	1.02A	Project Schedule Status Reports	Biweekly 48 hours prior to project meetings
12	01040	1.02A	Project Schedule Updates	Prior to updating project schedule
13	01100	1.03	Decontamination Pad Shop Drawings	1 week prior to commencing construction
14	01110	1.03C	Construction Work Plan (Plan of Operations)	Within 5 days of Apparent Low Bidder notification
15	01410	1.03A	Copies of approved permits	Prior to commencing construction associated with the permit
16	01450	1.03A	Contractor Quality Control Plan (CQCP)	Within 5 days of Apparent Low Bidder notification

SUBMITTAL Table 01330-1: Submittal Summary

No.	Specification Section	Specification Part	Submittal Item	Schedule
17	01450	1.03B	Weekly CQC Reports, Test Reports, Deficiency Reports, and/or Project Summaries	As soon as the report is available
18	01505	1.03A	Traffic Control Plan	14 days prior to commencing construction
19	01510	1.04A	Name of manufacturer of pipe material and pump	Prior to constructing temporary sewer bypass
20	01510	1.04B	Manufacturer's certification that materials meet specified requirements	At the request of the Engineer
21	01520	1.02A	Security firm experience and personnel resumes	14 days prior to commencing construction
22	01520	1.02B	Three (3) copies of site entrance /exit log and watchman logs	At project completion along with request for final payment
23	01520	1.02C	One (1) copy of site entrance/exit logs and watchman logs	Once monthly
24	01600	1.03A	O&M manual outline	One month prior to scheduled SVE and GWET startup
25	01600	1.03A	Draft O&M manual	Prior to startup of the SVE and GWET systems
26	01600	1.03A	Draft final O&M manual	Within one week of SVE and GWET system startups
27	01600	1.03A	Final O&M manual	At substantial completion
28	01680	1.05A	Equipment O&M manuals	Prior to startup
29	01680	1.05A	System start up report / commissioning report	After completion of system start up
30	01680	1.05A	System prove-out documentation	After completion of the system prove-out period
31	01680	1.05A	Sampling book	At project close out
32	01680	1.05A	Facility operator qualifications	Prior to system start up
33	01680	1.05A	System performance monitoring reports	Once monthly
34	01680	1.05A	Field notebooks	At project close out
35	01680	1.05A	Hazardous waste manifests	Once monthly

SUBMITTAL Table 01330-1: Submittal Summary

No.	Specification Section	Specification Part	Submittal Item	Schedule
36	01680	1.05A	The operation and maintenance log	At project closeout
37	01720	1.03A	Qualifications of persons providing field engineering and surveying services	At the request of the Engineer/Department
38	01720	1.03B	Documentation verifying accuracy of survey work or instrumentation	At the request of the Engineer/Department
39	01720	1.03C	Results of the field verification survey and results of the comparison with the Drawings	Prior to commencing excavation
40	01720	1.03D	Survey data in support of quantity measurements	Prior to or along with payment requisitions
41	01720	1.03E	Survey data and measurements as the Work progresses in support of establishing Record Documents	At the request of the Engineer/Department
42	01770	1.07	Project Record Documents including <ul style="list-style-type: none"> As-built survey data All outstanding submittals (documentation and test data) 	At project completion along with request for final payment
43	02105	1.04A	Quality Assurance Project Plan	14 days prior to baseline groundwater sampling
44	02105	1.04B	Sampling and Analysis Reports	Within TAT plus one day of sampling collection for electronic copy. Within TAT plus two weeks for final copy with DUSR.
45	02110	1.02B	Waste characterization laboratory reports	14 days prior to day approval is required.
46	02120	1.02B	Permit profile of the Treatment Storage and/or Disposal Facility	14 days prior to day approval is required
47	02120	1.02C	Profile Sampling Results	As work progresses
48	02120	1.02D	Written acceptance of waste profile from disposal facility	As work progresses and as an attachment in support of payment requisitions
49	02120	1.02E	Written confirmation from disposal facility of acceptance of waste	As work progresses and as an attachment in support of payment requisitions

SUBMITTAL Table 01330-1: Submittal Summary

No.	Specification Section	Specification Part	Submittal Item	Schedule
50	02120	1.02F	Bill of Lading and Manifests for all transported waste loads	As work progresses and as an attachment in support of payment requisitions
51	02120	1.02G	Certified weight slips for each load transported to the disposal facility	As work progresses and as an attachment in support of payment requisitions
52	02120	1.02H	Decontamination certificates	As work progresses
53	02120	1.02I	Certificates of disposal for non-hazardous waste	As work progresses and as an attachment in support of payment requisitions
54	02120	1.02J	Signed Bills of Lading for salvaged or recycled materials	As work progresses and as an attachment in support of payment requisitions
55	02221	1.03A	Waste characterization laboratory reports	14 days prior to day approval is required.
56	02240	1.03A	Dewatering and discharge/disposal methods	14 days prior to day approval is required
57	02250	1.03A	Engineered shoring system design, signed and sealed by a New York licensed professional engineer for informational purposes	10 days prior to commencing excavation
58	02250	1.03B	Vibration monitoring readings for the duration of the work	Within 5 days of the completion of the Work
59	02300	1.04A	Borrow source information: <ul style="list-style-type: none"> • Name; and • Location 	14 days prior to day approval is required
60	02300	1.04B	Subcontractor's Quality Control Testing Laboratory(ies) information: <ul style="list-style-type: none"> • Name; and • Qualifications 	7 days following Notice to Proceed
61	02300	1.04C	Written description of the equipment and methods proposed for compaction	14 days prior to day approval is required
62	02300	1.04D	Common Borrow Source Test Reports - Geotechnical	14 days prior to day approval is required
63	02300	1.04D	Crushed Stone Source Test Reports - Geotechnical	14 days prior to day approval is required
64	02300	1.04D	Subbase Course Source Test Reports - Geotechnical	14 days prior to day approval is required
65	02300	1.04D	Common Borrow and Subbase Course Source Test Reports - Analytical	14 days prior to day approval is required

SUBMITTAL Table 01330-1: Submittal Summary

No.	Specification Section	Specification Part	Submittal Item	Schedule
66	02300	1.04D	Subgrade Fill Field Moisture/Density (Compaction) Test Reports	As soon as the report is available
67	02300	1.04D	Subbase Course Field Moisture/Density (Compaction) Test Reports	As soon as the report is available
68	02300	1.04E	Potassium permanganate manufacturer's data, including analysis of inorganic impurities	As soon as the data is available
69	02300	1.04E	Manufacturer's material safety data sheet	As soon as the data sheet is available
70	02370	1.05A	Manufacturer's Product Data for catchbasin inlet filters	14 days prior to day approval is required
71	02370	1.05A	Manufacturer's Product Data for filter berm material (if utilized)	14 days prior to day approval is required
72	02370	1.05A	Manufacturer's Product Data for silt fence (if utilized)	14 days prior to day approval is required
73	02521	1.04A	Written statements of approach	7 days prior to mobilization of drill rig
74	02521	1.04C	Well materials product data	At least one week prior to start of well construction
75	02521	1.04D	Field test reports	As work progresses
76	02539	1.04A	Manufacturer' Product Data for piping material.	14 days prior to day approval is required
77	02540	1.04A	Manufacturer's Product Data for pipe, fittings, geotextile, and protective well cover materials.	14 days prior to day approval is required
78	02602	1.04A	Shop drawings of all precast units	Prior to installing precast concrete structures
79	02602	1.04B	Manufacturer's information for joint sealants and gaskets.	As soon as information is available
80	02602	1.04C	Manufacturers information for access doors	As soon as information is available
81	02650	1.05B	Qualifications for tank removal company	Prior to commencing tank removal
82	02650	1.05C	Written assessment of tank condition and strategy for removal	Prior to commencing tank removal
83	02650	1.05D	Proposed disposal facility	Prior to commencing tank removal
84	02650	1.06A	Tank disposal records	Prior to closeout of tank removal activities

SUBMITTAL Table 01330-1: Submittal Summary

No.	Specification Section	Specification Part	Submittal Item	Schedule
85	02740	1.04A	Job Mix Formula	14 days prior to day approval is required
86	02740	1.04A	Tack Coat/Joint Sealant Data	14 days prior to day approval is required
87	02740	1.04A	Production Quality Control Data	14 days prior to day approval is required
88	02900	1.04A	Topsoil Source Test Reports	14 days prior to day approval is required
89	02900	1.04B	Topsoil Source Certification for NYSDEC Unrestricted Use criteria standard.	14 days prior to day approval is required
90	02900	1.04C	Grass Seed Vendor's Certificate	14 days prior to day approval is required
91	02900	1.04D	Fertilizer Manufacturer's Product Data showing chemical analysis and percent composition	14 days prior to day approval is required
92	03050	1.06A	Contractor certification as an approved producer of cellular fill concrete	Prior to submitting a mix design for flowable fill
93	03050	1.06B	Mix design for flowable fill	At least 10 days prior to starting placement of flowable fill
94	03300	1.04A	Concrete mix design	At least 10 days prior to concrete placement
95	03300	1.04B	Delivery slips	As work progresses and as an attachment in support of payment requisitions
96	03300	1.04C	Testing laboratory qualifications	At least 10 days prior to concrete placement
97	03300	1.04D	Laboratory test reports	As soon as the reports are available
98	03300	1.04E	Field test data summaries	As soon as the data summaries are available
99	11001	1.04C	Certified list of qualified permanent service organizations for support of equipment	With final O&M manual
100	11318	1.03A	Extraction well pump manufacturer's catalog data	Prior to installing extraction well pump
101	11318	1.03A	Extraction well pump installation instructions	Prior to installing extraction well pump
102	11318	1.03A	Extraction well pump O&M manual	After turning over extraction well pump to the Department
103	13280	1.03A	General arrangement of building interior, to scale	Prior to installing packaged SVE-GWET system

SUBMITTAL Table 01330-1: Submittal Summary

No.	Specification Section	Specification Part	Submittal Item	Schedule
104	13280	1.03A	Design Basis/Performance Data	Prior to installing packaged SVE-GWET system
105	13280	1.03A	Design Calculations	Prior to installing packaged SVE-GWET system
106	13280	1.03A	Catalog data including manufacturer's literature and illustrations	Prior to installing packaged SVE-GWET system
107	13280	1.03A	Manufacturer's specifications and engineering data	Prior to installing packaged SVE-GWET system
108	13280	1.03A	Equipment, electrical, and instrumentation shop drawings	Prior to installing packaged SVE-GWET system
109	13280	1.03A	Carbon usage estimates	Prior to installing packaged SVE-GWET system
110	13280	1.03A	Manufacturer's paperwork required for acceptance of spent carbon for reactivation by manufacturer	Prior to installing packaged SVE-GWET system
111	13280	1.03A	Piping plan and sections	Prior to installing packaged SVE-GWET system
112	13280	1.03A	Material chemical and temperature compatibility assessment/table	Prior to installing packaged SVE-GWET system
113	13280	1.03A	Blower head/capacity curves	Prior to installing packaged SVE-GWET system
114	13280	1.03A	Blower motor data	Prior to installing packaged SVE-GWET system
115	13280	1.03A	Wiring diagrams/ladder logic	Prior to installing packaged SVE-GWET system
116	13280	1.03A	O&M manual	After turning over control of systems to the Department
117	13280	1.03A	Equipment and system warranties	After turning over control of systems to the Department
118	13280	1.03A	Factory testing/hydrostatic testing report	Prior to installing packaged SVE-GWET

SUBMITTAL Table 01330-1: Submittal Summary

No.	Specification Section	Specification Part	Submittal Item	Schedule
				system
119	15011	1.03C	Certified list of qualified permanent service organizations for support of equipment	With final O&M manual
120	15060	1.04A	Manufacturer's catalog data and design data for piping, valves and appurtenances	Prior to installing project piping and valves (except where otherwise addressed in specifications)
121	15140	1.04A	Shop drawings, data sheets and catalog information for all hangers and supports	Prior to installing any hangers and supports
122	16010	1.03A	Documentation of equipment substitutions	As work progresses
123	16010	1.03B	Shop drawings of equipment and systems	Prior to commencing work on electrical service and distribution
124	16010	1.03C	Certificates of inspection and regulatory approval	Prior to commencing work on electrical service and distribution
125	16010	1.03D	Documented and witnessed test and checkout reports	Prior to energizing the electrical system
126	16010	1.03E	Operations and maintenance directions for electrical systems and equipment	After the completion of work and before request for final payment
127	16010	1.03F	Record drawings indicating the final configuration of all Electrical Systems as they were installed	After the completion of electrical services installation
128	16050	1.03A	Shop drawings for electrical equipment, materials, and products	Prior to commencing work on electrical service and distribution
129	16400	1.03A	Shop drawings for service and distribution equipment	Prior to commencing work on electrical service and distribution
130	16400	1.03B	Copies of all correspondence	After completion of electrical and service distribution work
131	16400	1.03C	Documentation of grounding tests	As grounding tests are completed
132	16400	1.03D	Coordination study, calculations and recommendations for circuit breaker trip settings	Prior to commencing work on electrical service and distribution

Note: The CONTRACTOR is responsible for all submittals indicated in the Contract Documents, whether listed in Table 01330-1 or not.

SUBMITTAL Table 01330-1: Submittal Summary

No.	Specification Section	Specification Part	Submittal Item	Schedule
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END OF SECTION

SECTION 01352

ENVIRONMENTAL PROTECTION PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall perform the Work minimizing environmental pollution or damage as the result of construction operations. Environmental pollution or damage results from the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; the unfavorable altering of ecological balances of importance to human life; affecting other species of importance to humankind; or degrading the utility of the environment for aesthetic, cultural and/or historical purposes. The control of environmental pollution or damage requires consideration of land, water, and air, and includes management of visual aesthetics, noise, solid waste, and dust, as well as other pollutants. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this Contract.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01410: Regulatory Requirements
- B. Section 01500: Temporary Facilities and Controls
- C. Section 02370: Erosion and Sedimentation Control

1.03 DEFINITIONS

- A. Sediment - Soil and other debris that has eroded and has been transported by runoff water or wind.
- B. Solid Waste - Rubbish, debris, garbage, sludge, and other discarded solid materials, except hazardous waste as defined in paragraph entitled "Hazardous Waste," resulting from industrial, commercial, and agricultural operations and from community activities.
- C. Rubbish - Combustible and noncombustible solid wastes such as paper, boxes, glass, crockery, metal, lumber, cans, and bones.
- D. Debris - Combustible and noncombustible solid wastes such as ashes and waste materials resulting from construction or maintenance and repair work, leaves, and tree trimmings.
- E. Chemical Wastes - This includes salts, acids, alkalines, herbicides, pesticides, organic chemicals, and spent products which serve no purpose.
- F. Sanitary Wastes
 - 1. Sewage - Wastes characterized as domestic sanitary sewage.
 - 2. Garbage - Refuse and scraps resulting from consumption of food.
- G. Hazardous Waste - Hazardous substances as defined in 40 CFR 261 or as defined by applicable state and local regulations.
- H. Oily Waste - Petroleum products and bituminous materials.

PART 2 - PRODUCTS

Not Applicable

PART 3- EXECUTION

3.01 PROTECTION OF NATURAL RESOURCES

- A. Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of Work. Confine construction activities to within the Work Area limit indicated on the Construction Drawings.
- B. Land Resources:
 - 1. Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the ENGINEER's permission. Do not fasten or attach ropes, cables, or guys to existing trees for anchorages unless authorized by the ENGINEER. Where such use of attached ropes, cables, or guys is authorized, the CONTRACTOR shall be responsible for any resultant damage.
 - 2. Protect existing trees and shrubs which are to remain and which may be injured, bruised, defaced, or otherwise damaged by construction operations. Cut off vegetation to be cleared flush with or as close as practical to the original ground surface in areas to be cleared, except for trees and vegetation indicated or directed to be left standing.
 - 3. Remove traces of temporary construction facilities such as haul roads, work areas, stockpiles of excess or waste materials, and other signs of construction. Grade temporary roads and similar temporary areas to blend with surrounding conditions.
- C. Water Resources:
 - 1. Prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water.
 - 2. Sediments - Prevent sediment migration outside the Work Area limit.
- D. Fish and Wildlife Resources - Do not disturb fish and wildlife. Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as indicated or specified as part of the work

3.02 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

- A. Carefully protect in place any historical and archaeological items or human skeletal remains discovered in the course of work and report immediately to the ENGINEER.
- B. Stop work in the immediate area of the discovery until directed by the ENGINEER to resume work.

3.03 EROSION AND SEDIMENT CONTROL MEASURES

- A. Refer to the Construction Drawings and Section 02370, "Erosion and Sedimentation Control" for additional requirements.
- B. Burnoff of the ground cover is not permitted.
- C. Protection of Erodible Soils
Immediately finish the earthwork brought to a final grade, as indicated or specified. Immediately protect the side slopes and back slopes upon completion of rough grading. Plan and conduct earthwork to minimize the duration of exposure of unprotected soils.
- D. Temporary Protection of Erodible Soils
Use the following methods to prevent erosion and control sedimentation.
 - 1. Mechanical Retardation and Control of Run-on and Run-off - Mechanically retard and control the rate of run-on and run-off at the construction site. This includes construction of diversion ditches, benches, and berms to retard and divert run-on away from the work area and run-off to protected drainage courses.
 - 2. Borrow - Permit only in areas where suitable environmental controls are possible.

3. Vegetation and Mulch - Provide temporary protection on sides and back slopes as soon as rough grading is completed or sufficient soil is exposed to require erosion protection. Protect slopes by accelerated growth of permanent vegetation, temporary vegetation, or mulching. Stabilize slopes by hydroseeding, anchoring mulch in place, or some combination of these and other methods necessary for effective erosion control.
4. Seeding: Provide new seeding where ground is disturbed. Include growing medium or nutriment during the seeding operation necessary to establish a suitable stand of grass.

3.04 CONTROL AND DISPOSAL OF SOLID AND SANITARY WASTES

- A. Pick up solid wastes, and place in containers which are regularly emptied. Do not prepare, cook, or dispose of food on the project Site. Prevent contamination of the Site of other areas when handling and disposing of wastes. On completion, leave the Site clean. Control and properly dispose of waste off-site.
- B. Disposal of Rubbish, Garbage, and Debris - Remove and dispose of rubbish, garbage, and debris from Site.
- C. Sewage, Odor, and Pest Control - Because the sewer pipe is within the excavation limits and will require temporary removal, the sanitary sewage system may not be available, use chemical toilets or comparably effective units, which are properly secluded from public observation for the use of persons employed on the work. These facilities shall be maintained at all times without nuisance. The CONTRACTOR shall periodically empty wastes at an approved facility or system or construct and maintain an approved type of adequate sanitary convenience. Include provisions for pest control and elimination of odors. Upon completion of the work, the facilities shall be removed by the CONTRACTOR from the premises, leaving the premises clean and free from nuisance.

3.05 DUST CONTROL

- A. Provisions shall be taken during all construction activities to keep airborne dust levels low, including during non-working periods. Dust control measures shall be implemented when visible air-borne dust becomes noticeable and is carried out of immediate work/disturbed areas.
- B. Water shall be free from oil, acid, injurious alkali or vegetable matter, and other deleterious materials or contaminants.
- C. Apply water by approved methods and with equipment including a tank with gauge-equipped pressure pump and a nozzle-equipped spray bar.
- D. Apply water or dust suppressants until surface is sufficiently moist but avoid over wetting, ponding, runoff or muddy conditions.
- E. CONTRACTOR shall sprinkle or treat the soil, haul roads, and other areas disturbed by operations at the Site, with water and/or dust suppressants.

3.06 NOISE

- A. Make the maximum use of low-noise emission equipment according to USEPA regulations.

END OF SECTION

SECTION 01410

REGULATORY REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

Comply with local, State, and Federal regulations appropriate or applicable to the proposed work.

1.02 RELATED WORK SPECIFIED ELSEWHERE

Section 01352: Environmental Protection Procedures

Section 02370: Erosion and Sedimentation Control

1.03 GENERAL REQUIREMENTS

Regulations applicable to remediation activities will include but not necessarily be limited to those promulgated by the following regulating authorities:

- A. United States Environmental Protection Agency (USEPA)
 - 1. Clean Air Act (CAA)
 - 2. Clean Water Act (CWA)
- B. United States Department of Labor (USDOL)
 - 1. Occupational Safety and Health Administration (OSHA)
- C. New York State DEPARTMENT of Environmental Conservation (NYSDEC)
 - 1. 6 NYCRR Part 375 Environmental Remediation Programs (SSF, BCP, ERP)
 - 2. 6 NYCRR Part 480 Environmental Regulatory Program Fees
 - 3. 6 NYCRR Part 481 Program Fees-General
 - 4. 6 NYCRR Part 483 Hazardous Waste Program Fees
 - 5. 6 NYCRR Part 750 State Pollutant Discharge Elimination System (SPDES)
 - 6. 6 NYCRR Part 364 Waste Transporter Permits
 - 7. 6 NYCRR Part 372 Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities
 - 8. 6 NYCRR Part 376 Land Disposal Restrictions
 - 9. 6 NYCRR Part 257 Air Quality Standards
- D. Monroe County
 - 1. Monroe County Soil and Water Conservation District (MCSWCD)
 - 2. Monroe County Pure Waters (MCPW)
- E. Town of Brighton

1.04 PERMIT APPLICATION BY CONTRACTOR

Permits that must be applied for by CONTRACTOR and approved by regulating authority prior to commencing associated work. Copies of the approved permits shall be submitted to the DEPARTMENT.

- A. Local Permits
 - 1. Monroe County Pure Waters Industrial Waste Control Section – Sewer Use Permit including Application for License or Permit for Discharge into Pure Waters Sewer System or Tributary
 - 2. Town of Brighton - Permit to Work within Town Right of Way
- B. Other permits as necessary to perform the work as described in the Contract Documents.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

Not Applicable

END OF SECTION

SECTION 01450

CONTRACTOR QUALITY CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

This section covers quality control procedures and testing to be completed by the CONTRACTOR during the Work. Prior to commencement of the Work, the CONTRACTOR shall prepare a CONTRACTOR Quality Control (CQC) Plan detailing the procedures to be followed and testing to be completed. Quality control testing shall be executed as required in the Contract Documents.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 01770: Project Closeout Procedures

1.03 REFERENCES AND STANDARDS

- A. Conform to referenced standards with date of issue current on the date of the bid, except where stated otherwise or referenced differently by code.

1.04 SUBMITTALS

- A. Pre-Construction Submittals
CONTRACTOR Quality Control (CQC) Plan shall identify personnel, procedures, instructions, records, and forms to be used in carrying out the requirements of the Work. The CQC Plan shall provide the CONTRACTOR with a means to provide and maintain effective Quality Control for construction, sampling, and testing activities. No work on-site shall be permitted until comments received are adequately addressed by the CONTRACTOR and the CQC Plan is approved by the ENGINEER and the DEPARTMENT.
- B. Construction Submittals
Weekly CQC Reports, Test Reports, Deficiency Reports, and Project Summaries

1.05 DEFINITIONS

- A. Quality Control: Activities undertaken by the CONTRACTOR including observing, measuring, sampling, and testing undertaken by the CONTRACTOR to determine that work performed and/or products/materials provided and installed meet the requirements of the Contract Documents and the quality specified therein.

1.06 QUALITY CONTROL SAMPLING AND TESTING

- A. The CONTRACTOR shall notify the ENGINEER and the DEPARTMENT a minimum of 72 hours prior to any quality control sampling and testing activities. The ENGINEER and DEPARTMENT reserve the right to collect duplicate quality control samples.
- B. All third party quality control test reports shall be reported/sent directly to the ENGINEER and the DEPARTMENT and shall not be routed through the CONTRACTOR. The CONTRACTOR shall give their subcontracted laboratory permission to send reports directly to the ENGINEER and the DEPARTMENT.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. The quality of all Work shall be the responsibility of the CONTRACTOR.
- B. Perform sufficient inspections and tests of all items of work, on a continuing basis, including that of subcontractors, to ensure conformance to applicable specifications and drawings with respect to the quality of materials, workmanship, construction, and functional performance.
- C. Provide qualified personnel, appropriate facilities, instruments, and testing devices necessary for the performance of the quality control function.
- D. Controls shall be adequate to cover all construction operations, shall be keyed to the proposed construction sequence, and shall be coordinated by the CONTRACTOR's quality control personnel.

3.02 CONTRACTOR QUALITY CONTROL (CQC) PLAN

- A. Prepare and submit a CONTRACTOR Quality Control Plan to the ENGINEER and the DEPARTMENT for approval.
- B. Comments or approval from the ENGINEER and DEPARTMENT will be submitted to the CONTRACTOR within 14 calendar days following receipt of the plan. The CONTRACTOR shall adequately respond to comments to the satisfaction of the ENGINEER and the DEPARTMENT within 14 calendar days following receipt of any comments from the ENGINEER and/or the DEPARTMENT.
- C. No work on site shall be permitted until the comments received are adequately addressed by the CONTRACTOR and the CQC Plan is approved by the ENGINEER and the DEPARTMENT.
- D. The CQC Plan, at a minimum, shall include the following:
 - 1. A description of the Quality Control Organization, including charts showing lines of internal CONTRACTOR authority, and external CONTRACTOR, subcontractor, and ENGINEER relationships. The Quality Control Organization shall include the names, qualifications, duties, and responsibilities of each person assigned to a quality control function. The Quality Control Organization chart shall identify a CONTRACTOR's Quality Control Manager whose responsibilities and qualifications are described in Sub-Part 3.04 - CONTRACTOR Quality Control Organization.
 - 2. Method of performing, documenting, and enforcing quality control operations of both CONTRACTOR and subcontract work including inspection and testing.
 - 3. Inspections as described in the Sub-Part 3.05 – Inspections.
 - 4. Provide a list of analytical or testing laboratories to be used by the CONTRACTOR for testing required by the Specifications with listed test methods to be performed by each laboratory indicated. The analytical or testing laboratories to be used by the CONTRACTOR must be New York State DEPARTMENT of Health Environmental Laboratory Approval Program (NYSDOH ELAP) certified.
 - 5. Protocol describing corrective actions to be taken by the CONTRACTOR with specifically defined feedback systems. The ENGINEER will then decide what further corrective action, if any, shall be taken by the CONTRACTOR. Personnel

responsible for initiating and carrying out corrective action shall be indicated in the protocol.

- E. Submit Weekly CQC Reports, Test Reports, Deficiency Reports and Project Summaries as required by this Specification.

3.03 NOTIFICATION OF CHANGE

- A. After submittal and approval of the CQC Plan, the ENGINEER and DEPARTMENT shall be notified in writing of any proposed changes to the CQC Plan and implement the changes only after the DEPARTMENT's approval.

3.04 CONTRACTOR QUALITY CONTROL ORGANIZATION

- A. CQC Manager:
 - 1. Identify an individual, within the CONTRACTOR's organization at the Site who shall be responsible for overall management of the CQC Plan and have the authority to act in all CQC matters for the CONTRACTOR.
 - 2. The CQC Manager for this Contract shall be a qualified construction manager/ENGINEER or comparable individual with a minimum of 2 years of applicable experience, at the Project Manager, Project ENGINEER, Superintendent, or CQC Manager level, whose responsibility is to ensure compliance with the Construction Documents. The CQC Manager shall be independent of the Project Superintendent.
 - 3. The CQC Manager shall be on-site whenever work is in progress so that he/she may be in charge of the CQC Plan for the project.
 - 4. All submittals for approval shall be reviewed and modified or corrected as needed by the CQC Manager or authorized assigns prior to forwarding to the ENGINEER.

3.05 INSPECTIONS

- A. The CQC Plan shall include the following inspections and tests:
 - 1. The CONTRACTOR shall perform preparatory inspections prior to beginning each feature of work on any on-site construction conducted by the CONTRACTOR or a subcontractor. Preparatory inspections for the applicable feature of work shall include:
 - a. review of submittal requirements and all other Contract requirements with the performance of the work;
 - b. check to assure that provisions have been made to provide required field quality control testing;
 - c. examine the work area to ascertain that all preliminary work has been completed;
 - d. verify all field dimensions and advise the ENGINEER of any discrepancies;
 - e. perform a physical examination of materials and equipment to assure that they conform to approved shop drawings or submittal data and that all required materials and/or equipment are on hand and comply with the Contract requirements.
 - 2. Perform initial inspection as soon as work begins on a representative portion of the particular feature of work, and include examination of the quality of workmanship as well as review of quality control testing for compliance with the Construction Document requirements.

3. Perform follow-up inspections continuously as any particular feature of work progresses to ensure compliance with Contract requirements, including quality control testing, until completion of that feature of work.

3.06 TESTING

- A. The CONTRACTOR shall be responsible for all required testing, documentation, and corrective measures. The CONTRACTOR shall perform tests specified or required to verify that control measures are adequate to provide a product which conforms to Contract requirements.

3.07 CONSTRUCTION MONITORING

- A. Prior to commencing invasive construction activities including but not limited to installing shoring or excavating, complete an existing infrastructure assessment to record conditions of buildings and surrounding infrastructure. Record condition with video or photographs noting existing deficiencies or damage as observed prior to construction. The assessment shall, at a minimum, include the following components:
 1. Building facades – includes Site buildings (2101 and 2111 Monroe Avenue) and adjacent residence (30 Brooklawn Drive);
 2. Site buildings and adjacent residence foundation walls;
 3. Site buildings and adjacent residence doors and windows;
 4. Site buildings and adjacent residence roof overhang, fascia, or general roofline;
 5. Pavement and concrete surface treatments;
 6. Prominent exterior site features within 50 feet of the limit of work including retaining walls, stairs, bollards, utility poles, etc.; and
 7. Interior finishes of the site buildings and adjacent residence.
- B. Maintain continuous seismograph recording during shoring and/or sheeting installation, excavation, backfilling and compaction, paving, and all other activities utilizing heavy construction equipment likely to cause strong vibrations.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Provide such temporary facilities and controls as the Work may warrant or as deemed necessary by the ENGINEER/DEPARTMENT. General locations as depicted on the Construction Drawings may be modified as required by the CONTRACTOR upon approval of the ENGINEER and Owner.
2. Required temporary facilities and controls include:
 - a. Shelter for crews including sanitary facilities conforming to local codes and OSHA requirements.
 - b. Fire protection.
 - c. CONTRACTOR utility services including water, internet connection, and electric.
 - d. Safety equipment.
 - e. Site security fence and/or barricades.
 - f. Soil stockpile areas (see Section 02110 – Waste Excavation, Removal, and Handling).
 - g. Decontamination pad (see Section 01100 – Decontamination Pad).
 - h. Pumping systems for dewatering and stormwater management.
 - i. Wastewater storage tank.
 - j. Dust control during earthwork activities.
 - k. Erosion and sedimentation controls (see Section 02370 – Erosion and Sedimentation Controls).
3. Other facilities that may be necessary or provided, depending on the CONTRACTOR's approach to the work and the preference of the CONTRACTOR, include, but are not limited to:
 - a. CONTRACTOR's office and storage facilities. Include adequate facilities with an area suitable for meetings and for the ENGINEER (i.e., lighting, desk, chair, and file storage cabinets).
 - b. Yard lighting (if necessary).
 - c. Construction warning, protection, and control devices for maintenance and safety of vehicular and pedestrian traffic (if necessary).
4. Completely remove all temporary equipment and materials upon completion of the Work and repair all damage caused by the installation of temporary measures.
5. Make all necessary applications and arrangements for electric power, light, water and other utilities with the property owner and/or tenants. Notify the local electric power company if unusually heavy loads, such as welders, will be connected.

B. Other Requirements:

1. Obtain permits as required by local governmental authorities.
2. Obtain easements, when required, across private property other than that of the Owner for temporary power service.
3. Comply with the latest National Electrical Code.

4. Comply with all local, State, and Federal codes, laws, and regulations.
5. Allow access to and use of facilities provided by the CONTRACTOR to the ENGINEER and DEPARTMENT.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. CONTRACTOR's facilities shall be of size and content for adequate administration of the Contract, storage of materials required, and provision for personnel shelter.
- B. Equipment required for personal safety of workmen shall be furnished in full compliance with specific safety requirements of local, state, and Federal agencies, including OSHA.
- C. Traffic signs, barricades, warning lights, and all necessary equipment for the protection of the traveling public shall be furnished and maintained as specified in "Part 6, Temporary Traffic Control" of the *Manual on Uniform Traffic Control Devices, 2003 Edition* by the Federal Highway Administration.
- D. Temporary Gates and/or Fencing: Provide temporary fence panels and/or gates to separate vehicles and pedestrians from the work area as defined by the limit of work. Comply with ASTM A392-96, Standard Specifications for Zinc-Coated Chain Link Fence.
 1. Fence shall be 6-foot high galvanized steel chain link fencing with galvanized steel frame and woven wire mesh fabric.
 2. Post stands and ballast for each fence panel shall be of adequate size and weight to adequately support the fence on the ground surface in a stable/secure location throughout the construction period. Posts shall not impact existing pavement.
 3. Polypropylene wind/privacy screening with a minimum 85% closed mesh shall be installed on all woven wire mesh fabric.
 4. Provide temporary fencing and/or gates with a minimum 20-foot wide opening installed at locations shown on the Construction Drawings. Fencing and/or gates shall be locked or secured during non-working hours.
- E. Concrete Barrier: Shall meet the requirements of Temporary Concrete Barrier as defined by the New York State DEPARTMENT of Transportation (NYSDOT) Standard Sheet No. M519-3R1.
- F. Liquid Waste Storage Facilities: Provide Frac or Baker Tank of adequate size to store liquid waste generated from excavation pump outs; decontamination facilities; and collected stormwater or drain water from stockpile containment areas until characterization and off-site disposal can occur.
- G. Water Storage Facilities: If connection to on-site water utility is not permitted, provide clean tank to store non-contaminated water supply to be used for decontamination facilities.
- H. Stockpile Containment Areas: Provide stockpile containment areas for all demolished and excavated material stored on-site as specified in Section 02300 – Earthwork.

PART 3 - EXECUTION

3.01 PERFORMANCE

- A. Field Office, Storage Trailers, or Buildings: Sited in approved locations and properly set up for all anticipated weather conditions.
- B. Sanitary Conveniences for Project Personnel:

1. Provide and maintain in sufficient numbers, for the use of all persons employed on the work. Place at suitable locations, screened from public observation, in accordance with State and local ordinances.
 2. Rigorously enforce the use of the approved sanitary facilities provided.
 3. When no longer required, remove from the Site and properly dispose of the contents.
- C. Provide sufficient drinking water for all employees from approved potable sources.
- D. Obey and enforce other local sanitary regulations and orders, taking such precautions against infectious diseases as may be deemed necessary.
- E. Conduct operations in a manner which, with the use of proper equipment provides maximum safety for workmen and the traveling public.

3.02 TEMPORARY EROSION AND SEDIMENTATION CONTROLS

- A. Temporary erosion and sedimentation controls shall be located, installed, and maintained as shown on the Construction Drawings and described in Section 02370 - Erosion and Sedimentation Control.

END OF SECTION

SECTION 01505

TRAFFIC CONTROL

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This section covers minimum requirements for temporary traffic regulation and control during the course of the project.

1.02 REFERENCES

- A. The publications listed below forms a part of this specification to the extent referenced. The publication is referred to in the text by basic designation only.
 - 1. MUTCD: Manual of Uniform Traffic Control Devices
 - 2. NYSDOT: New York State DEPARTMENT of Transportation Standard Specifications (17 NY CRR, Chapter V)

1.03 SUBMITTALS

- A. Submit the following in accordance with Section VIII, Articles 5.23-5.29, “Shop Drawings and Samples.”
 - 1. Traffic Control Plan: incorporate the anticipated impacts of traffic controls into the work plan for various work areas. The Plan shall include, but not be limited to:
 - a. Access routes for project traffic to each work area.
 - b. Estimated daily project traffic flows for each phase of the work.
 - c. Procedures for cleaning debris and spillage from public roads.
 - d. This plan shall identify equipment and describe procedures to minimize the creation and dispersion of dust and the removal of earthen materials tracked onto site and off-site roadways by construction vehicles. The plan shall address major construction activities that will contribute to these situations and the CONTRACTOR’s approach to control them.

1.04 INTENT

- A. Maintain safe conditions for the CONTRACTOR’s workers, the general public and all vehicles.
- B. Minimize the inconvenience to the general public and adjacent property owners affected.
- C. Give the right of way to emergency vehicles in all situations.

PART 2 – PRODUCTS

2.01 OWNERSHIP

- A. The products specified herein shall be leased or owned by the CONTRACTOR and will not become the property of the DEPARTMENT. All products specified herein shall be removed from the work site when no longer needed.

2.02 TRAFFIC CONTROL DEVICES

- A. All the following items shall conform to NYSDOT Section 619-2 and MUTCD requirements:
 - 1. Flashing barricade lights
 - 2. Construction and maintenance signs

3. Channelizing devices
4. Arrow boards
5. Barricades
6. Traffic cones

2.03 MISCELLANEOUS EQUIPMENT

- A. Other items, which include orange safety vests, flags or signs for flagmen, and communication devices, shall be standard and adequate for their intended function. They shall be in accordance with the NYSDOT-MUTCD where applicable or as required by NYSDOT Work Permit.

PART 3 – EXECUTION

3.01 GENERAL

- A. All work under this section shall be performed in accordance with NYSDOT Standard Specifications, the MUTCD, and as stated herein.
- B. Protect workers and provide for safe and convenient public travel by furnishing, erecting, and maintaining all signs, signals, markings, traffic cones, barricades, warning lights, flaggers, and other traffic control devices required for the type of operation being performed.
- C. Keep all roads free of debris and spillage from hauling equipment at all times. Haul routes shall be cleaned at least once per day to limit dust generation. Dry brooming is prohibited.
- D. Provide access at all times to private property.
- E. All work related vehicles and non-operating equipment that are parked for a short period of time (2 hours or less) shall be parked at the support area. Longer periods of time shall be in accordance with requirements for non-working hours.
- F. Furnish the name of the individual in direct employ of the CONTRACTOR who is to be responsible for the installation and maintenance of the traffic control for the project. If the installation and maintenance are to be accomplished by a subcontractor, consent shall be requested of the ENGINEER at the time of the pre-construction conference. This shall not relieve the CONTRACTOR of the foregoing requirement for a responsible individual in his direct employ.
- G. The CONTRACTOR shall take necessary measures, in addition to those required by Federal, State and local laws and regulations, to minimize the migration of dust and earthen material from construction areas including the utilization of wind indicators and air monitoring.
- H. Dust generating surfaces within the active work limits shall be sprayed with water to provide complete moistening of the ground, or as otherwise directed by the ENGINEER.
- I. The CONTRACTOR shall be responsible for the removal and disposal of earthen material that is tracked onto site and off-site roadways by construction vehicles. The CONTRACTOR shall continually inspect roadways and remove the materials immediately to maintain a clean and hazard free driving surface.

3.02 COORDINATION AND SCHEDULE

- A. No traffic shall be disrupted over holiday weekends.
- B. Permits for work in all rights of way shall be prepared, submitted and accepted prior to any work in the areas affected.

END OF SECTION

SECTION 01510

TEMPORARY SEWER BYPASS

PART 1 - GENERAL

- 1.01 RELATED DOCUMENTS: The general provisions of the Contract, including General and Supplementary Conditions and General Requirements (if any), apply to the work specified in this Section.
- 1.02 RELATED WORK SPECIFIED ELSEWHERE:
- A. Section 01330: Submittal Procedures
 - B. Section 01500: Temporary Facilities and Controls
 - C. Section 02300: Earthwork
 - D. Section 02539: Sewer Pipe
 - E. Section 02602: Precast Concrete Structures
- 1.03 DESCRIPTION:
- A. Work Included: Furnish and install temporary sewer manholes, pumps, pipe materials, pipe fittings, modified temporary sewer manhole covers, and bypass pipe protection of the type(s) and size(s) and in the location(s) shown on the Construction Drawings and as specified herein.
 - B. The extent of the work is generally shown on the Drawings and shall be extended to accommodate changes which become necessary as a result of encountering unforeseen or changed conditions in the field.
 - C. The work described herein is applicable to the temporary bypass of storm and sanitary sewer services as necessary to complete soil excavation within the Limit of Shoring shown on the Drawings. Storm and sanitary sewer flows shall remain separated at all times (i.e., combined bypass flows are not permitted).
 - D. The maximum amount of time that the Carriage Cleaners dry cleaners shall be without operating storm or sanitary sewer service is 24 hours. Provide temporary service such that there are no interruptions to the active business operation.
 - E. It is uncertain whether both sanitary and storm sewer utilities exist within the Limit of Excavation. Conservatively, both are shown on the Drawings and referenced in the Supplementary Specifications. If only one of these utilities is determined to be present, disregard all references to the other.
- 1.04 SUBMITTALS:
- A. Furnish the name of the manufacturer to the ENGINEER prior to commencing work for any pipe material and pump to be used. Use pipe of the same manufacturer for all bypass work.
 - B. The ENGINEER may request the CONTRACTOR to submit manufacturer's certification that the product meets requirements of the Specification.
- 1.05 QUALITY ASSURANCE: All materials shall conform to the standards designated in Part 2 for the appropriate material.

- 1.06 SYSTEM DESIGN: Provide temporary sewer manhole, pumping and conveyance system, and system protection for sanitary and/or storm sewer bypasses as detailed below:
- A. Sanitary Sewer
 1. Sewer manhole shall be installed as a temporary wet well for a grinder pump. See Specification Section 02602, Precast Concrete Structures.
 2. Grinder pump used for sanitary sewer bypass shall have a 10 gpm capacity.
 3. SDR 35 PVC pipe (size to match existing pipe) shall be installed below grade to convey bypass flows via gravity from upgradient sewer pipe to temporary sewer manhole. See Specification Section 02539 – Sewer Pipe.
 4. 2-inch flexible polyethylene piping shall be installed as above ground force main to convey bypass flows to the downgradient sanitary sewer pipe.
 5. Protect above ground piping and appurtenances from construction traffic with stone berms, road plates, or other system to prevent impact from traffic within the work area.
 6. Provided custom sewer manhole covers as required to facilitate electrical feed and pump discharge force main connections with the cover in place and secure.
 - B. Storm Sewer
 1. Sewer manhole shall be installed as a temporary wet well for a submersible pump. See Specification Section 02602, Precast Concrete Structures.
 2. Submersible pump used for storm sewer bypass shall have a 200 gpm capacity.
 3. SDR 35 PVC pipe (size to match existing pipe) shall be installed below grade to convey bypass flows via gravity from upgradient sewer pipe to temporary sewer manhole. See Specification Section 02539 – Sewer Pipe.
 4. 4-inch flexible polyethylene piping shall be installed as above ground force main to convey bypass flows to the downgradient storm sewer pipe.
 5. Protect above ground piping and appurtenances from construction traffic with stone berms, road plates, or other system to prevent impact from traffic within the work area.
 6. Provided custom sewer manhole covers as required to facilitate electrical feed and pump discharge force main connections with the cover in place and secure.

PART 2 - PRODUCTS

See Sub-part 1.06, System Design.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Install temporary sewer manhole(s) within the Limit of Excavation and outside the Limit of Shoring as shown on the Drawings.
- B. Install temporary SDR 35 PVC pipe from the existing upgradient sewer pipe(s) to the temporary sewer manhole.
- C. Install temporary grinder/submersible pump(s) in temporary sewer manhole(s) to bypass sewer service pipe(s) to be demolished within the Limit of Shoring. Discharge to existing downgradient sewer service pipe(s) as shown on the Drawings.
- D. Provide power supply to operate the pump(s) a minimum of 12 hours each day or during building occupancy, whichever is longer.

3.02 MAINTENANCE:

- A. Provide system maintenance throughout the construction period until the permanent sewer system(s) is replaced, tested, and accepted by the ENGINEER as operational.
- B. During construction, inspect the bypass system(s) several times a day to insure it is in good working order and continues to meet the capacity requirements of the building. Inspections shall include verification of the following:
 - 1. Pumps are not clogged and are in good general working order.
 - 2. Pump controls are properly set to maintain safe on, off, and high alarm conditions.
 - 3. Pump controls maintain an on/off cycle time that is within the range recommended by the pump manufacturer.
 - 4. Above ground piping is protected from truck and heavy equipment traffic. Pipe at traffic crossings is not crushed.
 - 5. Power supply is functional and capable of maintaining continuous system operation during the required period of operation.
 - 6. No observed leaks.

3.03 REMOVAL OF TEMPORARY WORKS:

- A. Remove all temporary measures associated with the temporary bypass system(s) once the permanent sewer system(s) is operational and approval is granted by the ENGINEER.

END OF SECTION

SECTION 01520

SITE SECURITY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The CONTRACTOR is solely responsible for the security of the ENGINEER's and CONTRACTOR's work areas, equipment, materials, and supplies provided under this contract. Furthermore, CONTRACTOR is responsible for ensuring site visitors related to this contract are escorted as necessary (to get where they are going) and do not enter contaminated areas without authorization.
- B. If the CONTRACTOR furnishes a uniformed watchman or other security personnel, the CONTRACTOR shall provide that person(s) with accommodations separate from the DEPARTMENT and ENGINEER. The ENGINEER will have the right of approval and rejection of the CONTRACTOR's security personnel.

1.02 SUBMITTALS

- A. Submit security firm experience and personnel resumes in accordance with Section VIII, Articles 5.23-5.29.
- B. Submit three (3) copies of the site entrance/exit log and the watchman logs as part of the project record documents.
- C. Interim submittals:
 - 1. Submit one (1) copy of logs monthly.

PART 2 – PRODUCTS

2.01 SITE ENTRANCE/EXIT LOG

- A. Log shall contain signed entry and exit record for project personnel and visitors.
- B. Log shall record time of entry and exit and firm of the individual.

2.02 WATCHMAN LOG

- A. Log shall record all security checks performed by security personnel and shall contain date and time, problem notes and CONTRACTOR personnel notified of problems. Allow inspection of log by ENGINEER or DEPARTMENT.

PART 3 – EXECUTION

3.01 SECURITY CHECKS

- A. Conduct security checks at six hour intervals (minimum) during off-hours, including weekends.
- B. Personnel conducting the security checks shall keep a log to document the time the security checks were performed and the findings.
- C. Report problems noted to CONTRACTOR's authorized representative and expeditiously correct problems noted. Provide written report of problems and corrective actions to ENGINEER within 24 hours of occurrence.

- D. The CONTRACTOR shall be responsible for the control of all persons and vehicles entering and leaving the project site, and shall:
 - 1. Require personnel to print full name and employer and sign in on entering the project site and to sign out when leaving and maintain the logs.
 - 2. Maintain a log of project-related vehicles and equipment entering and leaving the work areas.
 - 3. Persons not associated with the project will require the ENGINEER's acceptance to be admitted on site.
 - 4. Maintain a log of visitors, separate from the project personnel log.
- E. A log of all security incidents shall be maintained and furnished to the ENGINEER upon request.
- F. The CONTRACTOR shall ensure that all warning signs are in place and temporary fences around work areas are closed and any breaks or gaps are attended immediately. The ENGINEER shall be informed immediately of any incident of vandalism in the work areas.
- G. The CONTRACTOR shall contact law enforcement officials, emergency medical care units, local fire departments and utility emergency teams to ascertain the type of response required in any emergency situation and to coordinate the responses of the various units. A standard operating procedure describing security force response to foreseeable contingencies shall be developed. The CONTRACTOR shall also prepare and update a list of emergency points of contact, telephone numbers, radio frequencies, and call signs to ensure dependable responses
- H. The CONTRACTOR shall maintain a current list of authorized persons and shall submit copies of the updated list to the ENGINEER.
- I. Security personnel shall record their presence while patrolling the site using a watchman's clock. The tapes or punch cards shall be delivered to the ENGINEER once a month.
- J. Maintain security of the site such that site access is only granted for project personnel or approved visitors.
- K. Maintain the security of materials, supplies, equipment, and facilities at the site from theft or vandalism.

END OF SECTION

SECTION 01541

PROTECTION OF THE WORK AND PROPERTY

PART1 - GENERAL

1.01 DESCRIPTION

CONTRACTOR shall be responsible for taking all precautions, providing all programs, and taking all actions necessary to protect the Work and all public and private property and facilities from damage as specified in the General Conditions and herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 01520: Site Security

1.03 GENERAL REQUIREMENTS

- A. In order to prevent damage, injury or loss, CONTRACTOR'S actions shall include, but not be limited to, the following:
 - 1. Store apparatus, materials, supplies, and equipment in an orderly, safe manner that will not unduly interfere with the progress of the Work or the Work of any other CONTRACTOR or utility service company.
 - 2. Provide suitable storage facilities for all materials which are subject to injury by exposure to weather, theft, breakage, or otherwise.
 - 3. Place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work.
 - 4. Clean up frequently all refuse, rubbish, scrap materials, and debris caused by his operations, to the end that at all times the site of the Work shall present a safe, orderly and workmanlike appearance.
 - 5. Provide barricades and guard rails around openings, for scaffolding, for temporary stairs and ramps, around excavations, elevated walkways and other hazardous areas.
- B. CONTRACTOR shall not, except after written consent from proper parties, enter or occupy privately owned land with personnel, tools, materials or equipment, except on easements provided herein.
- C. CONTRACTOR shall assume full responsibility for the preservation of all public and private property or facility on or adjacent to the site. If any direct or indirect damage is done by or on account of any act, omission, neglect or misconduct in the execution of the Work by the CONTRACTOR, it shall be restored by the CONTRACTOR, at his expense, to a condition equal to that existing before the damage was done.

1.04 BARRICADES AND WARNING SIGNALS

- A. Where Work is performed on or adjacent to any roadway, right-of-way, or public place, CONTRACTOR shall provide barricades, fences, lights, warning signs, danger signals, watchmen, and shall take other precautionary measures for the protection of persons or property and of the Work. Barricades shall be painted to be visible at night. From sunset to sunrise, CONTRACTOR shall furnish and maintain at least one light at each barricade. Sufficient barricades shall be erected to keep vehicles from being driven on or into Work under construction. CONTRACTOR shall furnish watchmen in sufficient numbers to protect the Work. CONTRACTOR'S responsibility for the maintenance of barricades, signs, lights,

and for providing watchmen shall continue until the Project is accepted by DEPARTMENT.

1.05 TREE AND PLANT PROTECTION

- A. CONTRACTOR shall protect existing trees, shrubs and plants on or adjacent to the site that are shown or designated to remain in place against unnecessary cutting, breaking or skinning of trunk, branches, bark or roots.
- B. Materials or equipment shall not be stored or parked within the drip line.
- C. Temporary fences or barricades shall be installed to protect trees and plants in areas subject to traffic.
- D. Fires shall not be permitted under or adjacent to trees and plants.
- E. Within the limits of the Work, water trees and plants that are to remain, in order to maintain their health during construction operations.
- F. Cover all exposed roots with burlap that shall be kept continuously wet. Cover all exposed roots with earth as soon as possible. Protect root systems from mechanical damage and damage by erosion, flooding, run-off or noxious materials in solution.
- G. If branches or trunks are damaged, prune branches immediately and protect the cut or damaged areas with emulsified asphalt compounded specifically for horticultural use.
- H. All damaged trees and plants that die or suffer permanent injury shall be removed when ordered by the ENGINEER and replaced by a specimen of equal or better quality.
- I. Notify the Town of Brighton DEPARTMENT of Public Works Superintendent prior to any required tree removal and if trees to remain in place are damaged.

1.06 PROTECTION OF EXISTING STRUCTURES

- A. Underground Structures:
 - 1. Underground structures are defined to include, but not be limited to, all sewer, water, gas, and other piping, and manholes, chambers, electrical conduits, tunnels and other existing subsurface work located within or adjacent to the limits of the Work.
 - 2. All underground structures known to ENGINEER except water, sewer, electric, and telephone service connections are shown. This information is shown for the assistance of CONTRACTOR in accordance with the best information available, but is not guaranteed to be correct or complete.
 - 3. CONTRACTOR shall explore ahead of his trenching and excavation Work and shall uncover all obstructing underground structures sufficiently to determine their location, to prevent damage to them and to prevent interruption to the services which such structures provide. If CONTRACTOR damages an underground structure, he shall restore it to original condition at his expense.
 - 4. Necessary changes in the location of the Work may be made by ENGINEER, to avoid unanticipated underground structures.
 - 5. If permanent relocation of an underground structure or other subsurface facility is required and is not otherwise provided for in the Contract Documents, ENGINEER will direct CONTRACTOR in writing to perform the Work, which shall be paid for under the provisions of Article 10 of the General Conditions.
- B. Surface Structures:
 - 1. Surface structures are defined as all existing buildings, structures and other facilities above the ground surface. Included with such structures are their

foundations or any extension below the surface. Surface structures include, but are not limited to, buildings, tanks, walls, bridges, roads, dams, channels, open drainage, piping, poles, wires, posts, signs, markers, curbs, walks and all other facilities that are visible above the ground surface.

C. Protection of Underground and Surface Structures:

1. CONTRACTOR shall sustain in their places and protect from direct or indirect injury all underground and surface structures located within or adjacent to the limits of the Work. Such sustaining and supporting shall be done carefully and as required by the party owning or controlling such structure. Before proceeding with the work of sustaining and supporting such structure, CONTRACTOR shall satisfy the ENGINEER that the methods and procedures to be used have been approved by the party owning same.
2. CONTRACTOR shall assume all risks attending the presence or proximity of all underground and surface structures within or adjacent to the limits of the Work. CONTRACTOR shall be responsible for all damage and expense for direct or indirect injury caused by his Work to any structure. CONTRACTOR shall repair immediately all damage caused by his work, to the satisfaction of the owner of the damaged structure.

D. All other existing surface facilities, including but not limited to, guard rails, posts, guard cables, signs, poles, markers, and curbs which are temporarily removed to facilitate installation of the Work shall be replaced and restored to their original condition at CONTRACTOR'S expense.

1.07 PROTECTION OF FLOORS AND ROOFS

- A. CONTRACTOR shall protect floors and roofs during entire construction period.
- B. Proper protective covering shall be used when moving heavy equipment, handling materials or other loads, when painting, handling mortar and grout and when cleaning walls and ceilings.
- C. Use metal pans to collect all oil and cuttings from pipe, conduit, or rod threading machines and under all metal cutting machines.
- D. Concrete floors less than 28 days old shall not be loaded without written permission of the ENGINEER. No floor, roof or slab shall be loaded in excess of its design loading.
- E. Roofs shall not be loaded without written permission of the ENGINEER.
- F. CONTRACTOR shall restrict access to roofs and keep clear of existing roofs except as required by the new Work.
- G. If access to roofs is required, roofing, parapets, openings and all other construction on or adjacent to roof shall be protected with suitable plywood or other approved means.

1.08 PROTECTION OF INSTALLED PRODUCTS AND LANDSCAPING

- A. Provide protection of installed products to prevent damage from subsequent operations. Remove protection facilities when no longer needed, prior to completion of Work.
- B. Control traffic to prevent damage to equipment, materials and surfaces.
- C. Provide coverings to protect equipment and materials from damage.
 1. Cover projections, wall corners, and jambs, sills and soffits of openings, in areas used for traffic and for passage of products in subsequent work.

PART 2 – PRODUCTS

Not Applicable

PART 3 – EXECUTION

Not Applicable

END OF SECTION

SECTION 01560

DUST AND ODOR CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The CONTRACTOR shall execute the Work by methods that minimize the generation of dust and nuisance odors. The CONTRACTOR shall employ dust control measures to minimize the creation of airborne dust during execution of the Work. At a minimum, standard dust control techniques shall be employed in areas of heavy equipment traffic such as watering down the site. The dust control measures will be such that, at a minimum, air quality is in compliance with applicable OSHA regulations.
- B. The CONTRACTOR shall provide an odor control system to control odors as necessary to address complaints from property tenants and the local community. Odor control agents such as an odor-control foam, misting system, or other method selected by the CONTRACTOR and approved by the ENGINEER or the DEPARTMENT shall be available on site and shall be applied as needed to control nuisance odors. At a minimum, an odor control foam system shall be available on site. Other systems may be required as necessary to meet the project performance objectives.
- C. The performance objective for odor control will be to control, eliminate, or mask any odors that generate complaints, from building tenant, neighboring residents, the public, state or local officials, or the DEPARTMENT.
- D. No additional payments will be made due to shutdowns as a result of emissions whether exceeding standards or posing a nuisance. If the initial emission controls are found to be inadequate, the CONTRACTOR shall provide additional measures at no additional cost.
- E. Dust and odor control systems shall be implemented as necessary to meet local, state, and/or federal regulations for air emissions and dust and to control nuisance odors.
- F. Sufficient volumes of water and/or odor control foam shall be readily available or stored on site to address continuous application as necessary.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section X: SPEC 00003 Minimum Requirements for Health and Safety
- B. Section 01110: Summary of Work
- C. Section 01352: Environmental Protection Procedures
- D. Section 02370: Erosion and Sedimentation Control

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Water shall be free from oil, acid, and injurious alkali or vegetable matter, and other deleterious materials or contaminants. Water shall not be brackish.
- B. Odor control foam. Odor control foam shall be a biodegradable, non-flammable, and non-toxic water-based material designed for the control of VOCs, dust, and odor. It shall be capable of being spray applied to form a uniform encapsulating layer between contaminated materials and the environment, suppressing VOCs, dust, odors, and gas.

2.02 EQUIPMENT

- A. Equipment for dust and odor control shall include appropriate measures (e.g., heat tape, tank heaters) to prevent freezing or impair operation due to temperatures below freezing.

PART 3 - EXECUTION

3.01 SPRINKLING WATER

- A. Apply by approved methods and with equipment including a tank with gauge-equipped pressure pump and a nozzle-equipped spray bar.
- B. Disperse through the nozzle under a minimum pressure of 20 pounds per square inch, gauge pressure.
- C. Apply water until the surface is wet, but avoid ponding, run off, or muddy conditions.

3.02 PAVEMENT SWEEPING

- A. Maintain clean pavement surfaces within the designated work area and Site egress route. Do not permit construction equipment to track soil outside of the work area or on public roads.
- B. Sweep pavement surfaces daily during construction to prevent migration of soil outside of the work area and to prevent the generation of dust.
- C. Sweep all paved surfaces within the work area and truck ingress/egress routes at the end of construction as a final cleanup task to remove any residual construction debris and soils.

3.03 STOCKPILE MANAGEMENT

- A. Maintain on-site stockpiles in a manner that prevents wind-blown dust generation. During active use, provide periodic water sprinkling and during inactive periods, cover stockpiles with weighted tarps.

3.04 TESTING

- A. All equipment, if not in regular use, shall be tested as requested by the ENGINEER or the DEPARTMENT.

END OF SECTION

SECTION 01591

FIELD TRAILER

PART 1 - GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR shall furnish, install, and maintain one field trailer for use by the ENGINEER/DEPARTMENT and CONTRACTOR. Provide field trailer complete with furnishings at least two weeks prior to mobilizing the packaged SVE and GWT system trailer.
- B. The field trailer shall be located within one mile of the Site.

1.02 MINIMUM CONSTRUCTION

- A. Mobile office trailer in first class condition acceptable to ENGINEER, which is specifically designed for this type of use and conforms to requirements above and below.
- B. Mobile office trailer shall be divided into three private sections:
 - 1. ENGINEER's Office
 - 2. Central Conference Room
 - 3. CONTRACTOR's Office

1.03 MINIMUM SERVICES FOR EACH SECTION

- A. Interior lighting of 50 foot candles at desk top height.
- B. Exterior light at entrance.
- C. Automatic heating to maintain 65 F in winter. Furnish and pay for all fuel.
- D. Automatic cooling to maintain 75 F in summer.
- E. Electric service required and pay all charges.
- F. Four electric wall outlets.
- G. Private cellular telephone service and installation charges. In addition pay all local and long distance charges.
- H. Reliable telephone connection and Internet Service Provider (ISP) account.

1.04 MINIMUM FURNISHINGS

- A. General
 - 1. Fire extinguishers.
 - 2. Identifying exterior sign. The sign shall be 2-foot by 2-foot by 3/4-inch thick marine plywood (or aluminum) with white background and black letters. The sign shall read as follows:

FIELD OFFICE
NEW YORK STATE DEPARTMENT
OF
ENVIRONMENTAL CONSERVATION
TELEPHONE: 585/_____-_____

Note: The CONTRACTOR shall include telephone number on the trailer sign when available.

- 3. First aid kit.
- 4. Outdoor thermometer mounted in shade, but visible for easy reading from inside Engineer's office or Conference Room.

5. Six protective helmets for use by ENGINEER, DEPARTMENT and visitors.
6. One battery operated smoke detector per each 1200 square foot coverage.
- B. Engineer's Office
 1. Two five-drawer desks.
 2. Two swivel desk chairs.
 3. Two waste baskets.
 4. One tack board 30 inches by 36 inches.
 5. One photocopier/scanner machine.
 6. Two three-drawer steel file cabinets.
- C. Conference Room
 1. Conference table
 2. Twelve folding chairs
 3. One tack board 30 inches by 36 inches.
 4. Telephone with speaker/conferencing capabilities.

1.05 MAINTENANCE

- A. Continuous maintenance of trailer and services. Trailer shall be cleaned not less than once per week.
- B. Provide soap, paper towels, cleansers, sanitary supplies, janitorial service and implements.
- C. Repair immediately any damage, leaks or defective service.

1.06 REMOVAL

- A. Remove office upon final acceptance of work or when directed by ENGINEER.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

SECTION 01600

OPERATION AND MAINTENANCE MANUAL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The CONTRACTOR shall develop and implement an Operation and Maintenance Manual to ensure proper operation of the SVE and GWET remedial systems, and to assist in continued system operation following remedial system operation turn-over to the DEPARTMENT.
- B. This section describes the minimum requirements for preparation of the Operation and Maintenance Manual, provides minimum CONTRACTOR performance requirements, system progress monitoring requirements, and water and air analytical sampling requirements.
- C. The DEPARTMENT and the ENGINEER will review the Operation and Maintenance Manual for acceptability for safe and efficient remedial system operation.

1.02 OPERATION AND MAINTENANCE MANUAL

- A. The Operation and Maintenance (O&M) Manual is a deliverable product of this project.
- B. The CONTRACTOR shall prepare one O&M manual that covers the new SVE and GWET systems installed as part of this contract. All requirements outlined below refer to the combined manual for both systems.
- C. Submit three copies bound in 8-1/2 x 11 inch (216 x 279 mm) text pages, three D side ring capacity expansion binders with durable plastic covers. Also submit one electronic copy (pdf) of the final approved O&M Manual.
- D. Prepare binder covers with printed title "OPERATION AND MAINTENANCE MANUAL", title of project, and subject matter of binder when multiple binders are required.
- E. Contents: Prepare a Table of Contents for each volume, with each Product or system description identified, print on 24 pound white paper.
- F. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
 - 1. Part 1
 - a. Directory, listing names, addresses, and telephone number of ENGINEER, CONTRACTOR, Subcontractors, and major equipment suppliers. Purpose of the Treatment System.
 - b. Operation and Managerial Responsibility.
 - c. Discharge Permits and Operating Standards.
 - d. Overall System Description
 - e. Description of Individual Treatment Processes.
 - f. Safety Inspections and Personal Protective Equipment.
 - g. On-Site Safety Facilities.
 - h. Confined Space Safety.
 - i. Monitoring and Reporting Requirements.
 - 2. Part 2
 - a. Operation and maintenance instructions arranged by system and subdivided by specification section. For each category, identify

names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:

- 1) Significant design criteria.
- 2) List of equipment.
- 3) Parts list for each component.
- 4) Standard Operating Procedures.
- 5) Manufacturer's Operation and Maintenance Manuals. Where manufacturer equipment manuals list multiple models, the specific equipment installed shall be indicated on each applicable page.
- 6) System Trouble Shooting.
- 7) Scheduled Preventative Maintenance.
- 8) Unscheduled Maintenance and Repairs.
- 9) Maintenance Record Keeping.
- 10) Spare Parts Records.
- 11) Recommended Lubricants and Spare Parts.
- 12) Required Tools.
- 13) Maintenance instructions for finishes, including recommended cleaning methods and materials and special precautions identifying detrimental agents.

3. Part 3

a. Project documents and certificates, including the following:

- 1) Shop drawings and product data.
- 2) Air and water balance reports.
- 3) Certificates, i.e. material and equipment.
- 4) Photocopies of guarantees, warranties and bonds.
- 5) Record Drawings

1.03 SCHEDULE

A. The CONTRACTOR shall submit the O&M Manual in stages based on the following:

1. An O&M manual outline shall be submitted to the ENGINEER and DEPARTMENT with the SVE system design submittals.
2. A draft O&M manual shall be submitted to the ENGINEER and DEPARTMENT prior to startup of the SVE and GWET systems.
3. A draft final O&M manual shall be submitted to the ENGINEER and DEPARTMENT within one week following the start-up period.
4. The final O&M manual shall be submitted to the ENGINEER and DEPARTMENT prior to turnover of the system to the DEPARTMENT and as a requirement of Substantial Completion.

B. The ENGINEER and the DEPARTMENT will review and comment on each CONTRACTOR submittal. Agreed upon responses to all comments will be incorporated into the next version of the O&M manual.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

SECTION 01611

STORAGE OF MATERIAL

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Store and protect materials in accordance with manufacturer's recommendations and requirements of Specifications.
- B. CONTRACTOR shall make all arrangements and provisions necessary for the storage of materials and equipment. All excavated materials, construction equipment, and materials and equipment to be incorporated into the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Materials and equipment shall be kept neatly and compactly stored in locations that will cause a minimum of inconvenience to other contractors, public travel, adjoining owners, tenants and occupants. Arrange storage in a manner to provide easy access for inspection.
- C. Areas available on the construction site for storage of material and equipment shall be as shown on Contract Drawings or as approved by the ENGINEER.
- D. Materials and equipment that are to become the property of the DEPARTMENT shall be stored to facilitate their inspection and insure preservation of the quality and fitness of the Work, including proper protection against damage by freezing and moisture. They shall be placed in inside storage areas unless otherwise acceptable to DEPARTMENT.
- E. Lawns, grass plots or other private property shall not be used for storage purposes without written permission of the DEPARTMENT or other person in possession or control of such premises.
- F. CONTRACTOR shall be fully responsible for loss or damage to stored materials and equipment.
- G. Do not open manufacturer's containers until time of installation unless recommended by the manufacturer or otherwise specified.

1.02 UNCOVERED STORAGE

- A. The following types of materials may be stored out-of-doors without cover:
 - 1. Reinforcing steel.
 - 2. Structural steel.
 - 3. Piping.
 - 4. Precast concrete items.
 - 5. Castings.
 - 6. Handrailing.
- B. Store the above materials on wood blocking so there is no contact with the ground.

1.03 FULLY PROTECTED STORAGE

- A. Store all products not named above in buildings or trailers which have a concrete or wooden floor, a roof, and fully closed walls on all sides.
- B. Provide heated storage space for materials that would be damaged by freezing.
- C. Protect mechanical and electrical equipment from being contaminated by dust, dirt and moisture.

- D. Maintain humidity at levels recommended by manufacturers for electrical and electronic equipment.

1.04 MAINTENANCE OF STORAGE

- A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
 - 1. State of storage facilities is adequate to provide required conditions.
 - 2. Required environmental conditions are maintained on continuing basis.
 - 3. Products exposed to elements are not adversely affected.
- B. Mechanical and electrical equipment which requires long term storage shall have complete manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on exterior of package.
 - 1. Comply with manufacturer's instructions on scheduled basis.
 - 2. Space heaters which are part of electrical equipment shall be connected and operated continuously until equipment is placed in service.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

SECTION 01680

START UP, PROVE OUT, AND OPERATION AND MAINTENANCE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Start-up the soil vapor extraction and groundwater treatment system shown on the Drawings and described in these specifications, in accordance with the system performance requirements.
- B. This section covers the startup/commissioning, the two-week prove out and the two-month operation and maintenance period. The work covered in this Section includes the furnishing of all labor, materials, equipment, and services required to start up, prove-out, operate, maintain, monitor and manage the soil vapor extraction and groundwater treatment system in accordance with the Drawings and Specifications.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 01600: Operation and Maintenance Manual
- C. Section 02105: Chemical Sampling and Analysis

1.03 DESCRIPTION OF OPERATION

- A. Soil Vapor Extraction (SVE) System
 - 1. A blower (B-1) extracts soil vapor from up to five SVE wells. Flow rates and vacuums are adjusted using individual flow gauges for each well as well as a dilution air inlet and variable frequency drive on the blower. The blower design capacity is based on operating three wells simultaneously with the intention of manually cycling through the wells on a periodic basis. Depending on actual conditions fewer or greater wells may be run simultaneously.
 - 2. A moisture separator and particulate filter remove water vapor and particulates prior to blower B-1. The moisture separator is manually drained by opening the discharge drain valve so that condensate will flow by gravity to the diffused aeration system for treatment.
 - 3. Discharge from the blower flows through an air-to-air heat exchanger to cool the air prior to treatment with activated carbon. Granular activated carbon adsorbs contaminants from the vapor stream. The heat exchanger is normally automatically on when the SVE blower is on. Heat exchanger and activated carbon treatment will only be required until the untreated vapors from the SVE system fall below the discharge criteria at which time this equipment may be taken off line.
 - 4. Treated soil vapor is combined with vapor from the diffused aeration system and discharged via the stack to the atmosphere.
- B. Groundwater Extraction and Treatment System
 - 1. Well Pump P-1 extracts groundwater from Extraction Well EW-1. The well provides hydraulic capture of the groundwater plume downgradient of the source. The pump has an operator adjustable speed control located in the Packaged SVE and Groundwater Treatment System where the operator can adjust the pump speed to obtain the desired flow rate. A ball valve on the discharge and a recirculation line back into the well provide other options for controlling the flow

- rate of the pump; however, once the well valves are set, the speed control will provide the primary method for operator adjustment.
2. Groundwater is pumped to a diffused aeration treatment system located in the Packaged SVE and Groundwater Treatment System enclosure. Water is pumped into the system where it flows by gravity through the two diffused aeration treatment compartments prior to discharge. Air is blown through the water to volatilize organic contaminants from the groundwater.
 3. Treated groundwater is discharged by gravity to the sanitary sewer system.
 4. Vapor from the diffused aeration system is combined with the SVE effluent and the two are discharged together via the stack.

1.04 SYSTEM PERFORMANCE REQUIREMENTS

- A. Soil Vapor Extraction System
 1. Design Extraction Rate: 100 scfm per well continuous, 3 wells operating at a given time
 2. Design Vacuum: 58 inches of water at each well.
- B. Groundwater Extraction System
 1. Design Flow Rate: 0.6 gpm
 2. Discharge Requirements: Treatment for volatile organic compounds – no numeric limits.

1.05 SUBMITTALS

- A. Submit the following in accordance with Section 01330 - Submittal Procedures.
 1. Equipment Operation and Maintenance Manuals
 2. System start-up report / commissioning report.
 3. System prove-out documentation.
 4. Sampling book at project close out.
 5. Facility operator qualifications
 6. System Performance Monitoring Reports
 7. Field notebooks
 8. Hazardous waste manifests, if any The operation and maintenance log at project close out

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 START-UP REQUIREMENTS

- A. Coordinate with the ENGINEER and the DEPARTMENT at least two weeks prior to startup.
- B. Utilities (electricity, sewer, telephone) will be paid for by the CONTRACTOR.
- C. Perform system start-up/commissioning to ensure that all system components are functioning according to specifications within prescribed operating parameters. System start-up/commissioning shall be documented in a written report and approved by the ENGINEER. Perform start-up / commissioning to ensure the following:
 1. The extraction well pump is functioning correctly.

2. All piping is sound and leakproof.
 3. The diffused aeration system functions correctly.
 4. The SVE blower functions correctly.
 5. The moisture separator functions correctly.
 6. The heat exchanger functions correctly.
 7. The activated carbon systems function correctly.
 8. The treatment enclosures systems (e.g., lights, ventilation, heat) function properly.
 9. Instrumentation and control components operate properly.
- D. Document completion of system start-up commissioning report through the use of checklists with sign offs and submit for ENGINEER's approval.
 - E. System start-up shall include verification of influent, interim, and treated water quality by sampling water periodically for analysis from the locations indicated in the table at the end of this section.
 - F. During the start-up / commissioning period, the CONTRACTOR is responsible to provide necessary tools, maintenance equipment, safety equipment, and cleaning services.
 - G. The CONTRACTOR is responsible for all routine and non-routine operation, maintenance, and monitoring during the start-up / commissioning period.
 - H. Operation, Maintenance, and Monitoring (OM&M) Manual: The CONTRACTOR shall develop an OM&M Manual as specified in Section 01600 – Operation and Maintenance Manual. The CONTRACTOR shall follow the OM&M Manual during system start-up.

3.02 PROVE-OUT REQUIREMENTS

- A. The prove-out period shall start after completion of the start-up / commissioning phase.
- B. The prove-out period shall be considered successfully accomplished when all units and subsystems operate as a complete system for two consecutive weeks of continuing operation. During the two-week prove-out period, the system shall maintain a minimum up time of 95% except that shutdowns beyond the control of the CONTRACTOR and not related to the mechanical and electrical systems shall not be included.
- C. During the prove-out period, the CONTRACTOR is responsible to provide necessary tools, maintenance equipment, safety equipment, and cleaning services.
- D. The CONTRACTOR is responsible for all routine and non-routine operation, maintenance, and monitoring during the prove-out period.
- E. The CONTRACTOR shall document system operation during the prove-out period via the system log and shall submit records to the ENGINEER demonstrating completion of the prove-out period for approval.

3.03 ROUTINE OPERATION, MAINTENANCE, AND MONITORING

- A. Routine operation, maintenance, and monitoring (OM&M) shall start upon successful completion of the prove-out period.
- B. Routine operation, maintenance, and monitoring activities shall include, but are not limited to, the following:
 1. Servicing of equipment per manufacturer's recommendations.
 2. Verification of proper equipment functioning.
 3. Replacement of expendable or defective items to maintain a full inventory.
 4. Replacement of defective parts under warranty.
 5. Sampling and analysis of influents/effluents, and in plant samples.
 6. Waste management and disposal.
 7. Enclosure and grounds maintenance including cleaning, touch up painting, etc.

8. Supply trash containers and pick up trash.
 9. Clear snow, maintain the grounds.
 10. Provide replacement granular activated carbon.
 11. Provide all necessary tools, safety equipment, labor, and materials to operate the groundwater treatment plant and extraction wells during the start-up period.
 12. Provide utility services (electricity, telephone)
 13. The CONTRACTOR shall maintain a daily log of activities for every day on site, to include documentation of periodic inspections, equipment problems, actions taken, and notifications made to regulatory authorities.
 14. Prepare monthly OM&M summary reports
- C. During routine operation it is expected that site visits to collect readings and make adjustments will be performed every week. During early stages of operation, monitoring of the GAC for breakthrough will require more frequent visits. Over time, the concentrations are expected to drop and the GAC monitoring may be extended. Eventually, when untreated vapor concentrations are demonstrated to be below 1.0 pounds per hour, the GAC will be removed from service and less frequent site routine site visits may be possible. Removal of the GAC is only allowed upon approval by the ENGINEER and the DEPARTMENT.
- D. The CONTRACTOR shall monitor the system remotely and respond with a site visit to any alarms or unusual operating conditions.
- E. The CONTRACTOR is responsible to coordinate with the building owner and manage impacts to the owner from routine and non-routine OM&M activities to the satisfaction of the DEPARTMENT.
- F. The CONTRACTOR is responsible to provide necessary tools, maintenance equipment, safety equipment, and cleaning services.
1. Two portable pressure gauges shall be provided as part of the project for measuring pressure at the vacuum wells and each of the vacuum monitoring points. The gauges shall be Dwyer Magnahelic differential pressure gauges Series 2000 or approved equal. One shall be calibrated 0 to 80 inches of water. The other shall be calibrated 0 to 5 inches of water. The gauges shall be turned over to the DEPARTMENT at the end of the contract.
- G. Sampling Documentation
1. Maintain a permanently bound field notebook on-site indicating the time, date, flow rates, and location of sample collection (including written description), description of the sample preservation, sample container identification number and results of all field testing.
 2. Record all information using indelible ink. Each page of the notebook shall be dated and signed by the recorder.
 3. All field notebooks and all laboratory analytical reports shall be made available for inspection upon request from the Owner.
 4. The sampling book and all laboratory analytical reports shall be submitted to the DEPARTMENT as part of the project records.
- H. Records
1. Maintain a bound operation and maintenance log for all activities listed in the OM&M Manual, which shall include, but not be limited to:
 - a. Estimated average daily flow rates.
 - b. Pressure readings.
 - c. Photoionization detector readings.
 - d. Analytical results for influent and effluent samples

- e. Daily maintenance and repairs made to equipment.
 - f. All observations noted as unusual during facility inspections.
- I. Instruction
 - 1. At end of the operation period, provide the ENGINEER, DEPARTMENT, or DEPARTMENT's designee with on-site hands on instruction of all operation, maintenance, and monitoring procedures.
- J. CONTRACTOR shall maintain a full inventory of spare parts specified in the equipment specifications during the routine operation and maintenance period and is responsible to turn over the inventory at the end of the OM&M period.
- K. Additional sampling and analytical requirements are indicated in Section 02105 - Chemical Sampling and Analysis".
- L. Treatment performance monitoring sampling frequency shall be in accordance with the following table.

Table 01680-1
Soil Vapor Extraction and Groundwater Treatment System Performance Monitoring Frequency and Parameters

Parameter/ Method	Phase	Sample Location (Freq./TAT)											
		Extraction Well	Influent Groundwater at Packaged SVE and GWT System	Effluent Groundwater at Packaged SVE and GWT System	Vapor Monitoring Points	Vapor Extraction Wells	Influent Soil Vapor Combined	Moisture Separator	Particulate Filter	Heat Exchanger	GAC	Diffused Aeration Vent	SVE Vent
Temperature/ Gauge	Prove out	NA	NA	NA	NA	NA	NA	NA	NA	Daily**/ Field	NA	NA	NA
	Routine	NA	NA	NA	NA	NA	NA	NA	NA	Weekly**/ Field	NA	NA	NA
Pressure/ Gauge	Prove out	Weekly/ Field	Daily/ Field	NA	Daily/ Field	Weekly/ Field	Daily/ Field	NA	Daily**/ Field	NA	Daily***/ Field	NA	NA
	Routine	Monthly/ Field	Weekly/ Field	NA	Monthly/ Field	Monthly/ Field	Weekly/ Field	NA	Weekly**/ Field	NA	Weekly***/ Field	NA	NA
Flow Rate/ Meter	Prove out	NA	Daily/ Field	Daily/ Field	NA	Daily/ Field	Daily/ Field	NA	NA	NA	NA	NA	NA
	Routine	NA	Weekly/ Field	Weekly/ Field	NA	Weekly/ Field	Weekly/ Field	NA	NA	NA	NA	NA	NA
Flow Total / Meter	Prove out	NA	NA	Daily/ Field	NA	NA	Daily/Field	NA	NA	NA	NA	NA	NA
	Routine	NA	NA	Weekly/ Field	NA	NA	Weekly/Field	NA	NA	NA	NA	NA	NA
Level / Sight Gauge	Prove out	NA	NA	NA	NA	NA	NA	Daily/ Field	NA	NA	NA	NA	NA
	Routine	NA	NA	NA	NA	NA	NA	Weekly/ Field	NA	NA	NA	NA	NA
Groundwater Elevation / Panel Display	Prove out	Daily/ Field	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Routine	Weekly/ Field	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Groundwater Elevation/ Portable Meter	Prove out	Weekly/ Field	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Routine	Monthly/ Field	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC Concentrations / PID	Prove out	NA	NA	NA	Weekly/ Field	Weekly/ Field	Daily/ Field	NA	NA	NA	Daily***/ Field	Daily/ Field	Daily/ Field
	Routine	NA	NA	NA	Monthly/ Field	Monthly/ Field	Weekly/ Field	NA	NA	NA	Weekly***/ Field	Weekly/ Field	Weekly/ Field
VOC Concentrations (liquid - USEPA 8260, gas – USEPA TO-15)	Prove out	NA	Weekly/ 24 Hour	Weekly/ 24 Hour	NA	NA	Weekly/ 24 Hour	NA	NA	NA	NA	Weekly/ 24 Hour	Weekly/ 24 Hour
	Routine	NA	Monthly/ 14 day	Monthly/ 14 day	NA	NA	Monthly/ 14 day	NA	NA	NA	NA	Monthly/ 14 day	Monthly/ 14 day

Table 01680-1
Soil Vapor Extraction and Groundwater Treatment System Performance Monitoring Frequency and Parameters

Parameter/ Method	Phase	Sample Location (Freq./TAT)											
		Extraction Well	Influent Groundwater at Packaged SVE and GWT System	Effluent Groundwater at Packaged SVE and GWT System	Vapor Monitoring Points	Vapor Extraction Wells	Influent Soil Vapor Combined	Moisture Separator	Particulate Filter	Heat Exchanger	GAC	Diffused Aeration Vent	SVE Vent
Total VOCs since start up/ Calculation	Performance	NA	Weekly/ calculated	Weekly/ calculated	NA	NA	Weekly/ calculated	NA	NA	NA	NA	Weekly/ calculated	Weekly/ calculated
	Routine	NA	Monthly/ calculated	Monthly/ calculated	NA	NA	Monthly/ calculated	NA	NA	NA	NA	Monthly/ calculated	Monthly/ calculated
Total Suspended Solids* / USEPA 160.2	Performance	NA	Weekly/ 24 Hour	Weekly/ 24 Hour	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Routine	NA	Monthly/ 14 day	Monthly/ 14 day	NA	NA	NA	NA	NA	NA	NA	NA	NA
Water Quality Parameters*/ Portable Instrument	Performance	NA	Daily/ Field	Daily/ Field	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1. The above frequencies are subject to change by the DEPARTMENT during operation. The DEPARTMENT shall be given a credit for all analysis that are not performed .
 2. All samples are to be shipped on the day of collection for overnight delivery to the laboratory.
 3. The CONTRACTOR shall be responsible for supplying bottles, sampling, packaging, handling, and shipping of samples.
- * Includes pH, temperature, conductivity, ORP, and turbidity.
- ** Measure before and after equipment
- *** Before, between, and after GAC vessels. During routine monitoring VOC PID monitoring many have to be more frequent depending on breakthrough time observed during prove-out period.

NA= Not Applicable

PID = Photoionization detector

VOCs = Volatile Organic Compounds

END OF SECTION

SECTION 01720

FIELD ENGINEERING AND SURVEYING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Established survey control points are available on site for construction purposes. The CONTRACTOR shall verify locations of survey control points prior to starting work. The CONTRACTOR shall safeguard all survey control points. Should any of these points be damaged or destroyed, the CONTRACTOR shall replace the control point at no cost to the Owner. The CONTRACTOR shall assume the entire expense of rectifying work improperly constructed due to failure to maintain and protect such established survey control points.
- B. The CONTRACTOR shall be responsible for the layout of the construction and any additional survey control points, grid coordinate locations, lines, grades, and levels necessary for the proper construction and testing of the work required in the Contract Documents. Survey control shall include, but not be limited to, maintaining appropriate slopes and specified thicknesses.
- C. The CONTRACTOR shall employ a surveyor using standard practices and datum for the State of New York to provide the surveying functions necessary for the proper execution of the work, and to document and record the completed work.
- D. The CONTRACTOR is responsible for scheduling the surveys to coincide with the construction activities. The survey shall be performed by a Land Surveyor registered in the State of New York. If the survey documentation shows improper slopes, elevations, locations, or layer thicknesses, the CONTRACTOR shall correct the deficiency and re-survey the re-work at no additional cost to the DEPARTMENT. Survey documentation may include, but not be limited to:
 - 1. Initial field verification survey, as described in Sub-Part 1.03;
 - 2. Location and invert elevation of any and all utility penetrations of the building foundation wall as determined during the CONTRACTOR performed investigations;
 - 3. Excavation horizontal and vertical extents;
 - 4. As-built location and invert of replaced utilities;
 - 5. Limit of installed pavement (asphalt and concrete) and restored vegetated areas;
 - 6. Final constructed topography within the limit of disturbance based on a 10' maximum grid pattern;
 - 7. Location and elevation of CONTRACTOR established survey control points and/or benchmark.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01110: Summary of Work
- B. Section 01330: Submittal Procedures
- C. Section 01450: CONTRACTOR Quality Control
- D. Section 01770: Project Closeout Procedures

1.03 SUBMITTALS

- A. On request, submit data demonstrating qualifications of persons providing field ENGINEERING and survey services.
- B. On request, submit documentation verifying accuracy of survey work.
- C. The CONTRACTOR shall perform a field verification of survey as part of the work prior to the start of construction activities to verify/establish current conditions. The CONTRACTOR shall then compare the existing condition information shown on the Construction Drawings to the current conditions determined during the field verification activities. Where discrepancies exist, the CONTRACTOR shall submit to the ENGINEER/DEPARTMENT the results of the field verification survey and results of the comparison with the Construction Drawings. All discrepancies shall be resolved by the DEPARTMENT or the ENGINEER prior to initiation of construction activities affected by discrepancies.
- D. Survey data in support of quantity measurements as required in Section 01270 – Measurement for Payment.
- E. Survey data and measurements as the Work progresses for the project in support of establishing Record Documents as specified in Section 01770 - Project Closeout.

1.04 FIELD ENGINEERING AND SURVEY REQUIREMENTS

- A. Provide field ENGINEERING and survey services using appropriate construction practices. Use skilled persons, trained and experienced in the necessary tasks and techniques for the proper execution of the Work. Locate and layout the Work by survey instrumentation and similar appropriate means.
- B. The CONTRACTOR shall sufficiently establish the existing ground elevations before earthwork is started.
- C. The CONTRACTOR shall perform the layout and shall document completed construction on Record Drawings, including the features listed in Sub-Part 1.01D.
- D. Measure final excavated depth during construction to verify that excavation has occurred to the required limit.
- E. The CONTRACTOR shall sufficiently survey to verify quantities included in requests for payment as required in Section XII, Measurement for Payment.
- F. Vertical and horizontal control shall be sufficient to assure work is constructed within 0.1 foot of proposed fill thickness requirements (or proposed grades as indicated where settlement is not a concern) and location.
- G. Verification surveys, surveys for measurement and payment, and Project Record documentation shall be provided in electronic file format compatible with AutoCAD 2008 or later.

1.05 TECHNICAL REQUIREMENTS OF SURVEY

- A. Horizontal ground control shall originate and terminate on New York State Plane North American Datum 1983 (NAD 83). Vertical control shall be tied to North American Vertical Datum 1988 (NAVD 88).
- B. Map Accuracy - Ninety percent of the elevations determined from the solid-line contours for the topographic maps shall have accuracy with respect to true elevation of 0.5 contour interval (0.5 foot) or better, and the remaining 10 percent of such elevations shall not be in error by more than one contour interval (1 foot).
- C. Vertical Control: Establish a permanent project benchmark for vertical control.

- D. Horizontal Control: Each horizontal control point shall be plotted on the map within the coordinate grid in which it should lie to an accuracy of one one-hundredth foot (0.01 foot) of its true position as expressed by the plane coordinates computed for this point.
- E. Spot Elevations: Survey shall be constructed to provide an accuracy of 0.1 feet vertically. No shots exceeding 500 feet shall be taken. Ninety percent of all spot elevations placed on the maps shall have an accuracy of at least 0.1 foot, and the remaining 10 percent shall not be in error by more than one-half (1/2) of the contour interval (0.5 foot).
- F. Accuracies and accuracy tests apply to the stereo compilation scale of the original manuscript (i.e., if the manuscript is compiled at a scale of 1" = 100' and then reduced to 1"=200', then the accuracies will apply to the original 1"=100' scale). This is also true if the manuscript is enlarged to 1"=50' or some larger scale.

1.06 EXISTING CONDITIONS SURVEY

- A. The existing conditions depicted on the Drawings are based on a survey prepared by Popli Consulting ENGINEERS & Surveyors (March 30, 2009) and shape file data provided by O'Brien & Gere.

PART 2 - PRODUCTS

Not applicable.

PART 3 - EXECUTION

Not applicable.

END OF SECTION

SECTION 01750

SPARE PARTS AND MAINTENANCE MATERIALS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. Provide spare parts and maintenance materials as identified in the individual Sections in accordance with this section.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 11001: Equipment, General Requirements
- B. Section 11318: Extraction Well Pumps
- C. Section 01380: Packaged Soil Vapor Extraction and Groundwater Treatment System

1.03 REQUIREMENTS

- A. CONTRACTOR shall furnish spare parts and maintenance materials as specified in the individual Sections.
- B. Furnish parts and materials clearly marked and identified in manufacturers' unopened cartons, boxes, crates or other protective covering suitable for prevention of corrosion or deterioration for the maximum length of storage which may be normally anticipated.
- C. During construction, store parts in buildings or trailers with floor, roof and closed sides and in accordance with manufacturers' recommendations. Protect from weather, condensation and humidity.
- D. Place parts and materials in permanent storage areas designated in the packaged treatment system enclosure prior to substantial completion. Maintain the inventory during operation, maintenance, and monitoring period and transfer to the DEPARTMENT at the end of the O&M period of the contract.
- E. Provide a letter of transmittal including the following:
 - 1. Date of transfer of parts and material.
 - 2. Contract title and number.
 - 3. CONTRACTOR's name and address.
 - 4. A complete inventory of the parts and material, listing the applicable Specification Section for each.
 - 5. DEPARTMENT's acknowledgement of receipt of the parts and materials.
- F. CONTRACTOR shall be fully responsible for loss or damage to parts and materials until they are delivered to the DEPARTMENT.

PART 2 – PRODUCTS

Not applicable.

PART 3 – EXECUTION

Not applicable.

END OF SECTION

SECTION 01770

PROJECT CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Keep accurate record documents for all additions, substitutions of material, variations in work, and any other revisions to the Contract Documents.
- B. Provide a final survey of project Site and as-built drawings of the completed work.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section VIII: General Conditions
- B. Section 01330: Submittal Procedures
- C. Section 01720: Field Engineering and Surveying

1.03 PROJECT CLOSEOUT

- A. The CONTRACTOR shall comply with the procedures stated in the General Conditions of the Contract for issuance of Certificate of Substantial Completion.
- B. The CONTRACTOR shall submit written certification that the Work is complete in accordance with Contract Documents and ready for the DEPARTMENT's inspection/review.
- C. Provide submittals as required by these Specifications.

1.04 FINAL CLEANING

- A. Execute final cleaning of Site prior to final project inspection.
 - 1. Clean project Site areas, including sweeping paved areas and raking landscaped surfaces.
 - 2. Remove waste and surplus materials, rubbish, and temporary facilities and controls from the Site.

1.05 WARRANTIES

- A. Provide duplicate notarized copies of all warranties associated with the work.
- B. Execute and assemble transferable warranty documents from subcontractors, suppliers, and manufacturers.
- C. For items of Work delayed beyond date of Substantial Completion, provide updated submittal within 14 business days after acceptance, listing the date of acceptance as start of warranty period.

1.06 MAINTENANCE OF RECORD DOCUMENTS

- A. Record documents shall be stored in a dry, safe place apart from Construction Documents, and be available for inspection by the ENGINEER. The record documents shall not be used for construction purposes.
- B. Clearly label each document "Project Record." During the execution of the work, keep record documents current.
- C. Provide files and racks for storage of documents.
- D. Maintain one copy of the following documents at the job site:
 - 1. Drawings showing progress of work;
 - 2. Specifications;

3. Addenda;
 4. Reviewed submittals;
 5. Change Orders;
 6. Other modifications to the Contract;
 7. Health and Safety Plan;
 8. Construction Quality Control Plan
 9. Work Plan(s);
 10. Applicable permit documents;
 11. CONTRACTOR's certifications;
 12. Shop drawings and product data;
 13. Daily reports, including:
 - a. Records of all site work;
 - b. Inspection records; and
 - c. Reports on any emergency response actions.
 14. Construction photographs;
 15. Deficiency reports;
 16. Sampling documentation, chain of custody forms, and waste manifests;
 17. All analytical laboratory testing data;
 18. All geotechnical laboratory testing data and construction materials field/laboratory testing reports;
 19. Quality Control Project Summary, compiled upon project completion;
 20. Field notes and records of quantities for progress payments;
 21. All survey data required for measurement and payment;
 22. Operations and maintenance manuals for all equipment installed; and
 23. As-Built Drawings: Legibly mark on Drawings to record actual construction including:
 - a. as-built final grade contour information within the limit of disturbance;
 - b. horizontal and vertical extents of excavation area;
 - b. horizontal and vertical locations of new and relocated utilities;
 - c. horizontal and vertical locations of all collected sample locations.
 - d. field changes of dimension and detail; and
 - e. details not on original Drawings;
- E. Specifications and addenda shall be legibly marked up to record changes made by Change Order or Field Order, or other method.

1.07 SUBMITTALS

- A. At the completion of construction, the CONTRACTOR shall deliver two hard copies and two CDs with electronic files (Adobe Acrobat .pdf files and AutoCAD .dwg files) of project record documents to the ENGINEER as a condition of final payment. Submit project record documents in accordance with Section 01330 - Submittal Procedures, and as specified herein.
- B. Accompany the project record documents with a transmittal letter containing the following:
 1. Date;
 2. Project title and number;
 3. CONTRACTOR's name and address;
 4. Title and number of each record;
 5. Certification that each document as submitted is complete and accurate; and
 6. Signature of the CONTRACTOR or his authorized representative.
- C. For each set of project record documents include a directory listing the names, addresses, and telephone numbers of the CONTRACTOR, subcontractors, and major equipment

suppliers. Also, include operation and maintenance instructions for installed materials and equipment.

- D. All other outstanding project documentation including but not limited project submittals and test data.

1.08 FINAL (AS-BUILT) SURVEY

- A. The CONTRACTOR shall perform a topographic and location survey of the Site at the completion of construction. The survey shall be performed by a Land Surveyor registered in the State of New York. The survey shall include all items listed in Section 01720 – Field ENGINEERING and Surveying, Sub-Part 1.01D.
- B. Provide as-built survey data in electronic format compatible with AutoCAD 2006 (or later version) computer software as well as Adobe Acrobat .pdf files.

END OF SECTION

SECTION 02105

CHEMICAL SAMPLING AND ANALYSIS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The CONTRACTOR shall provide all necessary personnel, equipment, materials, and subcontracting required to perform chemical sampling and analysis associated with the remedial design at the Carriage Cleaners Site (Site) in Brighton, New York. The sampling and analyses shall be conducted for:
 - 1. Soil and groundwater associated with the newly installed vapor monitoring point/injection Wells.
 - 2. Soil vapor and vapor associated with the SVE and diffused aeration systems.
 - 3. Groundwater and treated groundwater associated with the extraction well.
- B. The sampling and analysis shall be conducted in accordance with USEPA and DEPARTMENT standards and requirements for environmental sampling and analysis.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 00003: Minimum Requirements for Health and Safety
- B. Section 01330: Submittal Procedures
- C. Section 01680: Start up, Prove-Out, and Operation and Maintenance
- D. Section 02110: Waste Removal and Handling
- E. Section 02240: Dewatering
- F. Section 02300: Earthwork
- G. Section 02521: Wells
- H. Section 02900: Topsoil and Seeding

1.03 REFERENCES

- A. New York State DEPARTMENT of Environmental Conservation "Analytical Services Protocol" (NYSDEC ASP) June 2000 - revised July 2005.
- B. New York State DEPARTMENT of Environmental Conservation "Technical Guidance for Site Investigation and Remediation"; DER-10; May 3, 2010.
- C. Guidance for the Development of Data Usability Reports; NYSDEC Division of Environmental Remediation; September 1997.

1.04 SUBMITTALS

- A. Quality Assurance Project Plan:
 - 1. Submit the following two weeks prior to start of the work:
 - a. Site-specific Quality Assurance Project Plan (QAPP) prepared in accordance with New York State DEPARTMENT of Environmental Conservation "Technical Guidance for Site Investigation and Remediation"; DER-10; May 3, 2010.
 - b. Proposed Project Analytical Laboratory and certifications. Documentation shall be provided that the analytical laboratory is New York State DEPARTMENT of Health certified for solid and hazardous waste analyses.
- B. Sampling and Analysis Reports:
 - 1. Submit the following reports:

- a. Field sampling data records including copies of completed field sheets, chain-of-custodies, and field log book entries;
- b. Laboratory Data Deliverable;
- c. Data Usability Summary Report.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.01 SAMPLE COLLECTION

- A. General
 - 1. Provide sampling equipment and expendable supplies as necessary to collect the samples.
 - 2. Collect samples in accordance with the approved site-specific QAPP.
 - 3. Use sample containers and preservation methods as required by the analytical laboratory, QAPP, and the NYSDEC ASP.
- B. Soil Samples
 - 1. Collect two samples per Vacuum Monitoring Point / Injection (VP) Well from below the water table at intervals selected by the ENGINEER based on screening with a PID.
 - 2. Provide, at a minimum, one trip blank, one duplicate, and one rinse blank.
- C. Groundwater Samples
 - 1. VP Wells
 - a. Collect one round of groundwater samples from the new VP wells at least two weeks after well development is completed.
 - b. Provide, at a minimum, one trip blank, one duplicate, and one rinse blank (if applicable).
 - 2. Process Samples (Extraction Well and Treated Water)
 - a. Collect samples as specified in Section 01680 - Start Up, Prove Out, and Operation and Maintenance.
- D. Vapor Samples
 - 1. Collect samples as specified in Section 01680 - Start Up, Prove Out, and Operation and Maintenance.
- E. Borrow Sources
 - 1. Collect and analyze samples as specified in Section 02300 – Earthwork and Section 02900 – Topsoil and Seeding.

3.02 LABORATORY ANALYSIS

- A. Soil samples shall be analyzed for TCL VOCs using USEPA Method 8260 as described in the NYSDEC ASP.
- B. Groundwater samples shall be analyzed for TCL VOCs using USEPA Method 8260 and TSS using USEPA Method 160.2 as described in the NYSDEC ASP.
- C. Vapor samples shall be analyzed for VOCs using USEPA method TO-15 as described in the NYSDEC ASP.
- D. Turn-around times for analytical results shall be 14 calendar days unless otherwise indicated in individual specification sections.

- E. Off-site laboratory analysis shall include Category B deliverables as defined in the NYSDEC ASP.
- F. CONTRACTOR shall prepare a Data Usability Summary Report (DUSR) in accordance with the “Guidance for the Development of Data Usability Reports” (NYSDEC, 1997) provided at the end of this specification.

3.03 DISPOSAL OF WORK DERIVED WASTES

- A. Fluids collected from sampling activities, including dewatering fluids, floor cleaning fluids and decontamination fluids shall be containerized. Fluids generated during construction shall be handled with dewatering water as described in Section 02240 – Dewatering. Fluids generated during operation and maintenance phases, may be discharged to the influent of the diffused aeration system provided that it does not contain excessive surfactants or otherwise may hinder correct operation of the treatment system. Otherwise, CONTRACTOR shall transport filled drums to a designated storage area at the Site for temporary storage and characterization. CONTRACTOR shall arrange for off-site disposal at an appropriate facility based upon the characterization results, at the direction of the ENGINEER, and as approved by the DEPARTMENT.
- B. Store generated fluids in NYSDOT approved containers supplied by the CONTRACTOR. All wastewater shall be containerized and stored on the Site until the samples taken by the CONTRACTOR have been analyzed.
- C. Waste characterization and disposal shall be done as specified in Section 02110 – Waste Removal and Handling.

3.04 DECONTAMINATION

- A. Contaminated sampling equipment will be washed with a Liquinox ®, or equivalent soap and water solution, rinsed with clean potable water, and finally rinsed with deionized water.

3.05 HEALTH AND SAFETY

- A. Field personnel will be required to utilize the personnel protection as defined in Section X Specification 00003 – Minimum Requirements for Health and Safety.
- B. CONTRACTOR personnel will be required to review the site or task-specific Health and Safety Plan prepared for this project and acknowledge that they have done so before initiating subsurface work.

END OF SECTION

SECTION 02105 – CHEMICAL SAMPLING AND ANALYSIS

APPENDIX A

Guidance for the Development of Data Usability Summary Reports (DUSRs)

(a) Background. The Data Usability Summary Report (DUSR) provides a thorough evaluation of analytical data with the primary objective to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and data use.

1. The development of the DUSR must be carried out by an experienced environmental scientist, such as the project Quality Assurance Officer, who is fully capable of conducting a full data validation. The DUSR is developed from:

i. New York State DEPARTMENT of Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category B;

ii. A United States Environmental Protection Agency Contract Laboratory Protocol (USEPA CLP) data deliverables package using USEPA Region 2 validation guidance documents; or

iii. The USEPA Contract Laboratory Program National Functional Data Validation Standard Operating Procedures for Data evaluation and validation.

2. The DUSR and the data deliverables package will be reviewed by qualified DER staff. In most cases, it is expected that this review will result in agreement or with only minor differences that can be easily reconciled. If data validation is found to be necessary (e.g. pending litigation) this can be carried out at a later date on the same data package used for the development of the DUSR.

(b) Personnel Requirements. The Environmental Scientist preparing the DUSR must hold a Bachelors Degree in a relevant natural or physical science or field of engineering and must submit a resume to the DER documenting experience in environmental sampling, analysis and data validation.

(c) Preparation of a DUSR. The DUSR is developed by reviewing and evaluating the analytical data package. During the course of this review the questions applicable to the analysis being reviewed must be asked and answered in the affirmative.

1. Is the data package complete as defined under the requirements for the NYSDEC ASP Category B or USEPA CLP deliverables?

2. Have all holding times been met?

3. Do all the QC data; blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

4. Have all of the data been generated using established and agreed upon analytical protocols?

5. Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

6. Have the correct data qualifiers been used, are:

i. All data qualifiers consistent with the current NYSDEC ASP

ii. Has the evaluation of NYSDEC ASP Matrix Spike Blank (MSB) data been correctly qualified, as follows, if the MSB recovery is less than:

(1) The ASP criteria, the positive results should be qualified as J, estimated biased low;

(2) The ASP criteria, but greater than 10%, the nondetects should be qualified J, estimated biased low; or

(3) Ten percent (10%), the nondetect data must be rejected?

7. Any Quality Control exceedances must be specifically noted in the DUSR and the corresponding QC summary sheet from the data package should be attached to the DUSR?

(c) Documenting the validation process in the DUSR. Once the data package has been reviewed and the above questions asked and answered the DUSR proceeds to describe the samples and the analytical parameters.

1. Data deficiencies, analytical protocol deviations and quality control problems are identified and their effect on the data is discussed.

2. The DUSR shall also include recommendations on resampling/reanalysis.

SECTION 02110

WASTE REMOVAL AND HANDLING

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes a description of responsibilities for proper on-site handling and management of materials including, but not limited to, excavated contaminated indigenous and borrow soil; excavated non-contaminated bituminous pavement and all other debris; liquid waste (wash water, contaminated stormwater, decontamination water, construction dewatering, etc.); Site trash and remediation waste (e.g., disposable personal protective equipment, plastic sheeting, and sampling equipment).

1.02 SUBMITTALS

- A. The CONTRACTOR shall include as a component of the Work Plan (described in Section 01110 – Summary of Work) a description of planned means and methods for management of all waste materials removed or generated as a component of the Work.
- B. Laboratory Reports: Provide laboratory reports of analytical testing performed as required by the waste characterization program.

1.03 WASTE CONTAINERS

- A. The CONTRACTOR shall provide:
 - 1. Trucks and/or appropriate containers for the management and off-site disposal of indigenous contaminated soils and other debris.
 - 2. Trucks and/or appropriate containers for the management and off-site disposal/recycling of non-contaminated material and debris from the excavation areas (e.g., asphalt pavement) and all other non-contaminated debris removed during site preparation.
 - 3. Plastic bags for disposable personal protection equipment. Plastic bags shall have a minimum thickness of six (6) mils.
 - 4. Portable, temporary storage tanks (Frac tanks, etc.) for the storage/treatment of collected liquids (i.e. wash water, decontamination fluids, construction dewatering, and contaminated stormwater). The CONTRACTOR shall provide spill containment for one hundred and ten percent (110%) of the tank volume. The CONTRACTOR is responsible for the rental of Frac tanks or similar containers.
 - 5. Containers (e.g., roll-off containers) for non-hazardous municipal trash and debris. Roll-off containers shall be utilized for storage of wastes generated during the site preparation, construction, and cleanup activities.

1.04 ON-SITE MANAGEMENT AND STORAGE OF MATERIALS

- A. The CONTRACTOR shall be responsible for proper on-site management of wastes generated in compliance with all Federal, State and local regulations. Management shall include handling, segregating, testing and storing all wastes generated during the Work.
- B. The CONTRACTOR shall be responsible for movement of the containers, trucks, etc. into positions required for proper loading and management of material.
- C. The CONTRACTOR shall segregate hazardous from non-hazardous materials as required for proper off-site disposal.
- D. The CONTRACTOR shall be responsible for loading all waste containers, trucks, etc. with all removed soil, material, and debris.
- E. The CONTRACTOR shall limit stockpiling of indigenous contaminated soil or contaminated material/debris) removed from the excavation areas.
- F. The CONTRACTOR shall not load waste containers, trucks, etc. with non-contaminated materials prior to inspection and determination by the ENGINEER or the DEPARTMENT that decontamination of the waste containers has been achieved.
- G. The CONTRACTOR shall be responsible for coordinating the schedule for delivery and pick-up of supplied waste containers. The CONTRACTOR shall also be responsible for movement and storage of containers within the Site to allow the progress of the Work.
- H. The CONTRACTOR shall cover stockpiles with plastic sheeting to prevent erosion of the stockpiles or uncontrolled runoff while promoting runoff of precipitation. The plastic sheeting shall be weighted down.

1.05 SAMPLING AND TESTING OF WASTES

- A. Testing shall not be required for non-contaminated wastes including:
 - 1. Removed pavement (e.g., asphalt concrete, Portland cement concrete) within the excavation area.
 - 2. General trash and rubbish from outside the Work Area (e.g., office waste).
- B. The CONTRACTOR shall be responsible for the sample collection and laboratory testing of the following wastes:
 - 1. Collected liquids (i.e., decontamination fluids, construction dewatering, wash water, and contaminated stormwater). Collected liquids that require off-site disposal shall be sampled and tested using the required methods and at the required frequency of the designated off-site disposal facility.
 - 2. Contaminated soil material and debris (e.g., demolished/removed sewer pipe). Solid wastes shall be sampled and tested using the required methods and at the required frequency of the designated off-site facility.
 - 3. Spent activated carbon from the treatment of SVE and diffused aeration off gases. Activated carbon shall be sampled and tested using the required methods and at the required frequency of the designated off-site facility for disposal or regeneration.
- C. The CONTRACTOR shall collect samples and shall coordinate the sampling and testing with the ENGINEER or DEPARTMENT.
- D. Laboratory testing of wastes shall be performed by a certified laboratory as required by the selected disposal facility:
 - 1. Laboratory reports shall be prepared by the subcontracted laboratory to include all requirements of the State.
 - 2. All laboratory test methods and frequencies shall be in accordance with DEPARTMENT and federal requirements.

PART 2 PRODUCTS

Not Applicable

PART 3 EXECUTION

Not Applicable

END OF SECTION

SECTION 02120

OFF-SITE TRANSPORTATION AND DISPOSAL

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes a description of responsibilities for proper transportation and disposal of excavated contaminated indigenous and borrow soil, fill, bedding, etc.; excavated contaminated concrete/masonry, metal, and all other debris; excavated non-contaminated concrete/masonry, metal, bituminous pavement, and all other debris; liquid waste (contaminated stormwater, decontamination water, construction dewatering, etc.); Site trash; soil boring cuttings, and remediation waste (disposable PPE, plastic sheeting and sampling equipment).
- B. The CONTRACTOR shall properly transport and dispose of all items, including solid and liquid hazardous and nonhazardous wastes removed from the site, to appropriate disposal facilities. This includes existing wastes as well as the wastes generated by the CONTRACTOR. The CONTRACTOR shall be responsible and will be held accountable for assuring that all sampling, analysis, transportation, and disposal requirements of the Treatment, Storage and/or Disposal Facility (TSDF), Solid Waste Management Facility (SWMF), Publicly Owned Treatment Works (POTW), reclamation or salvage facilities, Federal, State, and local governments are complied with and properly documented.
- C. Hazardous waste shall be confined to the Exclusion Zone until transported off-site for proper disposal.

1.02 REFERENCES

- A. The publications listed below are pertinent in whole or part to the Work. The publications are referred to within the text by basic designation only.
 - 1. Code of Federal Regulations (CFR)
 - a. 40 CFR 262: Standards Applicable to Generators of Hazardous Waste
 - b. 49 CFR 172: Tables, Hazardous Material Communication Requirements, and Emergency Response Information Requirements
 - 2. New York Codes, Rules, and Regulations (NYCRR)
 - a. 6 NYCRR 364: Waste Transportation Permits
 - b. 6 NYCRR 372: Hazardous Waste manifest System and Related Standards for Generators, Transporters, and Facilities
- B. The CONTRACTOR shall comply with all applicable Federal, State, and local requirements regarding transportation and disposal of hazardous and nonhazardous material.

1.03 SUBMITTALS

- A. The CONTRACTOR shall include as a component of the Work Plan (described in Section 01110 – Summary of Work) a description of planned means and methods for transporting and disposing of all waste materials removed or generated as a component of the Work. The Work Plan must be approved before materials are transported off-site.
- B. Permit profile of the TSDF/SWMF/POTW.

- C. Profile sampling results.
- D. Written acceptance of waste profile from TSDF/SWMF/POTW.
- E. Written confirmation from TSDF/SWMF/POTW of acceptance of waste.
- F. Bill of Lading and Manifests for all transported waste loads.
- G. Certified weight slips for each load transported to the disposal facility.
- H. Decontamination certificates.
- I. Certificates of disposal for non-hazardous waste.
- J. Signed Bills of Lading for salvaged or recycled materials.

1.04 TRANSPORTATION OF WASTES

- A. The CONTRACTOR shall be responsible for the transportation of all solid wastes specified or generated as a result of the Work off-site. This includes materials generated by final Site cleanup activities including the dismantling of the temporary facilities and controls.
- B. The CONTRACTOR shall be responsible for the transportation of all collected contaminated liquids as specified or generated as a result of the Work.
- C. The CONTRACTOR shall be responsible for coordinating the number and schedule of vehicles required for off-site transportation of waste materials generated during the execution of the specified work.
- D. The CONTRACTOR shall be responsible to inspect the transportation vehicles before and after loading to ensure compliance with all local, State, and Federal regulations for the safe transport of wastes from the Site to the receiving facility. The CONTRACTOR shall provide the necessary labor and materials to insure all trucks, containers, etc. are lined with plastic prior to filling, foamed or stabilized with an agent, if necessary, and covered prior to departure.
- E. The CONTRACTOR shall insure that the transporters arriving at the Site for loading do not cause undue congestion to local streets, and shall stage trucks either within the perimeter of the Site or at an off-site staging area approved by the ENGINEER. Transporters shall not be accepted at the site before 7:00 AM and after 5:00 PM.
- F. The CONTRACTOR's transporters shall proceed directly from the Site to the designated receiving facility. Temporary staging or storage of material at intermediate locations between the Site and the receiving facility is prohibited.
- G. The CONTRACTOR shall originate, maintain, and provide the ENGINEER with a copy of each manifest and executed Bill of Lading for all loads shipped off-site. In addition, the CONTRACTOR shall provide the ENGINEER, documentation and records verifying receipt of each truck load by the receiving facility. Such documentation shall indicate the actual weight of each load shipped.
- H. Transporters shall proceed from the Site along traffic routes established by the CONTRACTOR and approved by the local municipality. Transporters shall call back weights after each load and modify loads accordingly. The CONTRACTOR shall ensure that trucks leaving the Site are within appropriate weight limitations for the local roads along the designated route.

1.05 DISPOSAL OF WASTES

- A. The CONTRACTOR shall be responsible for the proper disposal of all solid and liquid wastes that are specified as a component of the Work or that are generated during the execution of the Work in conformance with all Federal, State, and local regulations and

requirements. Proper disposal requires that the facility accepting the waste be a state licensed disposal/recycling facility that is approved for acceptance of the waste based on the results of the characterization testing and analysis.

- B. The disposal facilities shall be approved by the ENGINEER/DEPARTMENT prior to the transporting of waste. The CONTRACTOR shall not change facilities without prior consent of the ENGINEER/DEPARTMENT.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. All equipment supplied shall be in good working condition. Equipment and machinery delivered to the site, including haul trucks, that has visible oil or hydraulic fluid leaks, will not be allowed on-site until satisfactorily repaired. The CONTRACTOR is responsible for the cleanup of any oil or hydraulic fluid spills at the CONTRACTOR'S expense.
- B. The CONTRACTOR shall provide waste containers specific to the individual waste as described in Section 02110 – Waste Removal, and Handling.
- C. Trucks used for transportation of material for off-site disposal shall be water tight and permitted pursuant to 6 NYCRR Part 364. All trucks shall be covered prior to leaving the site.

PART 3 - EXECUTION

3.01 VEHICLE LOADING AND DECONTAMINATION

- A. Transport vehicles shall be decontaminated at the Decontamination Pad (see Section 01100) upon leaving the Exclusion Zone at the site and again at the disposal facility as required.
- B. The CONTRACTOR shall not allow soil to be tracked off site at any time during the Project. Visible soil tracks on streets will not be allowed. The CONTRACTOR shall take sufficient precautions to prevent loose soils from adhering to tire treads, wheel wells, etc. Any loose soil spread shall be cleaned up.
- C. A Decontamination Certificate shall be provided to the ENGINEER for each shipment stating that:
 - 1. No soil from the exclusion zone or the contamination reduction zone adheres to the vehicle (including tires and undercarriage).
 - 2. The vehicles are not leaking materials or dripping liquids in any amount.
 - 3. Any waste materials, debris, and contaminated materials are covered with a tarpaulin, or are otherwise completely enclosed so as not to cause or permit discharge from the vehicle during transport.

3.02 TRANSPORTATION

- A. Prior to shipment of hazardous wastes off the site, the CONTRACTOR shall confirm by written communication from the designated TSDF that it is authorized, has the capacity, and will provide or assure that the ultimate disposal method is followed for the particular hazardous waste on the manifest. Additionally, the CONTRACTOR shall confirm by written communication from the designated transporter(s) that they are authorized to deliver the manifested waste to the designated TSDF or SWMF.
- B. The CONTRACTOR shall be responsible for obtaining permits and authorizations necessary to use the selected shipping routes. Comply with restrictions imposed by local governmental agencies regarding use of the routes.
- C. Materials shall be transported only at the times and by the routes indicated in the approved Transportation Plan, unless permission is received by the ENGINEER to do otherwise. The CONTRACTOR shall observe the legal load limits.
- D. The EPA-required Generator Identification Number for the Carriage Cleaners site is NYD020651139.

3.03 SAMPLING

- A. Perform all sampling and analyses required by the disposal facility at no additional cost to the DEPARTMENT.
- B. Submit copies of the results to the ENGINEER.

3.04 MANIFESTING

- A. The CONTRACTOR shall complete all required manifest forms and Bill of Lading forms for the DEPARTMENT for proper transportation and disposal of materials off site.
- B. Comply with 40 CFR 262 in completion and submittal of the hazardous waste manifests. The hazardous waste manifests for the transportation and disposal of waste removed from the site shall include all information in accordance with 49 CFR 172.101.
- C. Notify the ENGINEER in writing a minimum of two weeks prior to the date(s) the manifests are ready to be signed.
- D. The ENGINEER will sign the special waste or hazardous waste manifests for the DEPARTMENT, which is the generator.
- E. Place on the manifest all information and data required by both the waste generator and transporter. The CONTRACTOR's hazardous waste specialist shall accompany each prepared manifest with written certification that the manifest has been filled out in compliance with all Federal and State regulations.
- F. Provide the ENGINEER with two fully executed copies of each shipment manifested prior to shipping wastes off site.
- G. The CONTRACTOR is responsible for proper distribution of manifests and bills of lading.

3.05 REPORTING

- A. Manifests
 - 1. After the waste has been permanently disposed of, the hazardous waste manifest shall be completed in accordance with 6 NYCRR 372 and submitted by the CONTRACTOR to the ENGINEER with a copy to be forwarded to the DEPARTMENT.

2. In accordance with 40 CFR 262.42, generator shall contact the transporter and TSDF to determine the status of the hazardous or toxic waste if the manifest is not returned to the generator within 35 days of the date waste was accepted by the initial transporter.
 3. The generator shall file an exception report with the EPA and DEPARTMENT if the generator has not received a completed copy of the manifest from the designated TSDF within 45 days of the date the waste was accepted by the original transporter.
 4. The CONTRACTOR shall be responsible for providing the generator with the information needed to complete the exception report.
- B. Certificates of Disposal
1. Provide Certificates of Disposal for all wastes shipped off site.
 2. The Certificates of Disposal shall be submitted to the ENGINEER within 180 days of the shipment of wastes off site.
- C. Bills of Lading
1. Items and materials that have been recycled or salvaged shall only require a signed bill of lading or receipt of materials and quantity received.

END OF SECTION

SECTION 02221

SELECTIVE SITE DEMOLITION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The CONTRACTOR shall furnish all labor, equipment, and materials necessary for the selective demolition, removal, and/or abandonment of some existing structures, as shown on the Construction Drawings and as approved by the ENGINEER. Work includes, but is not limited to, the following:
 - 1. Protection of pavement, facilities, structures, utilities, etc. designated to remain;
 - 2. Demolition and removal of pavement (e.g., asphalt concrete, Portland cement concrete), utility piping, shoring, and other minor structures as required to facilitate the Work and as approved by the ENGINEER.
 - 3. Abandonment of existing floor drains inside the Site building (i.e., Carriage Cleaners, 2101 Monroe Avenue). Existing floor drains shown on the Drawings are shown diagrammatically and it is not to be inferred that the locations shown are precise or that all existing floor drains are depicted.
 - 4. Demolition work performed for the convenience of the CONTRACTOR will not be considered for payment.
- B. Sampling, analysis, characterization, transportation, and disposal of demolished materials is included in and shall be in accordance with Section 02110 – Waste Removal and Handling and Section 02120 – Off-Site Transportation and Disposal.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01110: Summary of Work.
- B. Section 01330: Submittal Procedures.
- C. Section 02110: Waste Removal and Handling.
- D. Section 02120: Off-Site Transportation and Disposal.
- E. Section 02300: Earthwork.
- F. Section 02370: Erosion and Sedimentation Control.
- G. Section 03050: Cellular Concrete Fill

1.03 SUBMITTALS

- A. Laboratory Reports: Provide laboratory reports of analytical testing performed as required by the waste characterization program.

PART 2 - PRODUCTS

Not Applicable.

PART 3 - EXECUTION

3.01 PROTECTION

A. General:

1. Conduct operations to prevent injury to persons.
2. Ensure safe passage of workers/persons around area of demolition.

B. Streets, Roads, Adjacent Property, Existing Facilities/Structures, and Other Works to Remain:

1. Protect throughout the work by temporary fences/barricades and exercise special care to avoid unnecessary damage.
2. Demolition operations shall be conducted such that existing facilities or structures indicated to remain are not damaged. Existing features or structures that are indicated or made known prior to the start of demolition operations shall be repaired in the event of any damage during such operations.
3. Keep public streets and private roadways accessible to emergency vehicles, patrols, and construction vehicles at all times. Provide street/road cleaning as necessary to prevent hazards.

C. Utility Lines:

1. Protect existing utility lines that are indicated to remain from damage.
2. When utility lines to be removed or relocated are encountered, the CONTRACTOR shall notify the associated utility company in ample time to minimize impact to schedule and interruption of the service.
3. The CONTRACTOR shall notify the ENGINEER and/or Owner immediately of damage to or an encounter with an unknown existing utility line.
4. The CONTRACTOR shall be responsible for the repairs of damage to existing utility lines that are indicated or made known to the CONTRACTOR prior to start of demolition.

3.02 DEMOLITION

A. General:

1. Structures to be demolished or removed shall be discontinued in use prior to start of work.
2. The use of explosives will not be permitted.
3. Concrete demolition debris shall be reduced to manageable sections by hydraulic shear or other means. Debris pieces shall be crushed to reduce the pieces to a maximum of 2 feet in size in any dimension prior to removal from Site.
4. Demolished pavement may be characterized as non-hazardous.
5. Dispose of other types of demolition debris that may be encountered during the work, including utility piping and shoring, shall be disposed of in accordance with the requirements for the adjacent soils.

B. Pollution Controls:

1. Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level.
2. Comply with governing regulations and environmental protection.
3. Do not use water when it may create hazardous or objectionable conditions such as runoff, ice, flooding, and pollution.

- C. Utility Piping:
1. Where indicated on the Construction Drawings or approved by the ENGINEER, the CONTRACTOR shall remove existing piping and/or utilities as required to perform the work.
 - a. Do not interrupt existing utilities serving occupied or used facilities without at least 5 days prior notification to the DEPARTMENT and property owner. Include a schedule for removal and replacement of affected utilities including the time frame required to complete the work. Provide alternate utilities during periods of existing utility service interruption.
 - b. Pipe shall be completely removed and cut and/or broken/crushed to an appropriate size for handling, temporary on-site storage, transportation, and disposal.

3.03 SAMPLING, ANALYSIS, AND CHARACTERIZATION

- A. Demolition debris, with the exception of pavement (e.g., asphalt concrete, Portland cement concrete), shall be handled as contaminated solid waste.
- B. Sampling, analysis, and disposal shall be in accordance with 02110 – Waste Removal and Handling.

3.04 TRANSPORTATION AND DISPOSAL

- A. Transportation disposal shall be in accordance with Section 02120 – Off-Site Transportation and Disposal.

3.05 FLOOR DRAIN ABANDONMENT

- A. Abandon floor drains as required by the utility owner or as specified in this sub-part if the utility owner has no requirements.
 1. The CONTRACTOR shall abandon existing floor drains in place, as approved by the ENGINEER/DEPARTMENT.
 2. Plug floor drains with cellular concrete fill (refer to Section 03050). Extend plug a minimum of 24 inches into the pipe.
 3. Finish cellular concrete fill to provide a smooth and even final floor condition.

END OF SECTION

SECTION 02240

DEWATERING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. As necessary furnish, operate, and maintain dewatering measures and/or equipment for the control, collection, and disposal of ground and surface water entering trenches, excavations, and proposed fill areas. Disposal of construction generated water may be by treatment and disposal to the sanitary sewer with required permit approval or transportation and proper offsite disposal.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 02300: Earthwork
- C. Section 02370: Erosion and Sedimentation Control

1.03 SUBMITTALS

- A. Prior to excavation in areas where dewatering may be required, submit the dewatering and discharge and/or disposal methods which are to be utilized to the ENGINEER/DEPARTMENT for review.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Provide, operate, and maintain a dewatering system to remove all water from excavations and trenches using pumps, drains, well points, piping, and any other facilities necessary to keep the excavations and trenches free of water, as required by these Specifications or by the ENGINEER/DEPARTMENT. Have spare units available for immediate use in the event of equipment breakdowns.

PART 3 - EXECUTION

3.01 PERFORMANCE

- A. General:
 - 1. Keep excavations and trenches dry to allow backfill of soil to be conducted in the dry and until the structures, pipes, and appurtenances to be built therein have been completed to such an extent that they will not be damaged.
 - 2. Perform dewatering work when necessary at no additional cost to the DEPARTMENT.
 - 3. Segregate and contain in separate fractional tanks/containers, groundwater or surface water collected from dewatering operations that has been in contact with contaminated soil or materials from water collected from non-contact (not impacted by contaminated soil or materials) dewatering operations.

B. Disposal of Water:

1. Sampling, Analysis, and Containment. All collected water shall be sampled and analyzed both prior to disposal, and if applicable, after treatment. Analysis for contaminated water to be taken to an off-site treatment facility shall conform to the requirements of the treatment facility with documentation of all analyses performed furnished to the ENGINEER/DEPARTMENT. Contaminated water shall be contained, stored onsite, and analyzed prior to being transported to the approved treatment, storage, and disposal facility. The CONTRACTOR shall dispose of all water (non-contaminated or contaminated) in accordance with applicable Federal, state, and municipal disposal regulations. The CONTRACTOR shall provide approved containers, vehicles, equipment, labor, signs, labels, placards, manifests and associated land disposal notices and notifications, necessary for accomplishment of the Work.
2. Treatment. On-site treatment of contaminated water shall require approval by the ENGINEER/DEPARTMENT. If contaminated water is to be treated onsite, the proposed treatment shall be specified in the Work Plan and submitted for approval. The DEPARTMENT will obtain required permits and approvals from the local sewer authority for the final remedy. If allowed under the permit, the CONTRACTOR may discharge treated dewatering water into the sanitary sewer system. The permit and disposal agreement with the local sewer authority or local POTW shall be applicable for the duration of the work. Temporary storage and treatment equipment shall be installed at a location approved by the ENGINEER/DEPARTMENT. Treated effluent shall be sampled and analyzed and the results approved by the ENGINEER/DEPARTMENT before discharge. CONTRACTOR shall be responsible for complying with the sanitary sewer discharge permit.

C. Damage:

1. All damage resulting from the dewatering operations or the failure of the CONTRACTOR to maintain the Work in a suitable dry condition shall be repaired by the CONTRACTOR, at no additional cost to the DEPARTMENT.
2. Take all necessary precautions to protect new work from flooding during storms or from other causes.
3. Thoroughly brace or otherwise protect all pipelines and structures which are not stable, against floatation, when necessary.

D. Diversion Berms:

1. Design, construct, maintain, relocate as required, and remove diversion berms where necessary for diverting runoff away from open excavations and trenches to minimize the generation of liquid wastes
2. Design and construct diversion berms to withstand all imposed loads to prevent injury to adjacent structures or property.

E. Temporary Under Drains:

1. When necessary, lay temporary under drains in the excavation.
2. Excavate trenches to suitable dimensions to provide space for the under drains and surrounding gravel.
3. Install under drains a distance of at least 3 inches below the bottom of the pipe or structure and the top of the bells of the under drain pipes.
4. Under drain pipe shall be concrete, HDPE, or PVC pipe of standard thickness with open joints wrapped in geotextile fabric to prevent the admission of sand

- and other soil. Sewer pipe of the quality known as "seconds" will be acceptable.
5. Entirely surround the under drain and fill the space between the under drain and the pipe or structure with crushed stone.
 6. Compact the crushed stone, if necessary, and leave the surface suitable for laying the pipe or building the structure.

3.02 DEWATERING THE CONSTRUCTION SITE

- A. Dewater excavations or trenches, and other parts of the construction site and keep free of standing water or excessively muddy conditions as needed for proper execution of the construction Work.
- B. Furnish, install, operate, and maintain all drains, sumps, pumps, and other equipment needed to perform the dewatering as specified.
- C. Dewatering methods that cause a loss of fines adjacent to foundation areas will not be permitted.
- D. Discharge of water pumped from excavations shall be limited to appropriate on-site storage containers. Discharge to other storm drain systems, sewer systems, or over land is not allowed without appropriate permits.

3.03 REMOVAL OF TEMPORARY WORKS

- A. After the temporary works have served their purposes, remove them or level and grade them to the extent required to present a sightly appearance and to prevent obstruction of the flow of water or other interference with the operation of or access to the permanent works.
- B. Except as otherwise specified, remove any temporary under drain pipes.

END OF SECTION

SECTION 02250

SHORING (SHEETING AND BRACING)

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install an engineered shoring system where called for on the Drawings, where directed by the ENGINEER for protection of structures, and where required to meet safety requirements of the U.S. Department of Labor's Construction Safety Act designated as Title 29-LABOR-Part 1926 Safety and Health Regulations for Construction, Subpart P, Sections 926.650 through 653.
- B. Excavations in areas where excavation sidewalls can not be sloped properly to meet safety requirements must be supported by an engineered shoring system (sheeting, shoring, bracing, or other methods).
- C. The planning, design, and monitoring of engineered shoring systems shall be submitted and stamped by a structural/geotechnical ENGINEER registered in the State of New York.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 02300: Earthwork
- C. Section 02370: Erosion and Sedimentation Control

1.03 QUALITY ASSURANCE

- A. The consequences of an excavation failure, the location/configuration/depth of the excavation, and the desire to limit the disturbance associated with the excavation necessitates the use of an engineered shoring system to safely support excavations during excavation and backfilling.
- B. Where an engineered shoring system is required to meet safety requirements, is called for on the Construction Drawings, and/or is required by the ENGINEER/DEPARTMENT due to changed or unforeseen conditions, the CONTRACTOR shall have a registered professional ENGINEER design an engineered shoring system that will safely support the excavation and all adjacent structures/buildings during excavating and backfilling activities. In addition to the design of lateral support, the following points must be addressed in the design(s):
 - 1. Stability of the excavation against blow-in or bottom heave;
 - 2. Protection of adjacent structure(s) from settlement; and/or
 - 3. Desire to minimize internal bracing to the extent practical in order to facilitate access to perform the work required within the excavation.

1.04 MONITORING

- A. Perform continuous vibration monitoring during installation of the shoring system and subsequent excavation and compaction of fill.
- B. Install at least one monitoring device along the northeast wall of the main Site building (Carriage Cleaners, 2101 Monroe Avenue) and at least one monitoring device along the northwest wall of the main Site building in the vicinity of the excavation. Also, install at least

one monitoring device on the north corners of the Site residence (2111 Monroe Avenue) and adjacent residence (30 Brooklawn Drive). Alternate installation locations may be selected based on the recommendation of the shoring design ENGINEER.

- C. Vibration monitoring device shall have the capacity to provide continuous data recording during construction.

1.05 SUBMITTALS

- A. Submit an engineered shoring system design plan, sealed by a registered New York Professional ENGINEER, to the ENGINEER for informational purposes at least 14 business days prior to beginning excavation work.
- B. Vibration monitoring readings for the duration of the Work.

1.06 SITE INFORMATION

- A. Drawings acquired from the Town of Brighton are provided for review as part of the Limited Site Data Document. These drawings provide information regarding building construction, including but not limited to, foundation depth, footing size, foundation geometry, and utility services. Site information provided on these drawings is not intended to represent a current or accurate depiction of Site conditions. It is expressly understood that neither the DEPARTMENT nor the ENGINEER will be responsible for interpretations or conclusions drawn from there by the CONTRACTOR. The drawings are made available for the convenience of and information for the CONTRACTOR. Additional test borings and other exploratory activities may be made by the CONTRACTOR at no cost to DEPARTMENT.
- B. Subsurface soil boring information is also included in the Limited Site Data document. However, variations may exist in the subsurface conditions between boring locations. Data provided on subsurface conditions are not intended as representations or warranties of accuracy or continuity between soil borings. It is expressly understood that neither the DEPARTMENT nor the ENGINEER will be responsible for interpretations or conclusions drawn from there by CONTRACTOR. Data are made available for the convenience and information of the CONTRACTOR. Additional test borings and other exploratory operations may be made by CONTRACTOR at no cost to DEPARTMENT.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Trench Box, as necessary, best adapted to design requirements.
- B. Steel Sheet piling: Interlocking type with section best adapted to design requirements.
- C. Bracing/Walers, as necessary, best adapted to design requirements.
- D. Anchors, as necessary, best adapted to design requirements.

PART 3 - EXECUTION

3.01 INVESTIGATION/DATA COLLECTION

- A. Test pitting:
 - 1. Test pit, as deemed necessary, to gather information/data required to perform the shoring system design.
- B. Soil Sample and Testing:

1. Perform in situ testing to identify soil properties, as required to perform the sheeting and shoring design.
2. Collect soil samples and perform laboratory analysis to evaluate the soil properties, as required, to perform the sheeting and shoring system design.

3.02 INSTALLATION

A. Sheeting and Shoring:

1. Install shoring and/or sheeting and bracing in accordance with accepted practices and in compliance with State and Federal safety requirements.
2. Furnish skilled and experienced workmen with adequate equipment to produce a safe structure.
3. Provide shoring and/or sheeting prior to excavation below foundations.
4. Fill voids outside the driven sheeting and compact, as necessary, to hold trench sides in place.

B. Withdrawal of Sheeting/Shoring:

1. Remove as the work progresses in a manner to prevent loosening and caving of the sides of the excavation and to prevent damage to finished work or adjacent structures and property.
2. Fill all voids as soon as sheeting is withdrawn.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section covers excavation/trenching, filling/backfilling, compaction, and grading. The work includes:
1. Excavation of contaminated soils and uncontaminated cover soils.
 2. Subgrade preparations associated with installation of pavement (e.g., asphalt concrete, Portland cement concrete).
 3. Excavation, trenching, backfill, and compaction for contaminated soil removal, sewer piping, and SVE/GWT piping.
 4. Placement and compaction of the following materials:
 - a. Common Borrow;
 - b. Crushed Stone; and
 - c. Subbase Course
 5. Finish grading of all disturbed areas;
 6. Laboratory testing of borrow source and existing (in-place) materials;
 7. Other miscellaneous earthwork activities.
- B. Control of surface water run-off during construction shall be in accordance with Section 02370 - Erosion and Sedimentation Control.

1.02 RELATED WORK SPECIFIED ELSEWHERE

Section 01330: Submittal Procedures
Section 01510: Temporary Sewer Bypass
Section 01560: Dust and Odor Control
Section 02105: Chemical Sampling and Analysis
Section 02110: Waste Removal and Handling
Section 02120: Off-Site Transportation and Disposal
Section 02539: Sewer Pipe
Section 02240: Dewatering
Section 02250: Shoring (Sheeting and Bracing)
Section 02370: Erosion and Sedimentation Control
Section 02740: Hot Mix Asphalt
Section 03300: Cast-in-Place Concrete

1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM):
1. ASTM C 33 Standard Specification for Concrete Aggregates;
 2. ASTM C 88 Standard Test for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate;
 3. ASTM C 127 Test Method for Specific Gravity and Absorption of Coarse Aggregate;

4. ASTM C 131 Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine;
 5. ASTM C 136 Sieve Analysis of Fine and Coarse Aggregates;
 6. ASTM D 422 Standard Test Method for Particle-Size Analysis of Soils;
 7. ASTM D 535 Test Method for Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine;
 8. ASTM D 698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³);
 9. ASTM D 854 Test Method for Specific Gravity of Soils;
 10. ASTM D 1140 Amount of Material in Soils Finer than the No. 200 (75-micrometer) Sieve;
 11. ASTM D 1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³);
 12. ASTM D 2216 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass;
 13. ASTM D 2487 Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System);
 14. ASTM D 2974 Standard Test Method for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils;
 15. ASTM D 3017 Standard Test Method for Water Content of Soil and Rock by Nuclear Methods (Shallow Depth);
 16. ASTM D 3740 Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction;
 17. ASTM D 4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils;
 18. ASTM D 4972 Standard Test Method for pH of Soils;
 19. ASTM D 5101 Standard Test Method for Measuring the Soil-Geotextile System Clogging Potential by the Gradient Ratio;
 20. ASTM D 6938 Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
- B. New York State DEPARTMENT of Transportation (NYSDOT) SS - (2006) Standard Specifications
 - C. Geoprobe soil data in Appendix A
 - D. DER-10/Technical Guidance for Site Investigation and Remediation (New York State DEPARTMENT of Environmental Conservation, DEC Program Policy, issued May 3, 2010)
 - E. New York Codes, Rules, and Regulations (NYCRR): 6 NYCRR Part 375
 - F. Other applicable Federal, State, or local regulations

1.04 SUBMITTALS

Submit to the ENGINEER/DEPARTMENT for approval the following in accordance with Section 01330 - Submittal Procedures:

- A. Borrow Source(s):

The CONTRACTOR shall provide the proposed source(s) for borrow material prior to initiation of work. Soil shall be sampled and analyzed for the full Target Compound List (TCL) in accordance with DER-10. The laboratory chosen shall be New York State Environmental Laboratory Approval Program (NYS ELAP) certified following current Analytical Services Protocols (ASPs). Available/previous laboratory testing data may be provided for consideration.
- B. **CONTRACTOR's Quality Control Testing Laboratory:**

The name and qualifications of an independent third-party commercial testing laboratory to be used for borrow source and in-place soil/construction materials testing shall be submitted as soon as possible, but no later than 7 days following notice to proceed.
- C. Submit in writing a description of the equipment and methods proposed to be used for compaction.
- D. Test Reports:

Submit 2 copies of the following reports from the testing laboratory to the ENGINEER and the DEPARTMENT, with copy to the CONTRACTOR:

 - 1. All test reports for borrow source materials. The testing includes geotechnical properties and environmental sampling as specified in Sub-Part 2.05.
 - 2. At least one moisture density curve for each type of borrow source material and native soil to be utilized.
 - 3. Field in-place density (compaction) test reports. The test reports shall include the test methods used, results, a narrative of tests conducted, locations, elevations, material tested, equipment used, the name of the technician conducting the tests, and a signed certification from the laboratory.
- E. Potassium Permanganate
 - 1. Manufacturer's data including analysis of inorganic impurities.
 - 2. Manufacturer's Safety Data Sheet

1.05 JOB CONDITIONS:

- A. Site Information:
 - 1. Subsurface soil boring information is included in the Limited Site Data document. However, variations may exist in the subsurface conditions between boring locations. Data provided on subsurface conditions are not intended as representations or warranties of accuracy or continuity between soil borings. It is expressly understood that neither the DEPARTMENT nor the ENGINEER will be responsible for interpretations or conclusions drawn from there by CONTRACTOR. Data are made available for the convenience and information of the CONTRACTOR. Additional test borings and other exploratory operations may be made by CONTRACTOR at no cost to DEPARTMENT.

2. Drawings acquired from the Town of Brighton are provided for review as part of the Limited Site Data Document. These drawings provide information regarding building construction, including but not limited to, foundation depth, footing size, foundation geometry, and utility services. Site information provided on these drawings is not intended to represent a current or accurate depiction of Site conditions. It is expressly understood that neither the DEPARTMENT nor the ENGINEER will be responsible for interpretations or conclusions drawn from there by the CONTRACTOR. The drawings are made available for the convenience of and information for the CONTRACTOR. Additional test borings and other exploratory activities may be made by the CONTRACTOR at no cost to DEPARTMENT.
- B. Existing Utilities:
 1. The CONTRACTOR shall locate existing underground utilities in the areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
 2. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult the Utility Owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. The CONTRACTOR shall repair damaged utilities to satisfaction of the Utility Owner.
 3. Do not interrupt existing utilities serving facilities occupied and used by Owner or others, except when permitted in writing by ENGINEER/DEPARTMENT and then only after acceptable temporary utility services have been provided.
 4. See Section 00330 – Existing Conditions for additional information.
- C. Use of Explosives:
 1. Use of explosives shall not be allowed.
- D. Protection of Persons and Property:
 1. Barricade and mark open excavations occurring as part of this work in accordance with applicable standards.
 2. Protect structures, utilities, sidewalks, pavements, and other facilities designated to remain from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations and truck traffic.

1.06 DEFINITIONS

- A. Contaminated Soil/Material:
 1. Contaminated soils/materials include but are not limited to materials that contain VOCs as noted by visual observation and/or testing.
 2. The extent of contamination to be removed was determined by a Remedial Investigation/Feasibility Study and pre-design site investigation. The limit of excavation shown on the Drawings is based on that information.
- B. Unsatisfactory Soil/Material:

Unsatisfactory soils/materials include but are not limited to peat and/or highly organic soils (classified as OL, OH, or PT by ASTM D 2487), stumps/brush, trash,

refuse, debris, frozen soils, soils containing materials greater than the allowable size (see below), saturated soils, fine-grained soils above their liquid limit at the time of compaction, and soils which when left in place are either too wet or too dry to compact, as determined by the ENGINEER/DEPARTMENT.

C. Satisfactory Soil/Material:

Satisfactory soils/materials shall meet the requirements specified in Part 2 of this Section and shall be used in areas as shown on the Drawings or as directed by the ENGINEER/DEPARTMENT. In addition, satisfactory soils/materials shall satisfy the following conditions:

1. Satisfactory soils/materials shall be free of all Unsatisfactory Soil/Material conditions listed above;
2. Satisfactory soils from on-site sources shall be free of material greater than 6 inches any direction, unless otherwise specified or approved by the ENGINEER/DEPARTMENT. Furthermore, the maximum particle size shall not exceed $\frac{1}{2}$ of the specified maximum lift thickness and contain a maximum of 50% (by weight) passing the 200 sieve, unless otherwise specified; and
3. Satisfactory soils from off-site borrow sources shall be free of materials greater than 6 inches in any direction, unless otherwise specified or approved by the ENGINEER/DEPARTMENT. Furthermore, the maximum particle size shall not exceed $\frac{1}{2}$ of the specified maximum lift thickness and contain a maximum of 50% (by weight) passing the 200 sieve, unless otherwise specified.
4. Environmental sampling will be conducted on all soil materials provided as backfill to show conformance to NYSDEC Unrestricted Use Soil Cleanup Objective prior to acceptance and delivery of soil materials to the site. Soils will be tested for the full Target Compound List (TCL), including TCL volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), TCL pesticides/polychlorinated biphenyls (PCBs), Target Analyte List (TAL) metals, mercury, and cyanide as described Sub-Part 2.05.

D. Cohesionless and Cohesive Soils:

Cohesionless soils include gravels, sand-gravel mixtures, sands, and gravelly-sands, classified as GW, GP, SW, or SP by the Unified Soil Classification System (ASTM D 2487). Cohesive soils include clayey gravels, sand-clay mixtures, clayey sands, clays, and silts, classified as GC, SC, CL, CH, ML, or MH by the Unified Soil Classification System (ASTM D 2487). Soils classified as GM and SM will be identified as cohesionless only when the “fines” are determined to be non-plastic. Testing required for the classification of soil shall be in accordance with ASTM D 4318, ASTM C 136, ASTM D 422, and ASTM D 1140.

E. Degree of Compaction:

Degree of compaction (percent compaction) required is expressed as a percentage of the maximum dry density, at the optimum moisture content. The maximum dry density and optimum moisture content shall be obtained by the test procedure presented in ASTM D 698 as specified.

F. Excavation Limit:

The defined horizontal and vertical limit as defined by a line shown on Drawing C-

1.07 QUALITY ASSURANCE:

- A. Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.
- B. The DEPARTMENT and the ENGINEER reserve the right to inspect proposed sources of off-site granular material and to order such tests of the materials deemed necessary to ascertain its quality and graduation of particle size. The CONTRACTOR shall, at his own expense, engage an approved testing laboratory to perform such tests, and submit certified test results to the ENGINEER. If similar tests of the material from a particular source were performed previously, submit results of these tests to the ENGINEER for consideration.
- C. No materials shall be used on this project for fill, backfill, subbase, or other purpose until approval is obtained from the ENGINEER. Only material from approved sources shall be used.
- D. Imported material shall be sampled and analyzed for the full Target Compound List (TCL) in accordance with DER-10 and following EPA SW 846 methods. Analytical results shall be provided to the ENGINEER prior to delivery. Sampling frequency shall be in accordance with DER-10. Material shall comply with 6NYCRR Part 375-6.8 (a). Material not in compliance with 6NYCRR Part 375-6.8 (a) will not be approved by the ENGINEER.
- E. The CONTRACTOR shall provide in place moisture-density testing for compaction of material to verify the quality of the work.
- F. The CONTRACTOR shall adopt compaction methods which will produce the degree of compaction specified herein, prevent subsequent settlement, and provide adequate support for the structures and piping to be placed thereon, or therein, without damage to the new or existing facilities.

1.08 RE-USE (OR DISPOSAL) OF EXCAVATED MATERIALS

- A. Contaminated Soil/Material:
 - 1. All Contaminated soils/materials obtained from on-site excavations shall be characterized for off-site transportation and disposal in accordance with Section 02120, "Off-Site Transportation and Disposal".
 - 2. No material within the limit of the excavation may be re-used on site for backfill unless sampling indicates that the material meets the cleanup criteria. For this Carriage Cleaners project, excavated soil above the encountered water table may be re-used for backfill provided it otherwise meets the requirements in Part 3.09 of this specification.

PART 2 - PRODUCTS

2.01 GENERAL

- A. The intent of the excavation and backfill activities is to reuse as much excavated

soil as possible for backfill. The ENGINEER will determine acceptability of the excavated material for backfill. Only if there is insufficient soil from on-site excavation will the CONTRACTOR be required to bring in material from off-site sources.

- B. Additional off-site material required for fill or backfill of excavations shall be natural material, from off-site sources, free from trash, debris, deleterious materials, snow, or ice.

2.02 Common Borrow

- A. Common Borrow shall be used, as necessary, to achieve the subgrade elevations indicated on the Drawings. Common Borrow shall consist of earth, suitable for embankment construction. It shall be free from frozen materials, perishable rubbish, peat, and other Unsatisfactory Soil/Material. It shall be of such a nature and character that it can be compacted to the specified density (Sub-Part 3.10).
- B. The moisture content shall be sufficient to provide the required compaction and a stable embankment. In no case shall the moisture content exceed 4% above optimum, which shall be determined in accordance with ASTM D 698.
- C. Materials obtained from on-site excavations and/or re-grading may be re-used on site as Common Borrow, subject to the following criteria and/or limitations:
 - 1. Contaminated Soil/Material: May not be used as Common Borrow.
 - 2. Satisfactory Soil/Material: All Common Borrow shall meet the requirements of Satisfactory Soils/Materials in accordance with Part 1.06 of this Section.
- D. Common Borrow shall not be imported to the Site or transported off the Site without specific written authorization from the ENGINEER/DEPARTMENT.
 - 1. During the work, the CONTRACTOR shall notify the ENGINEER/DEPARTMENT of a potential shortage (or excess) of on-site Common Borrow materials necessary to achieve the subgrade elevations required to complete the work.

2.03 CRUSHED STONE

- A. ¾" Crushed Stone shall be used as bedding for utility pipe installations and the infiltration piping. Crushed stone shall consist of material meeting the requirements of NYSDOT SS Type1.
- B. 3/8" Crushed Stone shall be used as bedding for utility pipe installations. 3/8" crushed stone shall consist of material meeting the requirements of NYSDOT SS Type1A.

2.04 SUBBASE COURSE

- A. Subbase Course shall be provided beneath hot-mix asphalt paved parking areas and Portland cement sidewalks as shown on the Construction Drawings.
- B. Subbase Course shall meet the requirements of NYSDOT SS Type 2 aggregate.

2.05 BORROW SOURCE TESTING

Borrow source testing, including geotechnical characterization requirements, shall be conducted on all soil materials proposed for construction. Third-party geotechnical

laboratory testing requirements and frequency for materials shall be as listed below.

A.	¾" Crushed Stone:		
	<u>Test</u> ⁴	<u>Methodology</u> ¹	<u>Frequency</u> ²
	Sieve Analysis	ASTM C 136	1 test/source/material
B.	3/8" Crushed Stone:		
	<u>Test</u> ⁴	<u>Methodology</u> ¹	<u>Frequency</u> ²
	Sieve Analysis	ASTM C 136	1 test/source/material
C.	Subbase Course:		
	<u>Test</u> ⁴	<u>Methodology</u> ¹	<u>Frequency</u> ²
	Particle-Size Analysis	ASTM D 422	1 test/source/material
	(to #200 Sieve)		
	Standard Proctor	ASTM D 698	1 test/source/material
D.	Common Borrow:		
	<u>Test</u>	<u>Methodology</u> ¹	<u>Frequency</u> ²
	Particle-Size Analysis	ASTM D 422	1 test/source/material
	(to #200 Sieve)		
	Standard Proctor	ASTM D 698	1 test/source/material
	TCL VOCs	8260B	1 test/source/material ³
	TCL SVOCs	8270C	1 test/source/material ³
	TCL Pesticides/PCBs	8081/8082	1 test/source/material ³
	TAL Metals	6010B	1 test/source/material ³
	Mercury	7471B	1 test/source/material ³
	Cyanide	9010 or equivalent	1 test/source/material ³

Notes:

1. Other testing methods may be considered acceptable, based on prior approval of the ENGINEER/DEPARTMENT.
2. Testing frequency shall be as listed, at any change in borrow source, or at any discernable change in material delivered to the site (as determined by the ENGINEER/DEPARTMENT).
3. Sampling frequency shall be in accordance with DER-10 Table 5.4(e)(10). The frequency provided in Sub-Part 2.05(D) above is based on an imported soil quantity of 0-50 cubic yards. Per DER-10, discrete samples must be collected for VOCs and composite samples must be collected for SVOCs, pesticides/PCBs, and inorganics.
4. Sieve analysis required for No. 80 sieve. Consistent with DER-10 Paragraph 5.4(e)(5), material other than common borrow imported for use as backfill requires chemical testing (i.e., full TCL) if it contains more than 10% by weight passing through a size 80 sieve. If chemical testing is required, chemical testing shall be as specified in Sub-Part 2.05(D).

PART 3 - EXECUTION

3.01 INSPECTION

- A. Examine the areas and conditions under which excavating, filling, and grading are to be performed and notify the ENGINEER/DEPARTMENT, 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 in an acceptable manner.

3.02 EXCAVATION

- A. General:
Excavation consists of removal and disposal of material encountered when conducting the soil remediation activities. Construction, excavation and backfill shall be performed in a manner and sequence that will provide proper drainage at all times.
- B. Excavation of Contaminated Soil:
 - 1. During excavation, segregate and stockpile separately soil expected to be contaminated (i.e., soil below the encountered water table) from soil expected to be uncontaminated (i.e., soil above the encountered water table).
 - 2. When excavating adjacent to footings and foundations, provide shoring and/or sheeting and take care not to disturb footings or foundations and supporting soil.
- C. Excavation for Pavements:
 - 1. Conform to subgrade elevations and dimensions shown, within a vertical tolerance of one (1) inch.
- D. Excavation for Trenches:
 - 1. Conform to elevations and dimensions within a vertical tolerance of one (1) inch. Excavate to the uniform width shown or required for the particular item to be installed. Provide adequate working space for compactive equipment.
 - 2. Excavate trenches to the depth indicated or required. Carry the depth of trenches for piping to establish the indicated flow lines and invert elevations and provide suitable bedding.
 - 3. Do not backfill trenches until authorized by the ENGINEER/DEPARTMENT. Use care in backfilling to avoid damage or displacement of piping and associated drainage structures, and geosynthetics.
- E. Site Excavation:
 - 1. Conform to horizontal limits shown on Drawings with vertical excavation of contaminated soil to be conducted to bedrock.

3.03 STABILITY OF EXCAVATIONS

- A. Slope sides of excavations to comply with applicable codes and ordinances. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.
- B. Maintain sides and slopes of excavations in a safe condition until completion of backfilling, or longer if specified or directed by the ENGINEER/DEPARTMENT.
- C. Where excavation sidewalls cannot be sloped properly to meet safety

requirements, excavations must be supported by an engineered shoring system in accordance with Section 02250 - Shoring (Sheeting and Bracing).

3.04 SHORING AND BRACING

- A. Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.
- B. Establish requirements for excavation shoring and bracing to comply with codes and ordinances of authorities having jurisdiction.
- C. See Section 02250 - Shoring (Sheeting and Bracing) for additional information.

3.05 SOIL/MATERIAL HANDLING AND STORAGE:

- A. During daily excavation activities, locate and retain soil materials away from edge of excavations. All temporary/daily stockpiles shall be maintained a sufficient distance from the excavation to prevent loading of the slope and to provide for stability of the slope.
- B. The CONTRACTOR shall store/stockpile excavated materials within the limits of the Work Area as shown on the Drawings. Designated storage/stockpile areas shall be established for the following soils/materials, at a minimum:
 - 1. Contaminated Soil/Material excavated during execution of the Work. Contaminated soil shall be segregated and stockpiled separately from soil expected to be clean.
 - 2. Imported soils and aggregates as required.
- C. During excavation Contaminated Soil/Material shall be segregated from Non-Contaminated Soil/Material.
 - 1. Contaminated Soil/Material excavated from below the water table encountered within the Limit of Shoring shall be transported directly to a designated contaminated soil storage/stockpile area for characterization sampling and subsequent disposal or, alternately, directly loaded onto trucks for transport and disposal in accordance with Section 02110 – Waste Removal and Handling and Section 02120 – Off-Site Transportation and Disposal. Any amendments necessary to dewater the excavated material for transport and disposal is the responsibility of the CONTRACTOR.
 - 2. Non-Contaminated Soil/Material excavated from outside the Limit of Shoring and above the water table within the Limit of Shoring shall be segregated to a separate designated storage/stockpile area for subsequent reuse in completed excavations, or disposed in accordance with Section 02110 – Waste Removal and Handling.
- D. The CONTRACTOR shall place, grade, and shape stockpiles to provide for proper drainage. Furthermore, stockpiles shall incorporate appropriate erosion and sedimentation controls in accordance with Section 02370 - Erosion and Sedimentation Control, to prevent the off-site migration of soil and sediments.
- E. Storage of Contaminated Soils/Materials:
 - 1. Stockpiles of Contaminated Soil/Material shall be constructed to isolate contaminated material from the environment. The maximum stockpile size shall be 200 cubic yards. Stockpiles shall be constructed to include:

- a. A chemically resistant geomembrane liner. Non-reinforced geomembrane liners shall have a minimum thickness of 20 mils. Scrim reinforced geomembrane liners shall have a minimum weight of 40 lbs. per 1000 square feet. The ground surface on which the geomembrane is to be placed shall be free of rocks greater than 0.5 inches in diameter and any other object which could damage the membrane.
 - b. Geomembrane cover to prevent precipitation from entering the stockpile. Non-reinforced geomembrane covers shall have a minimum thickness of 10 mils. Scrim reinforced geomembrane covers shall have a minimum weight of 26 lbs. per 1000 square feet. The cover material shall be anchored to prevent it from being removed by wind.
 - c. Berms surrounding the stockpile, a minimum of 12 inches in height. Vehicle access points shall also be bermed.
 - d. Storage and removal of liquid which collects in the stockpile shall be in accordance with Part 3.05E.3, "Liquid Storage".
 - e. Inspection of the stockpile areas will be conducted on a weekly basis (at a minimum), or following a significant precipitation event and/or as requested by the ENGINEER/DEPARTMENT.
- 2. Roll-Off Units:
 - a. Water-tight roll-off units may be used to temporarily store Contaminated Soil/Material.
 - b. An impermeable cover shall be placed over the units to prevent precipitation from contacting the stored material.
 - c. The units shall be located in the staging/storage area, as shown on the Drawings or as directed by the ENGINEER/DEPARTMENT.
 - d. Liquid which collects inside the units shall be removed and stored in accordance with Sub-Part 3.05E.3, "Liquid Storage".
- 3. Liquid Storage
 - a. Liquid collected from excavations and stockpiles shall be temporarily stored in 55-gallon barrels.
 - b. Liquid storage containers shall be water-tight and shall be located in the staging/storage area, as shown on the Drawings or as directed by the ENGINEER/DEPARTMENT.
- F. Dispose of excess soil material and waste materials as specified herein and in accordance with Section 02120 – Off-Site Transportation and Disposal.

3.06 COLD WEATHER PROTECTION

- A. Protect excavation bottoms against freezing when atmospheric temperature is less than 35°F.

3.07 GRADING

- A. General:

The CONTRACTOR shall uniformly grade areas within the limits of work. Smooth finished surface within specified tolerances, compact with uniform levels

or slopes between points where elevations are shown, or between such points and existing grades.

- B. Finish surfaces to be free from irregular surface changes. For parking areas finish surface not more than one-half (1/2) inch above or below the required subgrade elevation.

3.08 SUBGRADE PREPARATION

- A. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Bench, plow, strip, scarify, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.

Subgrade Compaction:

- 1. Paved Areas (e.g., parking areas, sidewalk):
 - a. Compact exposed subgrade surfaces to at least 95% of maximum dry density.
 - b. Any loose, soft, wet, frozen, or otherwise unsuitable soils observed should either be re-compacted or undercut to a suitable subgrade, as determined by the ENGINEER/DEPARTMENT.
 - c. Any undercut/excavated material should be replaced/backfilled with granular Common Borrow. Fill materials should be placed and compacted as specified herein.

3.09 BACKFILL AND FILL

- A. General:

- 1. Place acceptable soil material of the type indicated on the Drawings in layers to required subgrade elevations. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice. Placement of backfill or fill shall not be allowed.
- 2. Verify that fill materials to be used are acceptable to that specified. Any crushed stone stockpiles which have undergone excessive particle segregation shall be removed prior to backfilling.
- 3. Verify that all subsurface installations for the project have been inspected and are ready for backfilling.
- 4. Generally, compact subgrade to density requirements for subsequent backfill materials. Cut out soft areas of subgrade not capable of in-situ compaction. Backfill with a material as specified in Part 205 (above) and compact to density equal to or greater than requirements for subsequent backfill material.
- 5. Backfill spaces shall be inspected prior to backfilling operations and all unsuitable materials, including sheeting, bracing forms and debris, shall be removed. Remove all water, snow, and ice and debris from surfaces to accept backfill material. No backfill shall be placed against foundation walls of structural members unless they are properly shored and braced or of sufficient strength to withstand lateral soil pressures.

6. Backfill material shall be inspected prior to placement and all roots, vegetation, organic matter, or other foreign debris shall be removed. Stones larger than 2 inches in any dimension shall be removed or broken. Stones shall not be allowed to form clusters with voids.
 7. Backfilling shall be started as soon as practicable as approved by the ENGINEER. Backfilling shall be carried on expeditiously thereafter. Backfill shall be started at the lowest section of the area to be backfilled. Natural drainage shall not be obstructed at any time.
 8. No backfill material shall be placed on frozen ground nor shall the material itself be frozen or contain frozen soil fragments when placed unless approved by the ENGINEER. No calcium chloride or other chemicals shall be added to prevent freezing. Material incorporated in the backfilling operation which is not in satisfactory condition shall be subject to rejection and removal at the CONTRACTOR's expense.
 9. Backfill material shall not be placed when moisture content is more than two percent above optimum or is otherwise too high to allow proper compaction. When material is too dry for adequate compaction, water shall be added to the extent necessary. Maintain within two percent of optimum moisture content of backfill materials to attain required compaction density.
 10. All areas shall be backfilled to required contours, grades, and elevations.
 11. Hydraulic compaction by ponding or jetting will not be permitted.
 12. Compaction using heavy equipment will not be permitted.
 13. Place and compact fill materials in continuous layers to meet appropriate requirements of Sub-Part 3.10.
 14. Employ a placement and compaction method consistent with Sub-Part 3.10 that does not disturb or damage adjacent walls, utilities, or underground conduits.
 15. Remove surplus backfill materials from site.
- B. Prior to backfilling the completed excavations, potassium permanganate shall be applied to the bedrock interface and excavation sidewalls as follows:
1. The chemical oxidant shall consist of granular potassium permanganate.
 2. The application rate of the potassium permanganate shall be approximately 5.5 pounds of permanganate per square foot of excavation surface (bottom).
 3. The permanganate shall be placed directly on the bottom of the completed excavation in dry granular form when winds are sufficiently low to prevent dust. Some water may be used to control dust or create a slurry form of the permanganate if winds are high.
 4. The CONTRACTOR shall take precautions when working with potassium

permanganate and shall follow the manufacturer's recommendations for personal protective equipment when handling. Handling of the permanganate shall be in accordance with the manufacturer's recommendations and shall be covered in the Contractors HASP and in accordance with Section 00003 – Minimum Requirements for Health and Safety.

5. All potassium permanganate shall be delivered to the site in the manufacturer's original, sealed packaging. Material shall be stored in a secure vandal proof area until application.
 6. Provide all materials, equipment, labor and incidentals necessary to completely and properly store, prepare, and apply the permanganate within the designated area.
- C. Backfill excavations as promptly as work permits, but not until completion of the following:
1. Acceptance by ENGINEER/DEPARTMENT of the organic substrate application.
 2. Acceptance by the ENGINEER/DEPARTMENT of all subsurface installations, including the installation of the reagent inject point and infiltration piping as shown on the Drawings.
 3. Inspection, testing, approval, and recording locations of underground utilities.
 4. Removal of trash and debris.
- D. Fill/Backfill Placement:
1. Place granular backfill and fill materials in layers not more than 12 inches in loose depth for material compacted by heavy compaction equipment (e.g., paved areas), unless otherwise specified.
 2. Place granular backfill and fill materials in layers not more than 6 inches in loose depth for material compacted by hand-operated tampers or hydraulic equipment (e.g., pipe trenches), unless otherwise specified.
- E. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content. Compact each layer to required percentage of maximum dry density (Subpart 3.10).
- F. Place backfill and fill materials evenly adjacent to structures, to required elevations. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around structure to approximately same elevation in each lift.

3.10 COMPACTION

- A. General:
- Control soil compaction during construction providing minimum percentage of density specified for each area classification.
- B. Preparation:
1. Brace walls and slabs of structures to support surcharge loads and construction loads imposed by compaction operations.
 2. Each layer of fill or backfill shall be compacted to the specified density the same day it is placed. The moisture content of backfill or fill material

- shall be adjusted, if necessary, to achieve the required degree of compaction.
3. Match compaction equipment and methods to the material and location being compacted in order to obtain the specified compaction, with consideration of the following guidelines:
 - a. Vibratory compaction is preferred for dry, granular materials.
 4. Hand compaction equipment such as impact rammers, plate or small drum vibrators, or pneumatic buttonhead compactors should be used in confined areas.
 5. Hydraulic compaction by pounding or jetting will not be permitted except in unusual conditions, and then only upon written approval by the ENGINEER and after a demonstration of effectiveness.
 6. Backhoe mounted hydraulic or vibratory tampers are preferred for compaction of backfill in trenches over 4 feet in depth. The upper 4 feet shall be compacted as detailed above or with hand-guided or self propelled vibratory compactors or static rollers.
- C. Compaction Requirements:
Compact soil to not less than the percentages of maximum dry density (determined in accordance with ASTM D 698) and at the frequency of testing specified in in Table 02300-1.
- D. The CONTRACTOR shall dig test holes and provide access to all backfill areas at no additional compensation when requested by the ENGINEER if an area has been covered without approval or is suspected of not meeting the specifications.
- E. For each test which does not meet the specifications, the CONTRACTOR shall pay for the cost of the test and shall replace all material included in that lift or sector with acceptable material and compact to specification, at no additional compensation.
- F. Nuclear moisture density testing by “probe” methods will be acceptable for compacted layers not exceeding 8 inches of thickness.
- G. Moisture Control:
1. Where subgrade or a layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, in proper quantities to prevent free water appearing on surface during or subsequent to compaction operations.
 2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
 3. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory level.
- H. Method:
1. At depths greater than five (5) feet below final grade elevation, static methods of compaction may be employed using equipment capable of producing a kneading action applied with pressure (i.e. the bucket of the excavator may be used). The maximum compacted lift depth shall be 1 foot.

2. At depths of five (5) feet or less below final grade elevation, vibratory methods of compaction shall be employed to achieve the measured percentages of maximum density as indicated in Subpart 3.10.B. The maximum compacted lift depth shall be 8 inches.
- I. Alternate Methods of Compaction - The CONTRACTOR may employ alternate methods of compaction if the desired degree of compaction can be successfully demonstrated to the ENGINEER'S satisfaction

TABLE 02300-1

MINIMUM COMPACTION REQUIREMENTS

Construction Element	Minimum Compaction Layer Thickness (inches)	Minimum Compaction	Frequency of Testing
Vegetated Areas	12	88	1 per 500 sf
Paved Areas	8	98	1 per 200 sf
Sidewalks	8	98	1 per 100 lf of sidewalk
Pipe Trench Bedding	6	92	1 per 100 lf of trench
Pipe Trench Backfill	12	92	1 per 100 lf of trench

3.11 SUBBASE COURSE IN PAVED AREAS

- A. General:
This work consists of placing Subbase Course, in layers of specified thickness, over subgrade surface to support pavements. See Section 02740 – Hot Mix Asphalt for asphalt concrete pavement restoration and Section 03300 – Cast-in-Place Concrete for concrete sidewalk restoration.
- B. Grade Control:
During construction maintain lines and grades, including crown and cross-slope of Subbase Course.
- C. Placing:
Place Subbase Course on prepared surfaces in layers of uniform thickness, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting material during placement operations.
- D. When a compacted Subbase Course material is shown to be 8" thick or less, place material in a single layer. When shown to be more than 8" thick, place material in equal layers, except no single layer more than 8" or less than 3" in thickness when compacted.

3.12 FIELD QUALITY CONTROL TESTING

- A. Quality Control Testing During Construction:

1. Testing shall be performed by a qualified, independent firm contracted and paid for in full by the CONTRACTOR.
 2. The CONTRACTOR shall be responsible for scheduling compaction testing.
 3. Allow testing service to examine and test subgrade surfaces and fill/backfill layers. Before further construction work is performed, test results meeting the requirements of Sub-Part 3.10B of this Section shall be obtained.
 4. Perform field density tests in accordance with ASTM D 6938 (nuclear method), or other ENGINEER/DEPARTMENT approved methods, as applicable.
 5. Only certified personnel will conduct nuclear testing.
 6. If in opinion of ENGINEER/DEPARTMENT, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, provide additional compaction and testing at no additional expense to the Owner.
- B. Tests and analysis of fill material will be performed in accordance with this section.
- C. If tests indicate the Work does not meet the specified requirements, the CONTRACTOR shall remove, replace and retest the work at his own expense.

3.13 PROTECTION

- A. Prior to terminating work for the day, the final layer of compacted fill shall be rolled with a smooth-drum roller if necessary to eliminate ridges of soil and depressions left by tractors or equipment used for compaction or installing the material.
- B. As backfill progresses, the surface shall be graded so as to drain during incidence of rain such that no ponding of water shall occur on the surface of the fill.
- C. The CONTRACTOR shall not place a layer of fill on snow, ice or frozen soil. Unsatisfactory materials shall be removed prior to fill placement.

3.14 MAINTENANCE

- A. Protection of Graded Areas:
Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- B. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.
- C. Reconditioning Compacted Areas:
Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

3.15 DISPOSAL OF EXCESS AND WASTE MATERIALS

- A. Remove waste materials, including excess and unacceptable excavated material, trash and debris, and properly dispose of it off-site in accordance with Section 02120 – Off-Site Transportation and Disposal.

END OF SECTION

SECTION 02370

EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Included: Provide and install all materials, equipment, and labor necessary for the removal of storm runoff/surface water and to place erosion and sedimentation control measures in accordance with the applicable erosion and sediment control regulatory requirements and standards, as shown on the Construction Drawings and specified herein. At the completion of the construction, provide all materials, equipment, and labor necessary for the removal, transport and disposal of temporary erosion and sediment control structures not specified to remain. Downgradient from disturbed areas, remove, transport, and dispose of sediment resulting from erosion control measures in a manner consistent with overall intent of this specification and which does not result in additional erosion.
- B. Provide and install all erosion and sediment control measures in accordance with the applicable erosion and sediment control regulatory requirements, standards and specifications and as required by field conditions during the execution of the Work. Conducting the Work in accordance with the control measures shown on the Construction Drawings does not relieve the CONTRACTOR of responsibility for completing the Work in a manner that minimizes erosion when field conditions occur that require additional or different measures.
- C. Temporary erosion and sediment control measures shall be installed as the first step in construction, shall be continuously maintained, and shall not be removed until permanent surface stabilization of all disturbed areas is to the ENGINEER's or DEPARTMENT's satisfaction.
- D. Permanent controls or surface stabilization shall commence within 5 days of completion of filling and grading activities.
- E. Not all erosion and sedimentation control measures described in this specification are shown or referenced on the Construction Drawings. Other measures as described and specified herein may be used to augment the proposed measures referenced on the Construction Drawings based on actual field conditions encountered.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01110: Summary of Work.
- B. Section 01330: Submittal Procedures.
- C. Section 02240: Dewatering.
- D. Section 02300: Earthwork.
- E. Section 02900: Topsoil and Seeding

1.03 REFERENCES AND GUIDELINES

- A. New York Guidelines for Urban Erosion and Sediment Control, April 1997 by the Urban Soil Erosion and Sediment Control Committee which includes the following contributors: New York State Soil & Water Conservation Committee; Agronomy DEPARTMENT, Cornell University; Agricultural Engineering DEPARTMENT, Cornell University; New York State DEPARTMENT of Environmental Conservation; New York State DEPARTMENT of Transportation; New York Chapter of Land Improvement Contractors

of America; O'Brien and Gere Engineers, Inc.; and USDA-Natural Resources Conservation Service (formerly the Soil Conservation Service).

- B. New York Standards and Specifications for Erosion and Sediment Control, August 2005 by the NYS Soil and Water Conservation Committee.
- C. Standards Specifications, State of New York DEPARTMENT of Transportation, May 4, 2006 by the New York State DEPARTMENT of Transportation (NYSDOT).

1.04 REVIEW AND/OR INSPECTION OF SEDIMENTATION CONTROL MEASURES

All construction under this project shall be subject to review and/or inspection by the appropriate local, State, and Federal agencies responsible for ensuring the adequacy of sedimentation control measures.

1.05 SUBMITTALS

- A. The CONTRACTOR shall submit to the ENGINEER the following information:
 - 1. Manufacturer's data for catchbasin inlet filters.
 - 2. Manufacturer's data on filter berm material.
 - 3. Manufacturer's data for silt fence.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Silt Fence:
 - 1. Fabric – Silt fence geotextile shall meet the following properties:

Fabric Properties	Minimum Value	Test Method
Grab Tensile Strength (lbs)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682
Mullen Burst Strength (psi)	190	ASTM D3786
Puncture Strength (lbs)	40	ASTM D751
Slurry Flow Rate (gal/min/sf)	0.3	---
Equivalent Opening Size	40-80	US Standard Sieve
Ultraviolet Stability (%)	90	ASTM G26

- 2. Fence Posts – The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a cross sectional area of 3.0 square inches. Steel posts will be standard “T” or “U” section weighing not less than 1.0 pounds per linear foot.
 - 3. Wire fence for reinforced silt fence (fabricated units) – Wire fencing shall be a minimum 14-1/2 gauge with a maximum 6 inch mesh opening.
 - 4. Prefabricated reinforced silt fence – Envirofence or approved equal may be used for reinforced silt fence in lieu of reinforced fence fabricated with wire fence.
- B. Mulch: For protection of newly seeded areas where erosion control blanket is not used.
 - 1. Straw or hay free from primary noxious weed seeds and rough or woody materials and having not more than 15% moisture content. Provide hay or straw meeting the requirements of subsection 713-18 and/or 713-19 in the NYSDOT Standard Specifications.
 - 2. Wood chips used for mulch or erosion control shall not exceed 3 inches in the greatest dimension and shall meet the requirements of subsection 713-05 in the NYSDOT Standard Specifications.

3. Wood fiber for use as mulch in conjunction with establishment of vegetation, shall meet the requirements of subsection 713-11 in the NYSDOT Standard Specifications.
- C. Hay Bales: Hay bales shall consist of rectangular-shaped bales of hay or straw weighing approximately 40 pounds per bale and shall be free from primary noxious weed seeds and rough or woody materials.
- D. Temporary Protective Sheeting: Temporary sheeting material shall consist of minimum 6-mil polyethylene sheeting or a suitable approved alternative and of sufficient size to minimize seams.
- E. Seed for Erosion Control:
 1. Temporary Control: Annual or perennial ryegrass or winter rye (cereal rye). Use winter rye if seeding in October or later.
- F. Filter Berm:
 1. Shall consist of shredded bark, stump grindings, composted bark, or acceptable manufactured products. Wood and bark chips, ground construction debris or reprocessed wood products will not be acceptable as the organic component of the mix.
 2. Erosion control mix shall contain a well-graded mixture of particle sizes and may contain rocks less than 4" in diameter. Erosion control mix must be free of refuse, physical contaminants, and material toxic to plant growth.
- G. Filter Sock
 1. The filter sock shall consist of a mesh tube (or sock) filled with a filter media consisting of wood waste compost/bark.
 2. The filter sock (inclusive of the mesh and filter media) shall be specifically designed for soil erosion and sedimentation control purposes.

PART 3 - EXECUTION

3.01 PERFORMANCE

- A. It is the CONTRACTOR's responsibility to implement and maintain erosion and sedimentation control measures which effectively prevent accelerated erosion and sedimentation.
- B. Earth moving activities shall be conducted in such a manner as to prevent accelerated erosion and sedimentation.
- C. Land disturbance shall be kept to a minimum. Stabilization activities shall be scheduled immediately after any disturbance.
- D. Diverting Surface Water:
 1. Build, maintain, and operate any temporary berms, ditches channels, flumes, sumps, and other temporary diversion and protection works needed to divert surface water through or around the work area and away from Work until surface stabilization has occurred.
 2. Storm runoff from disturbed areas must discharge through temporary erosion control measures shown on the Construction Drawings prior to discharge from the Site.
- E. Erosion Control Provisions (as necessary):
 1. Protect areas where existing banks are to be disturbed by constructing straw/hay bale or earth dikes at the top of slope to divert storm runoff from the disturbed area or at the toe of the slope to retain sediments, as conditions permit.

2. All discharge from any necessary pumping operations during dewatering operations shall be conveyed to an on-site storage tank. No pumped water shall be released as surface water or to the on-site stormdrain system. Refer to additional requirements in Section 02240 - Dewatering.
 3. Prior to removal of sediment barriers, remove retained silt or other materials at no additional cost to the Contract.
- F. Silt Fence: Install silt fence, if required, as a supplementary measure. The silt fence shall be installed on a level line (parallel to contours) to avoid concentrated flow areas along the fence. The area below the fence must be undisturbed or stabilized.
- G. Temporary Protective Sheeting: Soil stockpiles shall be protected with sheeting prior to forecasted significant rain events (0.5 inches or more) or as conditions require based on observed slope conditions. Overlap adjacent sheets by a minimum of 12 inches and securely anchor sheeting with sand bags and/or soil pegs, staples or stakes.
- H. Filter Berms: Sediment barriers constructed from berms of erosion control mix, compost/bark, or compost-filled filter socks maybe used at locations suitable for their use and as approved by the ENGINEER.
- I. Mulch: Conduct mulching immediately following seeding. For the mulching type used, apply mulch materials at the rate specified in Table 3.7 and anchor as specified in Table 3.8 in the New York Standards and Specifications for Erosion and Sediment Control.
- J. Seed for Erosion Control:
1. Temporary Seeding: Minimum application rate of ryegrass (annual or perennial) shall be 30 pounds per acre and minimum application rate for winter rye shall be 100 pounds per acre.

3.02 MAINTENANCE

- A. The CONTRACTOR shall be held responsible for the implementation and maintenance of all erosion control measures on the Site.
- B. Throughout construction and until the Site has been stabilized upon completion of the Work, all erosion and sediment control measures will require periodic inspection and maintenance to ensure that such measures are providing effective service. At a minimum, the following inspection and maintenance shall be required during execution of this project:
1. All erosion and sediment control will be inspected at least once a week and after all rain events. Conduct required repairs to installed measures immediately to ensure continued effective operation.
 2. Remove sediment that has accumulated in the filter bag of the catchbasin inlet filters when it has reached the capacity limit recommended by the manufacturer.
 3. Remove sediment that has accumulated behind the sedimentation fencing when it has reached a depth of approximately 0.5 feet deep or removed as needed when bulges develop in the fence. The sedimentation fence shall be repaired as necessary to maintain the barrier as intended.
 4. Sediment removed from control measures shall be collected and segregated as waste to be characterized, and properly disposed of off-site. No sediment shall be disposed of on-site.
 5. All seeded areas will be protected from traffic and shall receive appropriate watering during germination and growth establishment. Areas that do not establish a vigorous, dense vegetative cover (at least 85% surface coverage) shall be reseeded and mulched.
- C. Maintain the integrity of all erosion control measures throughout construction period.

3.03 SPECIAL CONDITIONS

- A. Prohibited Construction Practices - Prohibited construction practices include but shall not be limited to the following:
1. Dumping of spoil material into any stream corridor, any wetlands, any surface waters, stormdrain system, or at any other unspecified locations.
 2. Indiscriminate, arbitrary or capricious operation of equipment in any stream corridors, any wetlands or any surface waters.
 3. Pumping of silt-laden water from trenches or other excavations into any surface waters, any stream corridors, any wetlands, or any stormdrain system.
 4. Disposal of trees, brush and other debris in any stream corridors, any wetlands, any surface water or at unspecified locations.
 5. Permanent or unspecified alteration of the flow line of any stream.
 6. Open burning of construction debris.

3.04 ADJUSTMENT OF PRACTICES

- A. If the planned measures do not result in effective control of erosion and sediment runoff to the satisfaction of the ENGINEER or regulatory agencies having jurisdiction over the project, the CONTRACTOR shall immediately adjust their program and/or institute additional measures so as to eliminate excessive erosion and sediment runoff.
- B. If the CONTRACTOR fails or refuses to comply promptly, the DEPARTMENT may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the CONTRACTOR.

3.05 REMOVAL OF TEMPORARY WORKS

- A. Remove or level and grade to the extent required to present a sightly appearance and to prevent any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.

END OF SECTION

SECTION 02521

WELLS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The wells shall be installed in accordance with ASTM, USEPA, and DEPARTMENT standards and requirements for well installation.
- B. Work covered under this specification shall apply to well installations detailed in the Drawings including:
 - 1. Vapor Extraction (VE) Wells.
 - 2. Vacuum Monitoring Point / Injection (VP) Wells.
- C. The extraction well is an existing well that will be completed on the surface as shown on the drawings. It is not covered by the requirements of this specification.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 00003: Minimum Requirements for Health and Safety
- B. Section 01330: Submittal Procedures
- C. Section 02105: Chemical Sampling and Analysis
- D. Section 02110: Waste Removal and Handling
- E. Section 02120: Off-Site Transportation and Disposal
- F. Section 02240: Dewatering

1.03 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM F-780 Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80
 - 2. ASTM D1784 Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compound
 - 3. ASTM D1785 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120

1.04 SUBMITTALS

- A. Submit the following in accordance with Section 01330 - Submittal Procedures:
 - 1. Statements:
 - a. Drilling and well installation methodology;
 - b. Well development approach;
 - c. Water treatment plan and justification;
 - d. The type and size of drilling and sampling equipment to be used at each location;
 - e. Manufacturer's data for well materials.
 - f. Number of personnel to be deployed during the field program and the proposed schedule/logistics for completing the work.
- B. Permits and Health and Safety Items:
 - 1. Submit the following items within one week prior to start of the work:
 - a. Copies of all required permits;

- b. Site-specific Health and Safety Plan (HASP) along with evidence that all on-site personnel are enrolled in medical monitoring and are current with completed OSHA 40-hour HAZMAT training requirements.
- C. Well Materials
 - 1. Submit the following items at least one week prior to start of the work:
 - a. Well screen
 - b. Well riser
 - c. Sand pack
 - d. Well cover
 - e. Bentonite
- D. Field Test Reports:
 - 1. Submit the following field test reports:
 - a. Boring logs
 - b. Written assurance each well meets the requirements specified herein for materials, depths, plumbness and alignment.
 - c. Well development records;
 - d. Well completion records including casings, cement grout, well screens, penetration, and filter sand.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver screen, casing, and all materials in an undamaged condition. Materials must be approved in the field by the ENGINEER prior to use. Store materials off the ground to provide protection against oxidation caused by ground contact. Replace defective or damaged materials with new materials.

1.06 SITE MAINTENANCE

- A. The site shall be maintained in a neat and orderly condition, free from trash and waste construction materials at all times. Unattended construction materials, equipment, and trash shall be left in a manner such that they do not constitute fire hazards, or become or cause nuisance or danger due to forces of nature, such as rain or wind. All vehicles shall be loaded in a manner which shall prevent spillage, dripping, or loss of materials and debris.
- B. Provide, maintain, and remove upon completion of work all temporary rigging, scaffolding, hoisting, equipment, barricades, ladders, fences, staging, treatment, containment, decontamination, and all other temporary facilities. All temporary facilities shall conform to the requirements of the ENGINEER, and Federal, State, and local authorities.

PART 2 - PRODUCTS

2.01 EQUIPMENT, MATERIAL, TOOLS, CONTAINERS

- A. Equipment, materials and tools shall conform to the respective specifications and other requirements as specified herein.
 - 1. Drill Rigs and Tools: Drill rigs to be used for completion of the borings and installation of wells shall be capable of reaching depths of at least 20 feet based on the anticipated geology of the area. Drill rigs and tools that are not adequate, in the opinion of the ENGINEER, will not be permitted. The drill rigs and chosen method shall be capable of obtaining soil and groundwater grab samples from the boring and creating sufficient annular space to install the wells as directed by the ENGINEER.

- B. Well Materials:
 - 1. VE and VP Wells:
 - a. Riser and well screens shall be flush-threaded 2-inch diameter. VP wells shall be schedule 40 or 80 PVC. VE wells shall be schedule 80.
 - b. The PVC screen shall meet the requirements of ASTM F 480. Materials shall comply with ASTM D 1784. Dimensions shall meet ASTM D 1785.
 - c. Well screens shall be continuous wire-wound 0.010-inch screen openings.
 - d. Well screens shall be assembled in five- or ten-foot sections where applicable.
- C. Filter Pack and Grout:
 - 1. Wells: Filter pack shall be placed around the well screens, extending above the top of the screen slots as indicated on the drawings or to a depth specified in the field by the ENGINEER. The CONTRACTOR shall supply the particle size and uniformity specifications of the filter pack prior to mobilization and the filter pack shall be reviewed and approved by the ENGINEER prior to placement. A layer of bentonite chips or pellets shall be installed above the filter pack as indicated on the drawings and hydrated if above the water table as it is placed. The wells may be grouted from the top of the bentonite layer to the base of the surface vault if the bentonite layer is at least two feet. Provide neat cement grout, Type I or II Portland cement conforming to ASTM C 150, and water. The mixed grout shall contain no more than 7 gallons of water per bag (1.0 cubic foot or 94 pounds) of cement. Add commercially available bentonite designed for well sealing. Mixture to be 20 parts cement and 1 part bentonite. The method of grout placement shall be reviewed by the ENGINEER. If grout is placed below the water table it shall be tremied to the desired depth.
- D. Auxiliary Equipment:
 - 1. Provide submersible pump and equipment required to evacuate water at depths between 8 and 20 feet bgs and provide drums to store pumped water and drilling solids.
- E. Protective Well Covers:
 - 1. VE Wells
 - a. Provide a 6-inch diameter, lockable flush-mount steel well cover meeting H-20 loading requirements for wells set to grade. The protective casings of well cover shall be set a minimum of 12-inches below grade. Seal and patch floor to the satisfaction of the ENGINEER.
 - b. Connect well riser to SVE piping as shown on the drawings.
 - 2. VP Wells
 - a. Provide a 6-inch diameter, lockable flush-mount steel well cover meeting H-20 loading requirements for wells set to grade. The protective casings shall be set a minimum of 12-inches below grade. Seal and patch floor to the satisfaction of the ENGINEER.
 - b. Provide a threaded cap, barbed fitting, valve, and tubing for connection to portable pressure gauge as shown on the drawings.

2.02 QUALITY CONTROL

- A. Well materials shall be new and undamaged and where possible factory cleaned and wrapped. Materials which are damaged or determined to be not in accordance with desired specifications will be rejected. Equipment and materials will be decontaminated and stored in a fashion that will adequately protect them from contamination or degradation.

PART 3 - EXECUTION

3.01 BORING LOGS

- A. During the progress of each boring, the CONTRACTOR shall keep a continuous and accurate log of drilling technique, sample blow counts, downhole equipment and materials used.
- B. Minimum data to be provided:
 - 1. Names of driller and inspector.
 - 2. Dates and times of beginning and completion of work.
 - 3. Identifying number and location of test boring.
 - 4. Diameter and description of augers and/or casing.
 - 5. Total length of each size of auger and casing.
 - 6. Length of auger or casing extending below ground surface at the completion of the boring.
 - 7. Depth to top of each different material penetrated, as noted by drilling performance or observation of drill cuttings.
 - 8. Depth to water surface in borehole at completion and at end of each major work stoppage.
 - 9. Loss or gain of drilling water or mud if used during the advancement of the borings to install the wells.
 - 10. Any sudden dropping of drill rods or other abnormal behavior.

3.02 CONSTRUCTION

- A. Drilling:
 - 1. Borings: The boring completed for the purpose of collecting samples or installing a well shall be completed using hollow-stem augers or with an acceptable alternative method. The drilling method shall minimize the introduction of any water or grout into the aquifer. Soil samples shall be collected continuously from the VP Well borings below the water table. The CONTRACTOR shall screen the samples with a PID and collect samples for off-site analysis as specified in Section 02105 – Chemical Sampling and Analysis”. After reaching the final depth, the well shall be constructed as shown on the drawings.
- B. Well Development:
 - 1. The CONTRACTOR shall develop each VP Well no sooner than 48-hours after completion and no later than one week after completion to remove fines and demonstrate a hydraulic connection with the surrounding aquifer. Furnish pumps, compressors, plungers, bailers, and other equipment required to develop the well. Pump the well free of sand, mud, drillings, and other foreign matter. Record the rate of groundwater rise after pumping to document a connection with the aquifer. The ENGINEER will use the following criteria to evaluate well development progress:
 - a. Increase in well water clarity.
 - b. Stability of specific conductance, pH, and temperature measurements (e.g., vary by no more than 10 percent).
 - c. Turbidity measurements show no significant decrease.
- C. Groundwater Treatment and Discharge:
 - 1. Groundwater generated during drilling and well development shall be handled along with dewatering water as described in Section 02240 – Dewatering.

3.03 PERMITS, REGULATIONS, AND PUBLIC RELATIONS

- A. Permits and licenses of a temporary nature necessary for the execution of the CONTRACTOR's work shall be secured and paid for by the CONTRACTOR. The CONTRACTOR shall give all notices and comply with all laws, ordinances, rules, and public regulations bearing on the conduct of the work as described in the scope of work specified.
- B. If the CONTRACTOR performs any Work without giving notice to the DEPARTMENT and does not receive written notification from the DEPARTMENT to proceed with Work, which is later determined to be contrary to any laws, ordinances, or regulations, the CONTRACTOR proceeds at his own risk, and shall bear all penalties and costs arising from such actions.
- C. The CONTRACTOR shall be solely responsible for compliance with laws, ordinances, and regulations during the course of Work, including those relating to safety to personnel and property and the handling of wastes and/or hazardous material. No off-site shipment of wastes will be allowed without authorization from the ENGINEER and the DEPARTMENT. Copies of all permits, manifests, and other documentation shall be forwarded in a timely manner to the ENGINEER and the DEPARTMENT.

3.04 PROTECTION OF WORK, PUBLIC AND PROPERTY

- A. The means, methods, procedures, and techniques to be used by the CONTRACTOR are the responsibility of the CONTRACTOR, and shall be designed to meet the intent of the specifications.
- B. The CONTRACTOR shall continuously protect its work from damage and protect adjacent property as provided by law. The CONTRACTOR shall maintain lights and other safety devices as required. The CONTRACTOR shall promptly repair all damages caused by its operations. When using internal combustion equipment, the CONTRACTOR shall have available at the work site emergency fire extinguishers or other approved fire fighting apparatus at all times.
- C. During its operations, the CONTRACTOR may occupy only those portions of the site for which the required permits have been obtained by the CONTRACTOR. If the CONTRACTOR desires to use additional areas outside of those required for the borings, it shall arrange for such areas at its own expense.
- D. Any property which is damaged as the result of the CONTRACTOR's operations shall be repaired at the CONTRACTOR's expense to the satisfaction of the ENGINEER. Remove and dispose of all unused or wasted construction materials and equipment.
- E. All drilling casings shall be withdrawn from the drill holes unless directed to be left in place by the ENGINEER.
- F. The CONTRACTOR shall secure the drilling site and any other potential hazards over night.

3.05 DISPOSAL OF CUTTINGS AND WELL DEVELOPMENT WATER

- A. Store cuttings in DOT approved containers supplied by the CONTRACTOR. All cuttings shall be containerized and stored on site until the samples taken by the CONTRACTOR have been analyzed.
- B. Waste characterization and disposal shall be done as specified in Section 02110 - Waste Removal and Handling and Section 02120 - Off-Site Transportation and Disposal.
- C. Decontamination water and well development shall be handled along with dewatering water as described in Section 02240 - Dewatering.

3.06 DECONTAMINATION

- A. Provide a temporary decontamination area at the site. Cleaning and decontamination of all equipment shall occur at this designated area on site. All water will be containerized and sampled for contamination by the CONTRACTOR as specified in Section 02120 - Off-Site Transportation and Disposal.
- B. Decontaminate all rigs and equipment between each borehole and upon completion of work. Rig decontamination methods within the building may be used upon approval of the ENGINEER. All down-hole sampling equipment shall be decontaminated between sample locations using a steam cleaner or high pressure wash, clean water, laboratory-grade detergent, or alconox or similar means. All drilling equipment shall be rinsed thoroughly with tap water. All sampling equipment shall be rinsed with de-ionized water.

3.07 ABANDONMENT AND COMPLETION OF BORINGS

- A. Abandonment of borings shall be in compliance with NYSDEC policy CP-43, "Groundwater Monitoring Well Decommissioning Policy." Borings not completed as wells shall be backfilled with neat cement grout. Grout shall be installed in the boreholes at the direction of the ENGINEER utilizing a tremie pipe or tremie hose. Grouted boreholes shall be neatly finished at bottom of slab and floor surface shall be patched as directed by the ENGINEER. Borings shall not be abandoned before reaching the final depth indicated in the Contract Documents unless authorized by the ENGINEER. No payment will be made for borings abandoned because of an accident or negligence attributable to the CONTRACTOR. Borings abandoned before reaching the required depth shall be replaced by a supplementary boring adjacent to the original and carried to the required depth.

3.08 HEALTH AND SAFETY

- A. Field personnel will be required to utilize the personnel protection as defined in Specification Section 00003 - Minimum Requirements for Health and Safety.
- B. CONTRACTOR personnel will be required to review the site or task-specific Health and Safety Plan prepared for this project and acknowledge that they have done so before initiating subsurface work.

END OF SECTION

SECTION 02531

FIELD TESTING OF NON-PRESSURE PIPE

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This section includes the following work:
 - 1. Work Included: Furnish equipment for and perform leak tests in nonperforated gravity sewer pipe by means of a low pressure air test as specified herein.
 - 2. Exfiltration and infiltration tests shall be permitted and performed in areas only when approved by the ENGINEER.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01780: Project Record Documents
- B. Section 02300: Earthwork
- C. Section 02539: Sewer Pipe

PART 2 – PRODUCTS

Not Applicable.

PART 3 – EXECUTION

3.01 PNEUMATIC (AIR) TESTING

- A. Equipment Requirements:
 - 1. Pneumatic Plugs: Sealing length equal to or greater than the diameter of the pipe to be tested.
 - 2. Pneumatic Plugs: Size and type to resist internal test pressures without requiring external bracing or blocking.
 - 3. All air used shall pass through a single control panel.
 - 4. Use 3 individual hoses for the following connections:
 - a. From control panel to pneumatic plugs for inflation.
 - b. From control panel to sealed line for introducing the low pressure air.
 - c. From sealed line to control panel for continually monitoring the air pressure rise in the sealed line.
- B. Procedures:
 - 1. Pneumatic Plug Seal Testing:
 - a. Before being used in the actual test installation, lay 1 length of pipe on the ground and seal at both ends with the pneumatic plugs to be checked.
 - b. Introduce air into the plugs to 25 psig.
 - c. Sealed pipe shall be pressurized to 5 psig.
 - d. The plugs shall hold against this pressure without bracing and without movement of the plugs out of the pipe.
 - 2. Pipe:

- a. Place plugs in the line and inflate to 25 psig.
- b. Introduce low pressure air into sealed line until the internal air pressure reaches 4 psig. Testing shall be performed without any groundwater over the pipe. If groundwater is over the pipe, the trench shall be dewatered for testing unless alternate testing procedures are approved by the ENGINEER.
- c. Wait at least two minutes for the air pressure to stabilize.
- d. After the stabilization period (3.5 psig minimum pressure in the pipe), disconnect the air hose from the control panel to the air supply. The portion of line being tested shall be termed "acceptable" if the time required in minutes for the pressure to decrease from 3.5 to 2.5 psig (greater than the average back pressure of any groundwater that may be over the pipe) is greater than the time shown for the given diameters in the following table.

PIPE DIAMETER	
<u>INCHES</u>	<u>MINUTES</u>
4	2.0
6	3.0
8	4.0
10	5.0
12	5.5
15	7.5
18	8.5
21	10.0
24	11.5
36	18.0
48	22.0

3. Should the pipe, as laid, fail to meet these requirements, perform the necessary work to meet these requirements, without additional cost to the Owner.

3.02 EXFILTRATION (WATER) TESTING

- A. If the installation fails to meet the above requirements for the air test, the CONTRACTOR may run an exfiltration test, as directed and if approved by the ENGINEER.
- B. Leakage shall not exceed 100 gallons per inch diameter/day/mile of pipe, when tested by internal pressure means. Should the pipe, as laid, fail to meet these requirements, the CONTRACTOR shall perform the necessary work at his expense to meet these requirements.
- C. Exfiltration Test:
 1. Procedures:

- a. ENGINEER to determine length of sewer to be tested.
- b. Properly cap or plug and block service laterals, stubs and fittings into sewer lines being tested.
- c. Plug downstream ends of test section providing a water supply connection standpipe upstream.
- d. Fill test section and upstream standpipe and allow time for water absorption.
- e. Measure drop in upstream standpipe over 4 - 15 minute periods and compute leakage.

NOTE: Test sections must be kept short enough to maintain a reasonably low head to prevent excess pressures on ends of laterals, etc.

END OF SECTION

SECTION 02539

SEWER PIPE

PART 1 - GENERAL

- 1.01 RELATED DOCUMENTS: The general provisions of the Contract, including General and Supplementary Conditions and General Requirements (if any), apply to the work specified in this Section.
- 1.02 RELATED WORK SPECIFIED ELSEWHERE:
- A. Section 00330: Existing Conditions
 - B. Section 01110: Summary of Work
 - C. Section 01330: Submittal Procedures
 - D. Section 02240: Dewatering
 - E. Section 02300: Earthwork
 - F. Section 02531: Field Testing of Non-Pressure Pipe
- 1.03 DESCRIPTION:
- A. Work provided in this section includes providing and installing replacement storm and sanitary sewer pipes and incidental work in accordance with the Technical Specifications and the Drawings.
 - B. The terms “storm sewer” and “storm drain” shall be considered synonymous throughout the Contract Documents (e.g., Technical Specifications, Drawings).
 - C. The term “sewer pipe” applies to both storm and sanitary sewer pipe.
 - D. Furnish and install pipe materials and fittings of the type(s) and size(s) and in the location(s) shown on the Drawings and as specified herein.
 - D. The extent of the work is generally shown on the Drawings and shall be extended to accommodate changes which become necessary as a result of encountering unforeseen or changed conditions in the field.
 - E. Work within the right of way shall conform to the Town of Brighton standards and specifications.
 - F. It is uncertain whether both sanitary and storm sewer utilities exist within the Limit of Excavation. Conservatively, both are shown on the Drawings and referenced in the Supplementary Specifications. If only one of these utilities is determined to be present, disregard all references to the other.
- 1.04 SUBMITTALS:
- A. Product Data: Submit manufacturer’s standard drawings or catalog cuts for piping material.
- 1.05 QUALITY ASSURANCE: All materials shall conform to the standards designated in Part 2 for the appropriate material.

PART 2 - PRODUCTS

2.01 GENERAL:

- A. Except where the type or class or use of pipe is explicitly indicated on plan or specified herein, the CONTRACTOR may provide any of the kinds of pipe specified. However, in the interest of future maintainability, only 1 type of pipe will be approved for a given utility for general use in all those areas where the CONTRACTOR has choice.

2.02 POLYVINYL CHLORIDE (PVC) SEWER PIPE:

- A. Standards:
 - 1. Pipe: 4 inch to 15 inch diameter, ASTM D 3034, SDR-21 or SDR-35
 - 2. Gasket: ASTM D 3212.
- B. Pipe:
 - 1. Class and nominal diameter as shown on the Drawings or specified herein.
 - 2. Minimum Pipe Stiffness: 46 psig, ASTM D 2412, "External Loading Properties of Plastic Pipe by Parallel-Plate Loadings".
 - 3. Standard Laying Lengths: 20 foot and 12.5 foot.
- C. Joints:
 - 1. Bell and spigot.
 - 2. Rubber gasket factory installed.
- D. Fittings and Accessories:
 - 1. Of same strength as the pipe.
 - 2. Manufactured and furnished by pipe supplier or equivalent.
- E. Marking on each pipe length:
 - 1. Class of pipe.
 - 2. Date of manufacture.
 - 3. Name of manufacturer.
- F. Conditions for Use:
 - 1. Bedding: pipe bedding material in the zone 6 inches above and below the pipe.
 - 2. Shall not use when sheeting is used or when the original material excavated is peat or unconsolidated or soft clay.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Pipe Laying:
 - 1. Begin at a downstream end and proceed upstream, installing the bell end on the upstream end of each pipe.
 - 2. Firmly support the pipe and fittings on bedding material as shown on the Drawings and as specified in the appropriate Sections of these Specifications.
 - 3. Do not permanently support the pipe or fittings on saddles, blocking stones, or any material which does not provide firm and uniform bearing along the outside length of the pipe.
 - 4. Thoroughly compact the material under the pipe to obtain a substantial unyielding bed hand-shaped to fully support the pipe.
 - 5. Excavate suitable holes for the joints so that only the barrel of the pipe receives bearing pressure from the supporting material after placement.

6. Lay each pipe length so it forms a close joint with the adjoining length and bring the inverts to the required grade, by using a laser beam aligner.
 7. Set the pipe true to line and grade.
 8. Do not drive the pipe down to grade by striking it with a shovel handle, timber, rammer, or any other unyielding object.
 9. When each pipe length has been properly set, place and compact enough of the bedding material between the pipe and the sides of the trench to hold the pipe in correct alignment.
 10. After filling the sides of the trench, place and lightly tamp bedding material to complete the bedding as shown on the Drawings.
 11. Take all necessary precautions to prevent flotation of the pipe in the trench.
 12. When pipe laying is not in progress, close the open ends of the pipe with temporary watertight plugs. If water is in the trench when work is resumed, do not remove the plug until all danger of water entering the pipe is eliminated.
 13. Do not use the pipelines as conductors for trench drainage during construction.
- B. Jointing:
1. Connect pipe in accordance with the latest manufacturer's instructions and recommendations.
 2. Clear each pipe length, coupling and fitting of all debris and dirt before installing.
 3. Provide and use coupling pullers for jointing the pipe.
 4. Provide gasket feeler gauges for use by the pipe layer for checking the position of the rubber gaskets in the completed joints.
 5. Shove home each length of pipe against the pipe previously laid and hold securely in position. Do not pull or cramp joints.
 6. Make all pipe joints as watertight as possible with no visible leakage and no sand, silt, clay, or oil of any description entering the pipeline at the joints.
 7. Immediately after making a joint, fill the holes for the joints with bedding material, and compact.
- C. Pipe Cutting:
1. Cut in accordance with manufacturer's recommendations.
 2. Cut the pipe with a hand saw, metal-inserted abrasive wheel (except asbestos-cement pipe), or pipe cutter with blades (not rollers).
 3. Examine all cut ends for possible cracks caused by cutting.
- D. Connecting to Existing
1. Attach new replacement pipe to existing pipe using a flexible coupling intended for use with the pipe sizes and materials to be connected.
 2. Install a minimum of two (one at each end) appropriately sized stainless steel band clamps per flexible coupling.
 3. Coupling shall provide a leak-proof seal.

3.02 TESTING FOR FLEXIBLE CONDUIT

- A. Refer to Section 02531 – Field Testing of Non-Pressure Pipe.

3.03 INSPECTION

- A. Sewer pipe shall be inspected by the ENGINEER and Town of Brighton prior to being buried. The CONTRACTOR shall coordinate inspections with the Town of Brighton Public Works Office.

3.04 CLEANUP

- A. Upon completion of the installation of sewer lines, and appurtenances, all debris and surplus materials resulting from the work will be properly disposed of off-site.

END OF SECTION

SECTION 02540

REMEDIATION PIPING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The CONTRACTOR shall provide all necessary personnel, equipment, and materials required to install underground piping for the reagent injection points and infiltration trenches in the bottom of completed excavations.
- B. Prior to backfilling, reagent injection points and infiltration trenches shall be installed on the bottom of completed excavations as shown on the drawings.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01110: Summary of Work
- B. Section 01330: Submittal Procedures
- C. Section 02140: Dewatering
- D. Section 02300: Earthwork

1.03 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM D 3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
 - 2. ASTM D 3035 Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
- B. Plastic Piping Institute
 - 1. Handbook of Polyethylene Pipe

1.04 SUBMITTALS

- A. Provide manufacturer data for pipe, fittings, geotextile, and protective well cover. For any given pipe material, use pipe of the same manufacturer throughout the project.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pipe, fittings, and all materials in an undamaged condition. Materials must be approved by the ENGINEER prior to use. Store materials off the ground to provide protection against oxidation caused by ground contact. Replace defective or damaged materials with new materials.

PART 2 - PRODUCTS

2.01 REAGENT INJECTION POINTS AND INFILTRATION TRENCHES

- A. Pipe and Screen:
 - 1. Injection point riser, perforated lateral pipe, and fittings shall be flush-threaded 4-inch diameter, Schedule 80 PVC.
 - 2. Perforated lateral pipe shall be factory-slotted with 0.020-inch slots.

- B. Crushed Stone: Provide crushed stone for the infiltration trenches in accordance with Section 02300 - Earthwork.
 - C. Geotextile: Provide a nonwoven geotextile consisting of Geo-Synthetics GEOTEX 451 or an approved equal.
 - D. Protective Covers:
 - 1. A removable, water-tight expansion well cap shall be provided to seal the top of the injection point riser.
 - 2. Provide an 8-inch diameter, lockable flush-mount cast iron well cover meeting H-20 loading requirements for wells set to grade. The protective casings shall be set a minimum of 12-inches below grade and set in place with a concrete collar.
- 2.02 SOLID WALL HIGH DENSITY POLYETHYLENE (HDPE) PIPING
- A. Shall be used for the groundwater extraction pipe in the well casing and in the trench between the well vault and the packaged treatment system.
 - B. High density polyethylene manufactured from PE3408/3608 or PE3408/4710 resin meeting ASTM D 3350 cell classification PE 334420C or higher.
 - C. ASTM D 3035 SDR 11 or lower.
 - D. Use rolls of sufficient length to avoid field fusion.
- 2.03 QUALITY CONTROL
- A. Materials shall be new and undamaged and where possible factory cleaned and wrapped. Materials which are damaged or determined to be not in accordance with desired specifications will be rejected.

PART 3 - EXECUTION

3.01 CONSTRUCTION

- A. Reagent Injection Point and Infiltration Piping:
 - 1. Install the reagent injection point and infiltration piping in the bottom of completed excavation as shown on the Drawings prior to backfilling the excavation.
 - 2. Install perforated lateral pipe on a level grade using the crushed stone bedding as required to establish a level bed.
 - 3. Minimize the amount of seams in the geotextile by placing geotextile long dimension parallel with perforated pipe. Seams between adjacent sections of geotextile shall be overlapped by a minimum of 12 inches.
- B. Buried Groundwater Piping
 - 1. Install HDPE piping in trenches as indicated on the drawings.
 - 2. Provide bedding material, backfill, and compaction as specified in Section 02300 – Earthwork.

3.01 PRESSURE TESTING

- A. Pressure test groundwater piping in accordance with the PPI Handbook of Polyethylene Pipe and the following:
 - 1. Hydrostatically test each portion of pressure piping at 1.5 times working pressure of piping based on elevation of lowest point in piping corrected to elevation of test gauge.
 - 2. Conduct hydrostatic test for at least one-hour duration following a four hour expansion phase.
 - 3. Fill section to be tested with water slowly, expel air from piping at high points. Close air vents after air is expelled. Raise pressure to specified test pressure.

4. Observe joints, fittings and valves under test. Remove and renew pipe and joints showing visible leakage.
5. Raise pressure to test pressure. Maintain pressure by adding water for four hours during expansion phase. Reduce pressure 10 psi for test phase. If pressure remains within 5% of this test phase pressure for one hour, no leakage is indicated.
7. Pipe may be made up and tested above ground prior to installation; however, every joint in the construction must be tested.
8. Continuous pipe without joints does not require pressure testing.

3.02 CLEANUP

- A. Upon completion of the installation of the reagent injection point, infiltration piping, and appurtenances, all debris and surplus materials resulting from the work shall be removed.

END OF SECTION

SECTION 02602

PRECAST CONCRETE STRUCTURES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install pre-cast manholes and vault structures and all incidental work. Complete in strict accordance with the Specifications, Drawings, and standard details.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 02240: Dewatering
- C. Section 02250: Shoring (Sheeting and Bracing)
- D. Section 02300: Earthwork
- E. Section 02540: Site Remediation Piping

1.03 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
- B. American Association of State Highway and Transportation Officials (AASHTO)
 - 1. AASHTO M198 Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets
- C. American Society for Testing and Materials (ASTM)
 - 1. ASTM A 82 Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
 - 2. ASTM A185 Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
 - 3. ASTM A 615 Standard Specification for deformed and Plain Billet-Steel Bars for Concrete Reinforcement
 - 4. ASTM C 443 Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
 - 5. ASTM C 478 Standard Specifications for Precast Reinforced Concrete Manholes Sections
 - 6. ASTM C 923 Standard Specification for Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes and Laterals

1.04 SUBMITTALS

- A. Shop Drawings of all precast units.
- B. Manufacturer's Information: Joint sealants and gaskets.
- C. Manufacturers Information: Access Doors

1.05 QUALITY ASSURANCE

- A. It is the intention of this Section that the manholes, structures, and component parts referenced herein have adequate space, strength, and leak-proof qualities considered necessary for the intended service. Space requirements and configurations shall be as shown on the Drawings.
- B. Concrete manholes and vaults shall be an assembly of precast sections with steel reinforcement, with approved jointing. Each complete structure shall be of such material

and quality as to withstand loads of 8 tons (H-20 loading) without failure unless indicated otherwise on the Drawings. Any modifications to this requirement shall be approved by the ENGINEER.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General:

1. All precast sections shall have the date of manufacture and the name or trademark of the manufacturer impressed or indelibly marked on the inside wall.
2. Casting methods must assure each unit to be very dense in structure and impervious to water. Paint the exterior of precast manhole/vault structures with two heavy coats of bituminous paint.
3. Pipe to Manhole/Vault Joints:
 - a. Only as approved by the ENGINEER and, in general, will depend for water tightness upon a rubber boot either cast-in-place or press-wedged in place. Pipe-to-wall connections shall be mortared to produce smooth transitions and watertight joints or provided with ASTM C 923 resilient connectors.
4. Reinforcing shall extend into the tongue and groove of each manhole/vault section wall.
5. Handling: For each structure, provide 2 holes for the purpose of handling and placement. These holes shall be tapered and shall be plugged with mortar after installation.

B. Precast Concrete Manholes:

1. General: Reinforced concrete riser, flat top, and open base sections conforming to the dimensions indicated on the Drawings.
2. Manufactured in accordance with ASTM C 478.
3. The Minimum Compressive Strength of Concrete: 4,000 psi. Provide an air content of 6 percent, plus or minus 2 percent and a minimum wall thickness of 5 inches.
4. The circumferential steel reinforcement for walls: 0.12 square inch per linear foot and shall conform to the latest ASTM A 185 or A 82 specification.
5. H-20 design loading.
6. Tongue and Groove:
 - a. Formed of concrete so as to receive the gaskets.
 - b. Sections shall be set so as to be vertical and in true alignment.
 - c. Horizontal joints between sections of precast concrete barrels shall be of a type approved by the ENGINEER and shall, in general, depend on a butyl rubber joint sealant, which meets ASTM C 443 or AASHTO M198, Type B specification, for water tightness.
7. Manhole Steps:
 - a. 1/2-inch steel reinforced polypropylene plastic manufactured to ASTM C 478 standards.
 - b. Cast into walls of the precast section so as to form a continuous ladder with a distance of 12 inches between steps.

C. Aluminum Access Doors:

1. Shall be equal to Syracuse Castings Model EC-HD-AOSG or approved equal of the size shown on the drawings.

2. Made of ¼” thick diamond pattern aluminum plate with insulation.
3. Reinforced for H20 loading, as indicated on the drawings.
4. Depth of frame as required to match the depth of the precast structure cover.
5. All hardware including latches, lifting mechanism assemblies, guides, brackets, hinges, pins, hold open arms, and guides shall be made of 316 SS.
6. Hinges shall be accessible only when the access door is in the open position.
7. All access hatches shall be provided with recessed padlock hasps covered by a hinged lid that closes flush with the surface of the hatch cover.
8. Orange safety grate for fall in protection.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Precast Structures:

1. Place on a 6-inch layer of 3/8” gravel.
2. Dewater excavation while placing bedding material and setting the base.
3. Connect inlet and outlet stubs and seal in accordance with the manufacturer's recommended procedure, and as shown on the Standard Details, or cast integrally with the poured base.
4. Place barrel sections and rectangular sections, of the appropriate combination of heights, using manufacturer's recommended procedure for sealing the horizontal joints, and as shown on the Drawings.

END OF SECTION

SECTION 02650

ABOVEGROUND STORAGE TANK REMOVAL

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes the removal, decontamination, and disposal of the aboveground storage tank (AST) including associated piping and ancillary equipment. The AST is approximately 275 gallons in size. It is unknown whether this tank is registered with a regulatory authority.
- B. The amount of free liquid and/or residue in the AST is unknown. The CONTRACTOR shall assume, for the purpose of the bid, that free liquids and/or residue remains in the tank.
- C. The contents of the tank will be verified by others under separate contract and the verification results will be made know to the CONTRACTOR prior to the commencement of construction. If free liquids and/or residue remain in the tank they shall be characterized, removed, and disposed of at a licensed off-site disposal facility in compliance with the requirements of the Contract documents and regulatory agencies having jurisdiction.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 02110: Waste Removal and Handling
- C. Section 02120: Off-Site Transportation and Disposal

1.03 REFERENCES

- A. National Fire Protection Association: NFPA 241- Safeguarding Construction, Alteration and Demolition Operations.
- B. Underwriters Laboratories – UL-2085
- C. 29 Code of Federal Regulations (CFR) 1910 - Occupational Safety and Health
- D. DER-10/Technical Guidance for Site Investigation and Remediation (New York State DEPARTMENT of Environmental Conservation, DEC Program Policy, issued May 3, 2010)
- E. New York Codes, Rules, and Regulations (NYCRR): 6 NYCRR Parts 375 and 595 - 599
- F. Administration (OSHA) standards for employee safety.
- G. Other applicable Federal, State, or local regulations.

1.04 GENERAL DESCRIPTION

- A. The existing on-site AST has, to the extent known, been utilized for the storage of perchloroethylene (PCE). The tank is approximately 275 gallons in size. Free liquid/residue volumes are unknown and require removal and disposal as specified if present. Typical feed and return piping and ancillary equipment may be present and will require draining, and removal as part of the work. The integrity of the tank and the presence of impacts to soil in the vicinity is unknown. The CONTRACTOR shall evaluate, assess, and manage the conditions present.

1.05 SUBMITTALS

- A. Provide submittals in accordance with Section 013300 - Submittal Procedures.
- B. Certificates: Submit qualifications for tank removal company prior to work.

- C. Prior to commencing tank removal activities, submit to the ENGINEER/DEPARTMENT a written assessment of tank condition, including piping and ancillary equipment, and strategy for removal.
- D. Proposed disposal facility.

1.06 CLOSEOUT SUBMITTALS

- A. Disposal Records: Submit documentation to the ENGINEER, attesting to final and legal disposal of waste materials removed from site. Include records for the following:
 - 1. Tank contents free liquid removal, bills of Lading or Manifests.
 - 2. Tank sludge removal characterization and disposal profile sheets.
 - 3. If required contaminated soil disposal facility certification of appropriate and final treatment/disposal signed by a responsible disposal facility official.
 - 4. Tanks carcass recycling/disposal documentation.
 - 5. Provide tank documentation report(s) acceptable to the ENGINEER documenting and recording tank removal activities for each tank location

1.07 QUALIFICATIONS

- A. Tank Removal Company: Company specializing in performing work of this section with minimum 5 years documented experience. The CONTRACTOR shall be certified by State Agencies or local entities having jurisdiction. The CONTRACTOR shall provide copies of certifications prior to commencing the work.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Plastic: Provide plastic sheeting in accordance with this specification.
- B. Spill Kits: Provide spill kits as required by this specification to address spill releases if necessary.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify location and number of underground tanks to be removed.
- B. Safety Guidelines: Personnel working in the general vicinity of the tank shall be trained and thoroughly familiar with the safety precautions, procedures, and equipment required for controlling potential hazards associated with this work and shall comply with the requirements of the approved Safety Plan and OSHA regulations as applicable.

3.02 PREPARATION

- A. Notify regulating agencies regarding tank removal activities as appropriate. The CONTRACTOR must notify the Town of Brighton Fire Marshal at least 7 days prior to commencement of tank removal activities. The CONTRACTOR must notify the appropriate NYSDEC regional office at least 3 business days prior to the intended tank closure date.
- B. If contaminated soil is encountered during excavation/removal, the CONTRACTOR shall, if possible, determine the extent of contamination and then immediately notify the ENGINEER and DEPARTMENT. The CONTRACTOR shall notify applicable Federal,

State, and local agencies immediately of a reportable release in accordance with release notification requirements and corrective action measures.

- C. Obtain licenses, permits, and inspections required for tank removal and disposal as may be required by State and or local agencies having jurisdiction for the work anticipated. The CONTRACTOR shall obtain the necessary permits and provide copies of the required permits to the ENGINEER/DEPARTMENT prior to commencement of tank removal activities.

3.03 ABOVEGROUND STORAGE TANK DECOMMISSIONING ACTIONS

- A. Complete Section 02650 Attachment A to document tank information and decommissioning actions. Attachment A will serve as the Closure Report following tank removal.
- B. Before removing the AST:
 - 1. Residue and liquids (if present) shall be removed from the tank.
 - 2. Remove piping and ancillary equipment.
 - 3. The tank shall be purged and vented.
- C. Removal of Tank Liquid, Residue, and Contaminated Water (if present): Tank liquids, residues, and water shall be removed from the AST, contained, and stored on-site prior to disposal. Free liquids shall be removed; contaminated water shall be treated as tank residue and liquids and shall be characterized as described above, and disposed of at an approved off-site disposal facility
- D. Piping and Ancillary Equipment Removal: Disconnect product piping from the tank, and remove the piping, drop tube, fill pipe, gauge pipe, pump and all other ancillary equipment. Cap ends of pipe to remain (if any).
- E. Purging: Prior to removal of ASTs, toxic vapors shall be purged from the tank via rinsing or other applicable method in accordance with industry standards and applicable Federal, State, and local regulations.
- F. Render Unusable: The tank shall be cut into sections prior to disposal to render the tank unusable as a future storage vessel. NOTE: NO HOT WORK. The tank shall not be cut using a torch or other heated element as hazardous combustion products of PCE (e.g., Phosgene, Hydrogen Chloride) may be produced. The tank shall be cut into sections prior to being removed from the Site. The tank shall not be sold intact.
- G. The CONTRACTOR shall patch holes in the exterior wall with non-shrink grout.
- H. The CONTRACTOR shall follow all applicable OSHA regulations regarding employee safety and shall provide a site specific Health and Safety Plan to include the following:
 - 1. Outline of worker safety procedures (i.e., excavations, personal protective equipment)
 - 2. Emergency notification procedures for addressing emergency situations such as fire, explosion, injury or environmental accident
 - 3. List of emergency phone numbers
 - 4. Copies of employee certifications for the tasks to be completed
 - 5. Fire/explosion protection procedures (i.e., monitoring for and mitigating flammable vapors, intrinsically safe equipment)
 - 6. Material Safety Data Sheet for PCE
- I. After tank removal the CONTRACTOR shall send the Closure Report (i.e., completed Attachment A) to the appropriate NYSDEC regional office.

END OF SECTION 02650

SECTION 026500 - ATTACHMENT A
UNDERGROUND AND ABOVEGROUND STORAGE TANK REMOVAL REPORT

GENERAL TANK INFORMATION

1 Site Location

2 State, County, Town of Tank Location

3 Tank Grave Northing and Easting Coordinates

4 Client Site Identifier

5 Date(s) of removal

6 Site Figure Attached ☐ Yes ☐ No

7 Screening and/or Analytical Data Attached ☐ Yes ☐ No

8 Local Fire Marshall Inspection Performed: ☐ Yes ☐ No

Describe outcome of fire Marshall Inspection or Attach Documentation as Appropriate

9 Tank Carcass Disposal:

Facility:

State License Number of Facility:

Bill of Lading Attached: ☐ Yes ☐ No

10 Tank Removal Contractor:

Company Name and Address:

Certifying Individual:

Date:

UNDERGROUND AND ABOVEGROUND STORAGE TANK REMOVAL REPORT

TANK SPECIFIC REMOVAL DATA**1 Tank Description:**

Tank Dimensions:

Material of Construction:

Gallon Rating:

Registration No - Attach form if applicable

Nomenclature/Markings (i.e., manufacturer, certifications, testing, etc.):

2 Type Size and Configuration of Service Piping (identify also on Location Diagram)

Length of Service Piping to Structure:

Depth of Service Piping:

Piping Materials:

Fitting, Connections:

Identify Fill Piping Location on Attached Diagram:

3 Headspace Screening Samples Collected from Tank Grave if required:

Indicate Sample Locations On Diagram:

Attach Field Notes With Calibration Results and Screening Results:

Describe Soil Conditions Within Tank Excavation:

4 Analytical Samples Collected from the Grave Site if required:

List Sample Identification Numbers:

Indicate Sample Locations on Attached Diagram:

Attached Laboratory Results and Chain of Custody Records:

5 Attach Labeled Photos of Tank and Grave:

Provide a Minimum of 8 Photos Documenting Tank and Grave Conditions.

6 Describe Observed Condition of Tank**7 Fuel Impacted Soils Removed?** ☐ Yes ☐ No

If YES Attach Characterization and Manifest Documentation as Appropriate

Quantity of Soil Excavated

Identify Location within Tank Grave of Soil Removal on Attached Diagram

8 Free Product or Residual Materials Removed ☐ Yes ☐ No

Quantity of Fuel Residuals Removed

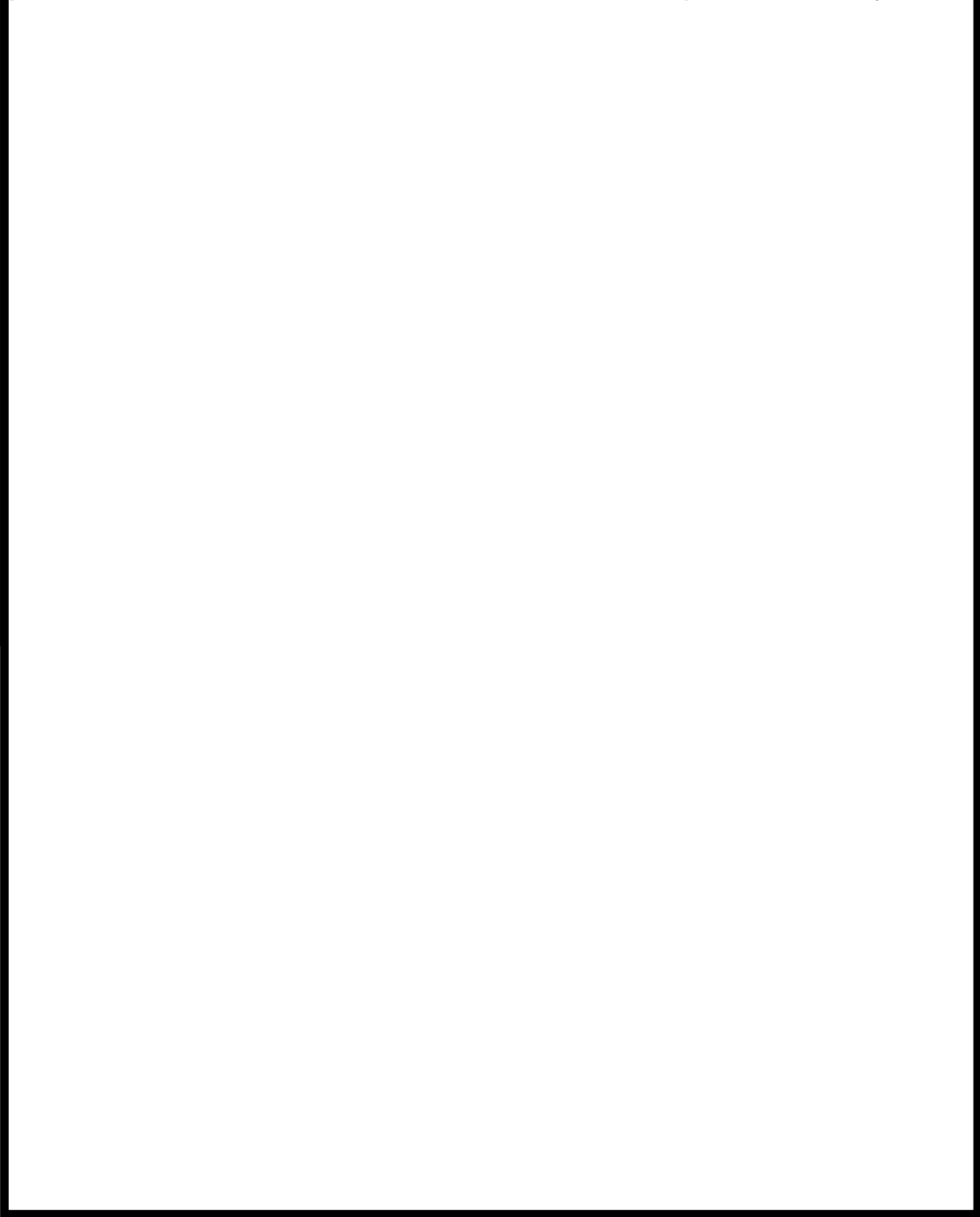
Disposition of Residuals

Attach Characterization Disposal and Manifest Documentation as Appropriate

9 Tank Rendered Unusable ☐ Yes ☐ No

TANK REMOVAL LOCATION DIAGRAM - ATTACH OR CREATE ADDITIONAL SHEETS AS NECESSARY

LOCATION DIAGRAM - Include Building orientation to north, cross streets, hydrants, utility poles, service routes and entrance piping, sample locations and identifiers, photo orientation, dimensions of excavation, locations of impacted soils if any.



SECTION 02740

HOT MIX ASPHALT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The CONTRACTOR shall furnish all labor, equipment, materials, and incidentals necessary to construct one or more courses of hot mix asphalt to patch, repair, and/or restore existing asphaltic concrete pavement, in accordance with the lines, grades, thicknesses, and typical sections shown on the Drawings or as modified by the ENGINEER or DEPARTMENT.
- B. Hot mix asphalt materials and workmanship shall be in accordance with the Standards Specifications, State of New York, Department of Transportation, dated May 4, 2006.
- C. Work within the right of way shall conform to the Town of Brighton standards and specifications.
- D. In addition to planned hot mix asphalt work indicated in the Drawings, the CONTRACTOR shall also be responsible for repairing any unplanned damage caused to public or private property during the course of remediation construction (e.g., cracked pavement beneath decontamination pad) at no additional cost to the DEPARTMENT. It may be in the best interests of the CONTRACTOR to photograph the Site prior to the commencement of construction.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures.
- B. Section 02120: Off-Site Transportation and Disposal.
- C. Section 02300: Earthwork.

1.03 REFERENCES

- A. The publications listed below shall form part of this Section to the extent referenced. The most recent issue of each publication shall apply, unless otherwise noted. The publications are referred herein by the basic designation only.
 - 1. American Association of State Highway and Transportation Officials (AASHTO):
 - a. MP1 – Standard Specification for Performance-Graded Asphalt Binder.
 - 2. ASTM International (ASTM):
 - a. ASTM D 3549 – Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
 - b. ASTM D 6690 – Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements.
 - 3. New York State DEPARTMENT of Transportation (NYSDOT):
 - a. NYSDOT SS - Standards Specifications, State of New York, DEPARTMENT of Transportation, May 4, 2006.

1.04 SUBMITTALS

- A. The CONTRACTOR shall submit the following items to the ENGINEER and DEPARTMENT in accordance with Section 01330 – Submittal Procedures:

1. Job Mix Formula(s):
For each proposed mix, submit Job Mix Formula (JMF) to the ENGINEER and DEPARTMENT for approval at least 10 days prior to hot mix asphalt paving operations. Include the following information, at a minimum:
 - a. Mix type.
 - b. Proposed plant.
 - c. Source(s) and gradations of coarse and fine aggregate, mineral filler, and recycled materials, as applicable.
 - d. Percentage of each aggregate, filler, and recycled material combined to produce JMF.
 - e. Type and source of Performance-Graded Binder (PG Binder).
 - f. Manufacturer's/supplier's certification that the PG Binder meets the project specifications.
 - g. Recent (within the past year, relative to proposed placement date) mix design report.
 - h. Recent (within the past month, relative to proposed placement date) production quality control reports/data.
2. Tack Coat/Joint Sealant:
For each item, submit the following data to the ENGINEER and DEPARTMENT for approval at least 10 days prior to hot mix asphalt paving operations:
 - a. Manufacturer's name.
 - b. Trade name of the product.
 - c. Manufacturer's/supplier's certification that the tack coat/joint sealant meets the project requirements.
 - d. Maximum heating temperature.
 - e. Minimum application temperature.
3. Production Quality Control:
Submit the following items/data daily (during production) to the ENGINEER and DEPARTMENT for each mix supplied:
 - a. Plant production monitoring/quality control data, including temperature, extraction, gradation, theoretical maximum specific gravity/density, bulk specific gravity/density, percent voids, stability, and flow.
 - b. Batch tickets.
 - c. Delivery tickets, with:
 - (1) Ticket No.
 - (2) Mix identification/description, including PG Binder grade.
 - (3) Delivered quantity.
 - (4) Date and time.

1.05 QUALITY ASSURANCE/QUALITY CONTROL

- A. Plant Qualifications: The plant shall be a hot mix asphalt manufacturer regularly engaged in the production of hot mix and hot-laid asphalt pavement.
- B. All materials used in the Work shall meet or exceed the requirements of Section 700 of the NYSDOT SS, unless otherwise noted.

1.06 PROTECTION OF FACILITIES

- A. The CONTRACTOR shall protect existing site features, including utilities, trees, vegetation, drainage ways, and walls, which are to remain. The CONTRACTOR shall employ similar precautions, as necessary, to prevent damage to or pollution of adjoining properties or rights of way.
- B. The CONTRACTOR shall use the necessary precautions to prevent damage to pipes, conduits, and other underground facilities.
- C. The CONTRACTOR shall repair and/or replace, at no additional cost, any site features, utilities, or property damaged by its employees or subcontractors during construction.

PART 2 - PRODUCTS

2.01 SUBGRADE FILL

- A. Common Borrow shall be as specified in Section 02300 – Earthwork.

2.02 SUBBASE COURSE

- A. Subbase Course shall be as specified in Section 02300 – Earthwork.

2.03 TACK COAT/JOINT SEALANT

- A. Tack coat/joint sealant materials shall meet or exceed the requirements of Type III joint and crack sealant as specified in ASTM D 6690, unless otherwise noted on the Drawings.

2.04 HOT MIX ASPHALT

- A. Provide hot mix asphalt in accordance with the applicable requirements of the NYSDOT SS. Recycled asphalt pavement (RAP) may be used as permitted by NYSDOT SS.
 - 1. Binder: Binder shall be in accordance with NYSDOT SS Section 403, Mix Type 3.
 - 2. Top Course: Top Course shall be in accordance with NYSDOT SS Section 403, Mix Type 7.

PART 3 - EXECUTION

3.01 SUBGRADE PREPARATION

- A. The CONTRACTOR shall form and trim all subgrade surfaces to the lines and grades shown on the Drawings or as modified by the ENGINEER or DEPARTMENT.
- B. Subgrade surfaces on which Common Borrow and/or Subbase Course are to be placed shall be thoroughly compacted to the satisfaction of the ENGINEER/DEPARTMENT.
- C. Furnish, place, and compact Common Borrow in accordance with the lines, grades, thicknesses, and typical sections, as shown on the Drawings or as modified by the ENGINEER or DEPARTMENT.
 - 1. Subgrade Fill materials shall be as specified in Section 02300 – Earthwork.
 - 2. Subgrade Fill placement and compaction requirements shall be as specified in Section 02300 – Earthwork.
 - 3. Subgrade Fill quality control testing requirements shall be as specified in Section 02300 – Earthwork.

3.02 SUBBASE COURSE

- A. Furnish, place, and compact Subbase Course in accordance with the lines, grades, thicknesses, and typical sections, as shown on the Drawings or as modified by the ENGINEER or DEPARTMENT.
 - 1. Subbase Course materials shall be as specified in Section 02300 – Earthwork.
 - 2. Subbase Course placement and compaction requirements shall be as specified in Section 02300 – Earthwork.
 - 3. Subbase Course quality control testing requirements shall be as specified in Section 02300 – Earthwork.

3.03 SAW CUTS

- A. The CONTRACTOR shall saw cut existing pavement along the edges of patching, repair, and/or replacement as shown on the Drawings or as specified by the ENGINEER or DEPARTMENT.
- B. Equipment shall be power-operated circular wet saw capable of cutting existing pavement to the specified depth and yielding a relatively vertical and smooth edge.

3.04 COLD MILLING

- A. The CONTRACTOR shall mill, grind, and/or scarify existing pavement along edges of pavement patching, repair, and/or replacement as shown on the Drawings or as specified by the ENGINEER or DEPARTMENT.
- B. Equipment shall be power-operated milling machine or planer capable of removing existing pavement to the specified depth.
- C. Disposal of milled materials shall be in accordance with Section 02120 – Off-Site Transportation and Disposal.

3.05 TACK COAT/JOINT SEALANT

- A. All exposed/contact surfaces of existing pavements, including saw cut edges and milled surfaces, shall receive a thin uniform layer of tack coat/joint sealant immediately prior to placement of new hot mix asphalt.
 - 1. Tack coat and joint sealant shall be as specified in Part 2 herein.
 - 2. Application rates shall be in accordance with Subsection 407-3.02 of NYSDOT SS.
 - 3. Temperature and seasonal limitations/requirements shall be in accordance with Subsection 402-3.01 of NYSDOT SS.
- B. Surface Preparation:
 - 1. The surface areas where the tack coat and/or joint sealant are to be applied shall be cleaned of all dirt, sand, and loose material.
 - 2. Cleaning shall be accomplished via revolving brooms, mechanical sweepers, or other devices as approved by the ENGINEER/DEPARTMENT.
 - 3. Undesirable materials not removed by above means shall be further cleaned by hand brooming and/or scraping.
 - 4. Small areas otherwise inaccessible by mechanized equipment may be cleaned by hand brooming.
 - 5. The tack coat and/or joint sealant shall only be applied when the prepared surface is both clean and dry.

3.06 HOT MIX ASPHALT

- A. Construct each course of hot mix asphalt in accordance with the lines, grades, thicknesses, and typical sections shown on the Drawings or as established by the ENGINEER or DEPARTMENT.
- B. Construction shall be in accordance with Section 403-3 of NYSDOT SS, unless otherwise noted.

3.07 QUALITY ASSURANCE/QUALITY CONTROL

- A. Quality Control Testing:
 - 1. The CONTRACTOR shall verify and document in-place compacted thickness of each course of hot mix asphalt.
 - a. Thickness verification shall be conducted in accordance with ASTM D 3549.
- B. Repair and/or Replacement:
 - 1. Work found to deviate from the project requirements, as shown on the Drawings and/or as specified herein, shall be repaired or replaced by the CONTRACTOR at no additional cost to the Owner.
 - 2. Additional inspections and testing necessary to evaluate compliance of repaired, replaced, or additional work shall be conducted by the third-party testing agency at the expense of the CONTRACTOR.

3.08 CLEANUP

- A. Upon completion of the installation of new asphalt pavement, all debris and surplus materials resulting from the work will be removed.

END OF SECTION

SECTION 02900

TOPSOIL AND SEEDING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Contractor shall furnish all labor, equipment, and materials necessary for topsoiling and seeding where indicated on the Drawings or as directed by the ENGINEER or Department. Work includes, but is not limited to, the following:
 - 1. Furnishing and placing topsoil, seed, lime, fertilizer, and mulch in the areas indicated on the Drawings or in other areas disturbed during the course of construction (e.g., vicinity of field trailer for Contractor and ENGINEER);
 - 2. Source testing of Topsoil materials as specified herein.
 - 3. Maintaining topsoiled and seeded areas throughout the contract maintenance period.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01110: Summary of Work.
- B. Section 01330: Submittals Procedures.
- C. Section 02300: Earthwork.
- D. Section 02370: Erosion and Sedimentation Control

1.03 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced and unless otherwise noted, the latest publication shall apply. The publications are referred to in the text by the basic designation only.
 - 1. American Society for Testing And Materials (ASTM)
 - a. ASTM D 422 - Standard Test Method for Particle-Size Analysis of Soils
 - b. ASTM D 2974 - Standard Test Method for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils
 - c. ASTM D 4972 - Standard Test Method for pH of Soils
- B. New York Guidelines for Urban Erosion and Sediment Control, April 1997 by the Urban Soil Erosion and Sediment Control Committee which includes the following contributors: New York State Soil & Water Conservation Committee; Agronomy Department, Cornell University; Agricultural Engineering Department, Cornell University; New York State Department of Environmental Conservation; New York State Department of Transportation; New York Chapter of Land Improvement Contractors of America; O'Brien and Gere Engineers, Inc.; and USDA-Natural Resources Conservation Service (formerly the Soil Conservation Service).
- C. New York Standards and Specifications for Erosion and Sediment Control, August 2005 by the NYS Soil and Water Conservation Committee.
- D. Standards Specifications, State of New York Department of Transportation, May 4, 2006 by the New York State Department of Transportation (NYSDOT).
- E. DER-10/Technical Guidance for Site Investigation and Remediation (New York State department of Environmental Conservation, DEC Program Policy, issued May 3, 2010).

- F. Other applicable Federal, State, and local requirements.

1.04 SUBMITTALS

- A. Topsoil: Analysis for the full Target Compound List (TCL) must be performed in accordance with DER-10. EPA SW 846 methods shall be followed. The laboratory chosen shall be New York State Environmental Laboratory Approval Program (NYS ELAP) certified following current Analytical Services Protocols (ASPs). The Contractor shall submit topsoil source testing reports to the ENGINEER and the Department for approval.
- B. Topsoil Source Certification: Topsoil provided from offsite sources shall be certified that it meets Department Unrestricted Use Soil Cleanup Objective standards outlined in 6 NYCRR Part 375.
- C. Grass Seed Vendor's Certificate: Contractor shall submit for approval by the ENGINEER and Department the seed vendor's certified statement for the grass seed mixture required, showing common name, percentage of seed mix by weight, percentages of purity and germination, year of production, date of packaging, and location of packaging.
- D. Fertilizer: Contractor shall submit for approval by the ENGINEER and Department the fertilizer manufacturer's product data showing chemical analysis and percent composition.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: Obtain and retain as part of the project records, certifications, and/or labels of materials supplied.
- B. Topsoil: Topsoil shall consist of good quality friable soil consisting of a sandy loam, loam or silty loam that is free of stones over 1-1/2 inches and meeting the following requirements:
 - 1. Provide soil material with a minimum 20 percent and a maximum of 80 percent passing the No. 200 sieve and not more than 15 percent clay and not more than 10 percent gravel by volume.
 - 2. Reasonably free from subsoil, clay lumps, stones, brush, objectionable stumps, roots, litter, toxic substances, and other material or substances which may be harmful to plant growth or be a hindrance to grading, planting and maintenance operations.
 - 3. The pH of the material is recommended to be between 5.5 and 7.6 as guidance.
 - 4. The organic content shall be not less than 2 percent nor more than 6 percent.
 - 5. Topsoil containing soluble salts greater than 500 parts per million shall not be used.
- C. Fertilizer:
 - 1. Subsection 713-03 in the NYSDOT Standard Specifications, Type No. 3: 10-6-4 grade containing at least 10 percent available nitrogen, 6 percent readily available phosphoric acid and 4 percent total available potash in conformity with the Standards of the Association of Official Agricultural Chemists.
 - 2. Supply in unopened bags with the weight, contents and guaranteed analysis shown thereon or on a securely attached tag.

- D. Lime: Subsection 713-02 in the NYSDOT Standard Specifications Ground limestone composed of not less than 88 percent calcium and magnesium carbonate; at least 60 percent shall pass a No. 100 mesh screen, 90 percent shall pass a No. 20 mesh screen.
- E. Seed: Shall meet the minimum requirements approved by the Department of Seeds Investigations, New York State Agricultural Experiment Station, Geneva, New York.
1. The grass seed mixture shall include no "primary noxious weed seeds."
 2. Furnish in fully-labeled, standard sealed containers.
 3. Percentage and germination of each seed type in the mixture, purity, and weed seed content of the mixture shall be clearly stated on the label.
 4. The weight of pure live seed (PLS) is computed by the labeled purity percent times the labeled germination percent times the weight.
 - a. To illustrate the method of computing to PLS from the tag basis, the following example is given: Required: 20 pounds PLS of a particular variety--stock available is 99.41 percent pure and 92 percent germination--20 divided by the product of 0.9941 and 0.92 equals 21.8 pounds on the tag basis to furnish 20 pounds of PLS.
 5. Subject to the testing provisions of the Association of Official Seed Analysis, with the month and year of test clearly stated on the label.
 6. May be tested after it has been delivered to the project.
 7. Seed which has become wet, moldy, or otherwise damaged will not be acceptable.
 8. Use seed mixtures as specified below:
 - a. Subsection 610 and 713-04 in the NYSDOT Standard Specifications:

<u>Name</u>	<u>Wt. of Pure Live Seed/Acre</u>
Red Fescue (Festuca Rubra)	54
Perennial Ryegrass (Lolium Perenne)	31
White Clover (Trifolium Repens)(1)	5
Total	90
 9. For temporary seeding requirements see Section 02370, "Erosion and Sedimentation Control."
- F. Mulch: See Section 02370, "Erosion and Sedimentation Control."

2.02 TOPSOIL SOURCE TESTING

A. Topsoil:

<u>Test</u>	<u>Methodology</u>	<u>Frequency</u>
Grain Size (to the #200 Sieve)	ASTM D 422	1 test/source/material
pH	ASTM D 4972	1 test/source/material
Organic percent	ASTM D 2974 – Ignition Test	1 test/source/material
TCL VOCs	8260B	1 test/source /material ¹
TCL SVOCs	8270C	1 test/source /material ¹
TCL Pesticides/PCBs	8081/8082	1 test/source /material ¹
TAL Metals	6010B	1 test/source /material ¹

Mercury	7471B	1 test/source /material ¹
Cyanide	9010 or equivalent	1 test/source /material ¹

Notes:

1. Sampling frequency shall be in accordance with DER-10 Table 5.4(e)(10). The frequency provided in Sub-part 2.02(A) above is based on an imported soil quantity of 0-50 cubic yards. Per DER-10, discrete samples must be collected for VOCs and composite samples must be collected for SVOCs, pesticides/PCBs, and inorganics.

PART 3 - EXECUTION

3.01 PREPARATION

- A. All Areas to be Seeded:
 1. Shall be worked with a disk, harrow, dragged with a chain, mat or blade, machine-raked, or hand-worked as necessary to provide a reasonably firm but friable seedbed.
 2. Shall meet the specified grades or blend and match existing grades and are free of growth and debris.
 3. Take care to prevent the formation of low places and pockets where water will stand.
- B. Depth of Tillage: 2 inches or as directed by the ENGINEER or Department.
- C. Where ryegrass has been planted for temporary erosion control and has not been eliminated prior to the completion of the work, disk at least 4 inches deep and seed to permanent grasses.

3.02 APPLICATION

- A. Topsoil: Deposit topsoil on prepared areas to obtain a reasonable uniform depth (6" minimum) as shown on the Drawings. Spread and till, raking out pieces of sod, roots, and grass if they are in abundance. Spread into an even uniform layer by rolling to prepare for liming, fertilizing, and seeding.
- B. Fertilizer and Lime:
 1. Apply by means of a mechanical spreader or other acceptable method which is capable of maintaining a uniform rate of application.
 2. Conduct when the soil is in a moist condition and at least 24 hours before sowing the seed.
 3. Fertilizer shall be applied at the rate based on the results of the Nutrient Analysis when conducted or at a rate of 18 pounds per 1000 square feet.
- C. Seeding:
 1. Perform erosion control items of work such as seeding and mulching upon completion of a unit or portion of the project.
 2. When immediate protection of newly graded areas is necessary at a time which is outside of the normal seeding season, apply hay mulch with the seeding done at the same time or done later, or both, as ordered.
 3. When immediate seeding is required on areas of the project which are not to be regraded or disturbed, use specified seed mixture.
 4. Areas of the project which are to be left temporarily and which will be regraded or otherwise disturbed later during construction may be ordered to be seeded with

temporary seed to obtain temporary control, in accordance with Section 02370, "Erosion and Sedimentation Control."

5. The Department reserves the right to prohibit the use of any equipment that is unsuitable or inadequate for the proper performance of the work; immediately remove all rejected equipment from the project.

D. Mulch:

1. Undertake immediately after each area has been properly prepared.
2. Apply mulch at the rate as specified in Section 02370, "Erosion and Sedimentation Control."
3. Blowing chopped mulch will be permitted when authorized.
4. Authorization will be given when it can be determined that the mulch fibers will be of such length and applied in such a manner that there will be a minimum amount of matting that would retard the growth of plants.
5. Straw or hay mulch should cover the ground enough to shade it, but the mulch should not be so thick that a person standing cannot see ground through the mulch.
6. Remove matted mulch or bunches.
7. When specified, anchor mulch in accordance with Section 02370, "Erosion and Sedimentation Control."
8. Properly dispose of all baling wire or rope offsite.

3.03 SEEDING SEASONS

- A. Conduct permanent seeding between May 15 and June 30, between August 15 and September 1, or as directed or permitted by the ENGINEER or Department.
- B. Do not seed during windy weather or when the ground is frozen, excessively wet, or otherwise untillable.

3.04 SEEDING METHODS

- A. Fertilizer, limestone, mulch material if required, and seed of the type specified may be placed at the locations shown or ordered by one of the following methods, provided an even distribution is obtained. The maximum seeding depth shall be 1/4-inch when using methods other than hydroseeding.
 1. Dry Method:
 - a. Power Equipment: Use mechanical seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders, or other approved mechanical seeding equipment or attachments when seed, limestone, and fertilizer are to be applied in dry form.
 - b. Manual Equipment: On areas which are inaccessible to power equipment, permission may be given to use hand-operated mechanical equipment when the materials are to be applied in dry form. The use of hand shovels to spread the materials will not be allowed.
 - c. Do not mix limestone and fertilizer together prior to their application, but work into the soil together to the specified depth.
 - d. After seeding, compact the entire area by a suitable roller weighing 60 to 90 pounds per lineal foot.
 - e. Allow at least 24 hours between fertilizing and seeding.
 - f. Unless otherwise ordered, mulch areas covered with seed.

2. Hydraulic Method:

- a. The application of grass, seed, fertilizer, limestone, and a suitable mulch, if approved, may be accomplished in one operation by the use of an approved spraying machine.
- b. Mix materials with water in the machine and keep in an agitated state in order that the materials may be uniformly suspended in the water.
- c. The spraying equipment shall be so designed that when the solution is sprayed over an area, the resulting deposits of limestone, fertilizer, and grass seed are equal in quantity to the required rates.
- d. Flush and clean hydraulic seeding and fertilizing machine each day before seeding is to be started, and thoroughly flush of all residue after the completion of application on every 10 acres.
- e. If the results of the spray operations are unsatisfactory, abandon this method and apply the materials by the dry method.
- f. When inoculum is required, mix with the seed and spray.
- g. Compaction or rolling not required.
- h. Unless mulch material required is applied during the seeding operation or within 1/2 hour following the seeding operation, take measures to protect the seed from sunlight and heat such as the use of a light brush dragged over the seeded areas to stir the seed into the soil, taking care not to carry the seed ahead.

3.05 CARE AFTER SEEDING

- A. Protect and care for seeded areas until final acceptance of the work, and repair any damage to seeded areas caused by pedestrian or vehicular traffic or other causes, at the Contractor's expense.
- B. If necessary, place barricades and suitable signs to protect the seeded areas.
- C. Apply water to maintain proper moisture to promote growth. Use approved water wagons or tanks or other approved devices to apply water in the form of a spray or sprinkle without erosive force. The Contractor may not use Carriage Cleaner's water supply. Apply water prior to 10:00 a.m. and after 4:00 p.m. to minimize losses due to evaporation.
- D. Cut back weeds growing in seeded areas to prevent them from dominating the desired grass plants.
- E. Hay mulch to be provided as described on the Drawings.
- F. To be acceptable, a stand of grass shall show a reasonably thick, uniform stand, free from sizable areas of thin or bare spots, with a uniform coverage of at least 90 percent of grass.
- G. Reseed any parts of seeded areas which fail to show a uniform stand until all areas are covered with grass, at the Contractor's expense.
- H. Maintenance Period:
 1. This period shall extend for 60 days or until the turf has been mowed 3 times or until all work on the entire area has been completed and accepted.
 2. In this time do all necessary mowing to keep the grass between 3 and 6 inches in height.
 3. Acceptable grass areas shall have coverage of not less than 90 percent of permanent grasses at the termination of the maintenance period.

END OF SECTION

SECTION 03050

CELLULAR CONCRETE FILL

PART 1 – GENERAL

1.01 SUMMARY

- A. This Section includes the placement of cellular concrete flowable fill including all work necessary to gain access to, prepare and place stabilized flowable fill in accordance with these Specifications and as directed by the ENGINEER or DEPARTMENT.
- B. Cellular concrete fill shall be used to abandon floor drains as described in Section 02221 – Selective Site Demolition.

1.02 SCOPE OF WORK

- A. Included Scope
 - 1. The CONTRACTOR shall furnish all labor, materials, equipment and supervision required for the production, delivery and placement of the cellular concrete fill. The production and placement of the fill material shall be accomplished in strict accordance with Contract Documents.

1.03 RELATED WORK SPECIFIED ELSEWHERE:

- A. Sections 02221: Selective Site Demolition

1.04 REFERENCES

- A. American Society of Testing and Materials (ASTM)
 - 1. ASTM D 558 - Test Methods for Moisture Density Relations of Soil-Cement Mixtures
 - 2. ASTM C 150 – Specification for Portland Cement
 - 3. ASTM C 595 – Specification for Blended Hydraulic Cements
 - 4. ASTM C 869 – Specification for Foaming Agents Used in Making Preformed Foam for Cellular Concrete
 - 5. ASTM C 796 – Method of Testing Foaming Agents for Use in Producing Cellular Concrete Preformed Foam
 - 6. ASTM C 618 – Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement concrete
 - 7. ASTM C 33 – Specification for Concrete Aggregates
 - 8. ASTM C 494 – Specification for Chemical Admixtures for Concrete
 - 9. ASTM C 495 – Test Method for Compressive Strength of Lightweight Insulating Concrete
 - 10. ASTM C 403 – Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance
 - 11. ASTM C 470 – Standard Specification for Molds for Forming Concrete Test Cylinders Vertically
 - 12. ASTM D 6103 – Standard Test Method for Flow Consistency of Controlled Low Strength Material (CLSM)
- B. American Concrete Institute (ACI)
 - 2. ACI 523.1R - Guide for Cast-in- Place Low Density Concrete

1.05 QUALITY ASSURANCE

- A. The CONTRACTOR shall routinely engage in the production and placement of cellular concrete. The CONTRACTOR shall provide skilled labor and supervision to perform all related work.
- B. The CONTRACTOR shall provide all batching, mixing and placing equipment required for the production and placement of the cellular concrete fill. The equipment shall be configured in accordance with all fill Manufacturers recommendations.
- C. The cellular concrete batching equipment shall be capable of reproducing subsequent batches of fill at the specified cast density within an accuracy tolerance of +/- 3 pounds per cubic foot.
- D. Materials may be subject to inspections and tests at any time during the progress of their preparation of use.

1.06 SUBMITTALS

- A. The CONTRACTOR shall submit to the ENGINEER, a written statement issued by the fill Manufacturer, certifying the CONTRACTOR as an approved producer of the cellular concrete fill.
- B. At least 10 days before starting placement of flowable fill, the CONTRACTOR shall submit a mix design for the flowable fill to the ENGINEER for review. The mix design shall include, but not be limited to, the following information:
 - 1. Certification of compliance of the design mix relative to the mix design requirements of this Specification.
 - 2. Certification of compliance of the component materials used in the mix design relative to this Specification and referenced Specifications.
 - 3. Representative gradations for aggregate from the designated aggregate source and proposed gradation limits for aggregates to be used in the flowable fill.
 - 4. Plastic characteristics of the design mix including temperature, slump, air entrainment, wet unit weight, yield, and cement factor.
 - 5. Performance characteristics of the hardened flowable fill to include compressive strength of all specimens and the corresponding average compressive strength. Compressive strength tests shall be reported for ages of 1 day, 7 days, and 28 days.
 - 6. Unit weight of all compressive strength specimens at the time of testing and the corresponding average unit weight.
 - 7. The moisture density relationship for the combined cement, fly ash, mineral filler (if used), as determined in accordance with ASTM D 558.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. The CONTRACTOR shall provide all materials and equipment in suitable and adequate quantity and quality as necessary to accomplish the work specified herein. Flowable fill shall consist of a mixture of portland cement, fly ash, mineral filler, water and admixtures proportioned to provide a non-segregating, free-flowing, self-consolidating material that will result in a hardened, dense backfill. The CONTRACTOR shall prepare a mix design as specified herein to determine the proportion of materials necessary to meet the Specification requirements.

2.02 CONCRETE FILL MIXTURE COMPONENTS

- A. Portland Cement: Type I, IP, II or III, compliant to ASTM C 150. Other cementitious binders, such as blended cements meeting ASTM C 595, may be used when prior approval is obtained from the ENGINEER and the fill Manufacturer.
- B. Mix Water: Shall be free from deleterious amounts of acid, alkali, salts, oils and/or other organic compounds that could adversely effect the setting and/or subsequent strength development of the fill.
- C. Foaming Agent: MaxFlow Foaming Agent, produced by MaxFlow Environmental Corporation of Black Mountain, NC, or equal. Containers of MaxFlow Foaming Agent, or equal, shall be clearly identifiable by bearing the Manufacturers product labeling. The foaming agent shall meet the requirements of ASTM C 869 when tested in accordance with ASTM C 796.
- D. Standard Mineral Admixtures: fly ash meeting ASTM C 618 and/or sand meeting ASTM C 33 may be used when specified.
- E. Non-Standard Mineral Fillers: non-standard mineral fillers such as fly ash not meeting ASTM C 618 may be used when pre-tested and approved by the ENGINEER and the fill Manufacturer.
- F. Chemical Admixtures: admixtures shall comply with ASTM C 494 and may be used only when prior approval is issued by the ENGINEER and the fill Manufacturer.

2.03 PROPORTIONING

- A. The component proportions of the cellular concrete fill for the range class as specified in 2.04.A.1 shall be supplied to the fill CONTRACTOR by the Manufacturer. The fill CONTRACTOR shall thereupon submit the mixture proportions to the ENGINEER.

2.04 FILL PROPERTIES

- A. The cellular concrete fill shall be produced to meet the following physical properties:
 - 1. Cast Density: the cellular concrete fill shall have a cast density range of 36 – 42 pounds per cubic foot. Cast density sampling shall be acquired at the point-of-placement and density determinations shall be made in accordance with the applicable sections of ASTM C 495.
 - 2. Air Dry Density: the cellular concrete fill shall have an air dry cast density range of 32 – 38 pounds per cubic foot.
 - 3. Compressive Strength: the cellular concrete fill shall have a minimum 28 day compressive strength of 140 psi. Testing for compressive strength shall be accomplished in accordance with ASTM C 495.
 - 4. Bearing Capacity: the cellular concrete fill shall have a minimum ultimate bearing capacity of 10.1 tons per square foot at 28 days. The in-place bearing capacity values of the fill shall be determined by calculation, using the compressive strength values as determined in 2.04.A.3. Early bearing capacity of the fill may be determined by penetration in accordance with ASTM C 403.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Site Conditions

1. The CONTRACTOR shall examine the placement site for readiness. CONTRACTOR shall bring to the attention of the ENGINEER, any conditions requiring correction in order to allow the proper and expeditious placement of the cellular concrete fill.
2. The fill site shall be free from debris, standing water, snow or ice. The cellular concrete fill shall not be placed on frozen ground or atop sub-freezing surfaces.
3. Do not place at temperatures below 32 degrees F or when freezing temperatures are forecast to occur within 12 hours of final placement. Should cold weather placement become necessary, the fill Manufacturer shall be consulted for procedure recommendations.

B. Batching and Placement

1. The batching sequence shall be accomplished in accordance with procedures recommended by the fill Manufacturer. The mixing cycle shall be of sufficient duration as to produce a well blended, homogenous mixture.
2. The batching process and the method of conveyance, should be synchronized allowing a continuous flow of cellular concrete fill to arrive at the point-of-placement. The method of conveyance shall provide prompt delivery of the cellular concrete fill material.
3. In areas where thick sections of fill are required, the cellular concrete fill may be placed in lifts. The lifts shall be planned in a manner which would not cause the final placement, that lift fulfilling the maximum plan elevation, to be cast at a thickness of less than 2 inches.

C. Quality Control

1. Cast Density: cast density checks shall be taken at the point-of-placement. These checks shall be taken as frequently as is necessary during the initial batches in order to make any required adjustments to the fill mixture. Thereafter, point-of-placement density checks shall be taken at a minimum frequency of one per hour. The density determination information should be logged, also noting date, time and location and should thereafter be maintained by the fill CONTRACTOR as a project record.
2. Sampling
 - a. A minimum of (4) 3 x 6 cylindrical test specimens, for compressive strength testing, shall be obtained at the point-of-placement for each days placement. Should oven dry density determinations also be required, companion specimens shall be cast. The cylinder molds used shall meet the requirements of ASTM C 470. Sampling and testing shall be conducted in accordance with ASTM C 495 with the following exceptions:
 - Do not rod the cylinders during casting. The specimens shall be made by (1) half-filling the mold with fresh cellular concrete, (2) dropping the mold on a hard level surface from 1 inch above (4) times, (3) then filling the mold and repeating step (3). The freshly cast cylinders shall be placed

in a protected area where they will not be disturbed for a t least 24 hours.

- Do no oven dry the specimens cast for compressive strength testing.

b. The sampling and testing shall be performed by a qualified, independent commercial testing laboratory employed by the CONTRACTOR with results submitted to the ENGINEER within 48 hours of completion of testing. The ENGINEER may perform his own testing of the flowable fill using any or all of the above test methods. The CONTRACTOR shall cooperate with the ENGINEER in his testing of the flowable fill.

3. Flow Consistency: the flow consistency of freshly sampled cellular concrete fill may be determined in accordance with ASTM D 6103.

D. Placement of Fill in Abandoned Structures

1. The CONTRACTOR shall verify, through site investigation, that the appropriate structure is going to be filled. No functioning structures shall be filled with flowable fill. The CONTRACTOR shall be responsible for redirecting existing influent/effluent pipes of the structure to be abandoned to a new structure.

a. The abandoned structure shall be filled with flowable fill by gravity feed in such a manner that air voids do not form in the structure when the flowable fill is placed. After completing the Work, abandoned structure should be sealed in a neat, workmanlike manner that is acceptable to the ENGINEER.

2. After completing the Work, the CONTRACTOR shall remove from the project site any excess flowable fill that resulted from spillage, etc., and restore the project site to a condition that is acceptable to the ENGINEER. If excavation is required to abandoned the structure, the CONTRACTOR shall restore the area to its original condition as directed by the ENGINEER.

END OF SECTION

SECTION 03300

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION:

- A. Furnish and install cast-in-place concrete for the sidewalk as shown on the Construction Drawings, and specified herein.
- B. A specific type of low density flowable concrete, cellular concrete fill, shall be used to abandon floor drains; refer to Sections 02221 – Selective Site Demolition and 03050 – Cellular Concrete Fill.

1.02 RELATED WORK SPECIFIED ELSEWHERE:

- A. Sections 02221: Selective Site Demolition
- B. Section 02300: Earthwork
- C. Section 03050: Cellular Concrete Fill

1.03 REFERENCES AND GUIDANCE DOCUMENTS:

- A. American Concrete Institute (ACI) 301 “Specifications for Structural Concrete for Buildings”, (ACI 301)
- B. ACI 318 “Building Code Requirements for Reinforced Concrete”, (ACI 318).
- C. Concrete Reinforcing Steel Institute “Manual of Standard Practice”, (CRSI MSP).
- D. ACI “Manual of Concrete Practice, (ACI MCP).
- E. Town of Brighton Standard Details and Specifications.

1.04 SUBMITTALS

Submit the following in accordance with Section 01330, ‘Submittal Procedures’.

- A. Concrete Mix Design - Ten days minimum prior to concrete placement, submit a mix design for each strength and type of concrete. Submit a complete list of materials including type; brand; source and amount of cement, fly ash, pozzolans, ground slag, and admixtures; and applicable reference specifications. If source material changes, resubmit mix proportion data using revised source material. The submittal will clearly indicate where each mix design will be used when more than one mix design is submitted. Submit additional data regarding concrete aggregates if the source of aggregate changes.
- B. Delivery Slips:
Include time dispatched, cubic yards of concrete; weights of all aggregates, cement, and water added at the batching plant; type of cement; and volume of admixtures.
- C. Testing Laboratory Qualifications.
- D. Laboratory Test Reports.
- E. Field Test Data Summaries.

1.05 QUALITY ASSURANCE:

- A. All concrete shall conform to applicable requirements of the ACI Standards for design and construction of concrete work.
- B. The ENGINEER will review and approve all design mixes, test data, and delivery slips.
- C. The ENGINEER will inspect formwork, reinforcement, concrete placement techniques, joint construction, and surfacing finishing for compliance with these Specifications.

- D. The ENGINEER will inspect the completed concrete and identify any areas that require repair or rework.
- E. The ENGINEER may perform additional tests to verify CONTRACTOR collected data, or determine performance of suspect material or installation.

1.06 QUALITY CONTROL:

- A. Testing by the CONTRACTOR: Performed by an ENGINEER-approved independent testing laboratory:
 - 1. On-site collection of samples for slump, air content, and concrete temperature field testing and concrete compression laboratory testing.
 - a. Furnish equipment including buckets, shovels, wheelbarrows, etc. for the proper sampling of concrete.
 - b. Provide on-site facilities for storing and curing concrete samples.
 - c. Provide labor to assist the technician performing the field sampling and testing.
 - 2. Laboratory testing of concrete compression strength.
- B. Concrete Mix Design: Provide a concrete mix design that meets the performance standards set forth in Subpart 2.04 along with the name of the concrete supplier.

PART 2 - PRODUCTS

2.01 CONCRETE MATERIALS:

- A. Cement:
 - 1 Portland cement conforming to the requirements of ASTM C 150 as revised, Type I or II.
 - 2. Use an air entraining admixture conforming to ASTM C 260.
- B. Aggregate:
 - 1. Conform to ASTM C 33, as revised.
 - 2. Sand: Medium with a fineness modulus of 2.60-2.90.
 - 3. Coarse Aggregate: Not to exceed 3/4 inch for reinforced slabs.
- C. Water: Potable supply.

2.02 REINFORCING MATERIALS:

- A. Welded Wire Fabric: Conforming to ASTM A185 or A497.
- B. Wire: ASTM A 82 or A496.
- C. Reinforcement Supports:
 - 1. Types of acceptable supports include wire and welded wire supports, individual high chairs with plates, bolsters with plates, all-plastic supports, and concrete blocks.
 - 2. Brick supports for reinforcement in slabs on grade are not permitted.

2.03 RELATED MATERIALS:

- A. Grout:
 - 1. Provide non-shrink, non-metallic grout.
 - 2. Non-shrink in accordance with ASTM C 827, with an initial setting time of not less than 45 minutes.
- B. Bonding Agent: Two (2) component, solvent free, moisture intensive structural epoxy adhesive complying with ASTM C881, Type II, Grade 2, Class C.
- C. Elastomeric Sealants:

1. Polyurethane-based one-part elastomeric sealant complying with FS TT-S-00230, Class A, Type I (self-leveling). Type II may be used if recommended by manufacturer for required application.
 2. Provide primer and bond breaker as recommended by manufacturer.
- D. Liquid Membrane-Forming Compounds for Curing Concrete: Comply with the requirements of ASTM C 309 Type I A&B.
- E. Ready-Mix Concrete: Comply with the requirements of ASTM C94 and as specified herein.
- F. Joint Filler: Premolded bituminous-impregnated felt that complies with the requirements of ASTM D 1751.

2.04 CONCRETE PROPORTIONS:

- A. Prepare design mix by either laboratory trial batch or field experience methods as specified in ACI 301.
1. Laboratory Trial Batch Method:
 - a. Provide mix proportion data using at least three different water-cement ratios for each type of mixture, which will produce a range of strengths encompassing that required.
 - b. An independent laboratory shall provide testing and reporting.
- B. Proportion the concrete mix design to achieve the following performance requirements:
1. The material requirements and composition shall comply with the Town of Brighton specification for Class K concrete and proportioned as follows:

Class K Concrete Mix Design	
Cement	564 lbs/cy
Air Content	5% to 7%
Slump Range	2" to 3"
Coarse Aggregate Type	CA 4 (See Sub-part 2.04(B)(2))
Minimum 28-Day Compressive Strength	3,500 psi

2. Type CA 4 coarse aggregate shall conform to NYSDOT 703-02 except as modified below:

Type CA 4 Gradation	
Sieve Size	% Passing
1 1/2"	100
1"	95 - 100
1/2"	25 - 60
No. 4	0 - 10
No. 8	0 - 5

3. Concrete sand shall conform to NYSDOT 703-01 except as modified below:

Concrete Sand Gradation	
Sieve Size	% Passing
3/8"	100

No. 4	95 - 100
No. 8	80 - 100
No. 16	50 - 85
No. 30	25 - 60
No. 50	10 - 30
No. 100	2 - 8

- C. Provide a written mix design report to the ENGINEER for review and approval prior to beginning concrete production. Include the following information in the submitted report:
1. Identification of aggregate source of supply.
 2. Results of compliance test for aggregates.
 3. Scale weights of each aggregate.
 4. Absorbed water in each aggregate.
 5. Supplier, type, and amount cement, fly ash, pozzolans, ground slag and/or admixture.
 6. Proportion of each mix material in cubic yard.
- D. Mix may be adjusted as accepted by the ENGINEER when characteristics of materials, job conditions, weather, test results, or other circumstances warrant. Laboratory test data for revised mix design and strength results must be approved by the ENGINEER before incorporating into the Work.

PART 3 - EXECUTION

3.01 FORMWORK

- A. Design, furnish and erect as necessary to install concrete.
- B. Provide sufficient strength and rigidity to resist, without bulging, the weight of the concrete, and smooth and free of all irregularities.
- C. Form Material: Suitable for forms and adequate to retain the concrete to the designed dimensions; tied, clamped, and bolted together as necessary to prevent the leakage of mortar.
- D. Falsework: Rigidly braced against lateral movement, in such a manner that accurate alignment will be assured.
- E. Provide for all openings, beams, rebates, chases, slabs, etc., as may be required.
- F. Set all sleeves, inserts, etc., for other trades as furnished by them, and in the locations designated by them, and hold by substantial templates.
- G. Properly treat with form coating.
- H. Forms for Exposed Concrete: Surfaces equal in smoothness to metal or new plywood and joints tightly fitted.
- I. Construct all wall forms with clean out panels, suitably located along the base.
- J. Thoroughly clean of foreign material just prior to the placement of concrete.
- K. Fit all external corners of exposed concrete with $\frac{3}{4}$ -inch chamfer strips, except where specifically dimensioned on the Construction Drawings.
- L. Remove only when approved by the ENGINEER, and only when the concrete has obtained at least 60 percent of the design strength and is also of sufficient strength to support its own weight and the live loads to be placed thereon including backfill.
- M. Repair any damage caused by removal of forms.

3.02 REINFORCEMENT PLACEMENT:

- A. When delivered to the job site, pile on wood blocking off the ground and away from earthwork or trenching operations, and cover if necessary to prevent rusting or splashing with mud.
- B. Before being positioned, remove loose mill and rust scale and any coatings, including ice, that would destroy or reduce bond with the concrete.
- C. Where there is delay in depositing concrete, re-inspect and clean when necessary.
- D. Placement of Bars: In accordance with the "Recommended Practice for Placing Reinforcing Bars," as published by the Concrete Reinforcing Steel Institute.
- E. Accurately position and secure against displacement by using annealed iron wire ties, or suitable clips, and support by suitable approved metal supports, bolsters, chains, spacers, or hangers.
- F. Methods of Support: Approved prior to placement of reinforcing steel.
- G. Maximum spacing of ties at intersections: 16 inches.
- H. Splices: Lap splice with bars placed in contact and wire securely.
- I. Proposed splices not shown on the Construction Drawings: Receive the ENGINEER's approval as to location and character of the splices.
- J. Avoid splices at points of maximum stress, and if approved at those locations, lap-weld or form as otherwise directed.
- K. Welded Wire Fabric (WWF):
 - 1. Reinforcement shall be positioned and supported with the materials specified in Subpart 2.02G prior to the placement of concrete.
 - 2. Individual high chairs or bolsters without plates may be used with a firm subgrade.
 - 3. Placement of the WWF on grade and then pulling it into position once the concrete is placed (often called "hooking") shall not be permitted.
 - 4. Placement of the WWF on top of the freshly placed concrete and depressing it through the concrete to its installed position (often called "walking in") shall not be permitted.

3.03 CONCRETE PLACEMENT:

- A. Do not place until forms and reinforcing are inspected by the ENGINEER, but such does not constitute a review of structural adequacy of the forms which shall be the responsibility of the CONTRACTOR.
- B. Place mass concrete where it is to remain immediately after mixing, in no case later than 40 minutes after mixing, distributing it over the area to be covered in layers as directed by the ENGINEER.
- C. The concrete shall be placed in one course to the full depth shown on the Drawings.
- D. Deposit and consolidate concrete slab in a continuous operation.
- E. Work along faces of forms so as to give a smooth surface, free from voids, or loose aggregate.
- F. Limited vibrating may be permitted under the supervision of the ENGINEER.
- G. No segregation will be allowed.
- H. Conduct vibration by internal type mechanical vibrators operated only by experienced employees.
- I. Thoroughly rod and tamp about imbedded materials to secure proper adhesion and to avoid displacement of such materials.
- J. Level slab surfaces with straightedges and/or screeds and strike-off to correct low and high areas.
- K. Curing:
 - 1. The Contractor shall immediately apply an approved curing compound to new concrete surfaces in accordance with the manufacturer's recommendations.

2. Accomplish by keeping the Work wet and covering the concrete surfaces, after stripping and finishing, with wet burlap or some other similar material which will hold water.
 3. Keep wet continuously for at least 7 days.
 4. At no time during these 7 days expose directly to the sun and wind.
 5. Accomplish to the complete satisfaction of the ENGINEER.
- L. Weather:
1. Cold Weather Placement: Comply with ACI 306.
 - a. Protect concrete work from physical damage or reduced strength caused by low temperatures, frost, or freezing conditions.
 - b. Obtain a concrete mixture temperature of not less than 50 degrees Fahrenheit (F) and not more than 80 degrees F at point of placement when air temperature is at or forecasted to be below 40 degrees F.
 - c. Do not place on a subgrade that is frozen or contains frozen materials.
 - d. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators.
 2. Hot Weather Placement: Comply with ACI 305.
 - a. Maintain a concrete mixture temperature below 90 degrees F at point of placement.
 - b. Mixing water or chopped ice may be used to control temperature. The water equivalent of the ice must be included in the mix design calculations.
 - c. Water-reducing retarding admixture (Type D) may be included in the design mix when required by high temperatures and low humidity.
- M. Protection:
1. Heat water and/or aggregate and/or the concrete and/or protect against freezing, to the satisfaction of the ENGINEER.
 2. Do not disturb slab surfaces prior to finishing surfaces.
 3. After being deposited in the forms, keep at a temperature of 50 degrees F, or more, for at least 5 days.

3.04 JOINTS

- A. Construction Joints: Locate and install construction joints as shown on the Construction Drawings or as required, so not to impair the strength or appearance of the structure. The ENGINEER shall approve proposed locations for construction joints. Install joints perpendicular to the main reinforcement and continue reinforcement across the joint.
- B. Contraction (Control) Joints:
 1. Transverse joints shall be as shown on the Construction Drawings and spaced no more than 5 feet on center.
 2. Install as shown on the Construction Drawings using one of the following methods:
 - a. Forms:
 - Insert premolded hardboard or fiberboard strip into newly placed concrete until top surface of strip is flush with slab surface.
 - Remove inserts once concrete has cured.
 - Clean groove of any remaining loose debris.
 - b. Sawcutting:
 - Complete when concrete is cured enough that top surface will not be torn or damaged by the saw.
 - Sawcut a line to a depth of one fifth of the total slab depth.

- C. Isolation Joints: Install at points of contact between concrete slabs and vertical structures such as walls. Fill joint with butyl sealant.
- D. Premolded joint filler shall be installed at all joints between sidewalk and pavement, curbing, etc.

3.05 FINISHING

- A. Exterior Slabs:
 - 1. Finish slab to within tolerances of 0.10 feet of elevations defined on the Construction Drawings. For locations without defined elevations, slope concrete surfaces to drain away from buildings. Establish plane surfaces between elevation transitions. Slopes shall be between 1/4 inch per foot and 3/8 inch per foot.
 - 2. Match elevations of adjacent finish surfaces.
 - 3. Tamp as required to raise moisture to the surface and embed coarse aggregate below the surface.
 - 4. Screed with straight edges to bring the surface to the required grade and level.
 - 5. Float the surface to bring moisture to the top and force coarse aggregate below the surface. Continue until a smooth, even, impervious wet surface with no visible coarse aggregate is achieved.
 - 6. Finish with a broom to create a slightly roughened, slip resistant surface. Once surface moisture has disappeared, lightly drag a soft bristled broom across the concrete in straight parallel motions using even pressure. Keep the broom clean and wet at all times.

3.06 CURING AND PROTECTION

- A. ACI 301 unless otherwise specified. Begin curing immediately following form removal. Avoid damage to concrete from vibration created by movement of equipment in the vicinity, disturbance of formwork or protruding reinforcement, and any other activity resulting in ground vibrations. Protect concrete from injurious action by sun, rain, flowing water, frost, mechanical injury, tire marks, and oil stains. Do not allow concrete to dry out from time of placement until the expiration of the specified curing period. Do not use membrane-forming compound on surfaces where appearance would be objectionable, on any surface to be painted, where coverings are to be bonded to the concrete, or on concrete to which other concrete is to be bonded. If forms are removed prior to the expiration of the curing period, provide another curing procedure specified herein for the remaining portion of the curing period. Provide moist curing for those areas receiving liquid chemical sealer-hardener or epoxy coating.
- B. Moist Curing: Remove water without erosion or damage to the structure.
- C. Ponding or Immersion: Continually immerse the concrete throughout the curing period. Water shall not be more than 20 degrees F less than the temperature of the concrete. For temperatures between 40 and 50 degrees F, increase the curing period by 50 percent.
- D. Fog Spraying or Sprinkling: Apply water uniformly and continuously throughout the curing period. For temperatures between 40 and 50 degrees F, increase the curing period by 50 percent.
- E. Pervious Sheeting: Completely cover surface and edges of the concrete with two thicknesses of wet sheeting. Overlap sheeting 6 inches over adjacent sheeting. Sheeting shall be at least as long as the width of the surface to be cured. During application, do not drag the sheeting over the finished concrete nor over sheeting already placed. Wet sheeting thoroughly and keep continuously wet throughout the curing period.
- F. Impervious Sheeting: Wet the entire exposed surface of the concrete thoroughly with a fine spray of water and cover with impervious sheeting throughout the curing period. Lay sheeting directly on the concrete surface and overlap edges 12 inches minimum. Provide

sheeting not less than 18 inches wider than the concrete surface to be cured. Secure edges and transverse laps to form closed joints. Repair torn or damaged sheeting or provide new sheeting. Cover or wrap columns, walls, and other vertical structural elements from the top down with impervious sheeting; overlap and continuously tape sheeting joints; and introduce sufficient water to soak the entire surface prior to completely enclosing.

- G. Liquid Membrane-Forming Curing Compound: Seal or cover joint openings prior to application of curing compound. Prevent curing compound from entering the joint. Apply in accordance with the recommendations of the manufacturer immediately after any water sheen which may develop after finishing has disappeared from the concrete surface. Provide and maintain compound on the concrete surface throughout the curing period. Do not use this method of curing where the use of Figure 2.1.5 in ACI 305R indicates that hot weather conditions will cause an evaporation rate exceeding 0.2 pound of water per square foot per hour.
1. Application: Unless the manufacturer recommends otherwise, apply compound immediately after the surface loses its water sheen and has a dull appearance, and before joints are sawed. Mechanically agitate curing compound thoroughly during use. Use approved power-spraying equipment to uniformly apply two coats of compound in a continuous operation. The total coverage for the two coats shall be 200 square feet maximum per gallon of undiluted compound unless otherwise recommended by the manufacturer's written instructions. The compound shall form a uniform, continuous, coherent film that will not check, crack, or peel. Immediately apply an additional coat of compound to areas where the film is defective. Re-spray concrete surfaces subjected to rainfall within 3 hours after the curing compound application.
 2. Protection of Treated Surfaces: Prohibit pedestrian and vehicular traffic and other sources of abrasion at least 72 hours after compound application. Maintain continuity of the coating for the entire curing period and immediately repair any damage.
- H. Curing Periods: ACI 301 except 10 days for retaining walls, pavement or chimneys, 21 days for concrete that will be in full-time or intermittent contact with seawater, salt spray, alkali soil or waters. Begin curing immediately after placement. Protect concrete from premature drying, excessively hot temperatures, and mechanical injury; and maintain minimal moisture loss at a relatively constant temperature for the period necessary for hydration of the cement and hardening of the concrete. The materials and methods of curing shall be subject to approval by the ENGINEER.

3.07 QUALITY CONTROL TESTING

- A. Field Sampling and testing during placement of concrete shall include the following for each load of concrete delivered by truck to the Site.
1. Sampling fresh concrete: ASTM C172, except modified for slump to comply with ASTM C94.
 2. Slump: ASTM C143 at point of discharge.
 3. Air Content: ASTM C173, volumetric method for lightweight or normal weight concrete; ASTM C231 pressure for normal weight concrete.
 4. Concrete temperature: Increase testing to hourly when air temperature is below 40 degrees F or above 80 degrees F.
 5. Test values will be compared to the performance requirements listed in Subpart 2.04B.

- B. Compressive Strength Testing:
1. Collect compression test specimen according to ASTM C31. One set of samples is comprised of four (4) standard cylinders. Cylinders shall be delivered to the laboratory for testing once they have cured adequately for transfer.
 2. One set of samples will be collected for each 50 cubic yards of material, or fraction thereof, delivered to the Site each day. A minimum of one set of samples will be collected per day.
 3. Compressive Strength Test: ASTM C39 with one (1) cylinder tested at 7 days, two (2) cylinders tested at 28 days, and one cylinder retained in reserve for additional testing if required.
 4. Test results will be compared to the performance requirements listed in Subpart 2.04B. Concrete is considered satisfactory if the following results occur:
 - a. The average compressive strength of 3 consecutive sets of samples equals or exceeds the specified compressive strength.
 - b. No individual test of the sets used to calculate the average is more the 500 psi less than the specified strength.
- C. Additional testing of in-place concrete may be performed at the request of the ENGINEER if compressive strength test results or other collected data indicates that the specified performance standard of the concrete has not been attained. Cored cylinders complying with ASTM C42 or other method specified in ACI 301 may be collected and tested. The CONTRACTOR shall pay for any additional tests and the cost to repair defective work.

3.08 CONCRETE REPAIRS:

- A. Identify Areas Requiring Repair
1. High areas as identified by the ENGINEER visually, by survey, or other measurement means can create slope deficiencies and/or uneven transitions to adjacent finish surfaces.
 2. Low areas as identified by the ENGINEER visually, by survey, or other measurement means can create slope deficiencies, drainage problems, and/or uneven transitions to adjacent finish surfaces.
 3. Defects that can affect concrete durability include crazing, cracks in excess of 0.01 inches wide, cracks that penetrate through to reinforcement, cracks through non-reinforced sections of concrete, spalling, pop-outs, honeycombs, and other objectionable areas identified by the ENGINEER.
- B. Repair Materials:
1. Cement mortar may be used as a patching material for small repair areas. In exposed areas, care should be taken to blend white Portland cement or other additives to match coloration of patch material to adjacent cured concrete.
 2. Commercial pre-mixed patching compounds may be used for small repair areas if approved by the ENGINEER.
 3. Concrete of the same mix design as the concrete adjacent to the repair area shall be used for large repair areas.
- C. Methods of Repair
1. High areas shall be corrected by grinding the surface after concrete has cured for at least 14 days.
 2. Low areas shall be corrected as soon after concrete placement and finishing as possible. Cut out low areas before concrete has cured and replace with fresh concrete. Alternately, the ENGINEER approved proprietary patching compounds may be used to fill low areas. Patching compounds shall be used only in the manner recommended by the manufacturer.
-

3. Cracks, honeycombs, spalled areas, and other smaller defects shall be cut out to competent concrete. Cuts should be made perpendicular to the surface of the concrete. Thoroughly clean area, dampen with water, and brush coat the patch area with bonding agent. After the bonding agent has dried, place patch material to fill repair to match the adjacent finish surface. Allow patch to cure in the same way as the surrounding concrete.
4. Large defective areas shall be completely cut out and replaced with fresh concrete. Cuts should be made perpendicular to the surface of the concrete. Thoroughly clean area, dampen with water, and brush coat the patch area with bonding agent. After the bonding agent has dried, place fresh concrete to fill repair to match the adjacent finish surface. Allow patch to cure in the same way as the surrounding concrete.

3.09 INSPECTION

- A. Notify the ENGINEER of form stripping so he may inspect the concrete work before any sealing, finishing, or backfilling are allowed.
- B. Replace all defective concrete work with suitable work or repair to the satisfaction of the ENGINEER.

3.010 DEFECTIVE WORK ACCEPTANCE AND REMEDIES

- A. Defective Work: Any Work which fails to comply with the requirements of these Specifications and/or does not comply with the acceptance requirements of Chapters 17 and 18 of ACI 301. All repairs, modifications, or removal and replacement of nonconforming and deficient concrete shall be at the CONTRACTOR's expense.
- B. Remedies:
 1. Repair work which may be repaired to comply with these Specifications and ACI 301 using ENGINEER approved repair methods may be accepted.
 2. Remove and replace work which can not be repaired by accepted methods.
- C. Inadequate Concrete Strength: If laboratory tests show inadequate concrete strength, the following may be required at the CONTRACTOR's expense:
 1. Additional curing time.
 2. Modifications to the mix design for any areas of remaining Work.
 3. Changes to the reinforcement design (size and number) for areas of remaining Work.
 4. Additional tests to provide supplementary information on concrete strength and quality.

END OF SECTION

SECTION 11001

EQUIPMENT, GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This specification provides general requirements applicable to equipment components of the packaged treatment system and the extraction well pump.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- B. Section 13280: Packaged Soil Vapor Extraction and Groundwater Treatment System
- C. Division 15 specifications.
- D. Division 16 specifications.

1.03 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
 - 1. American Society for Testing and Materials (ASTM)
 - a. Fiberglass Tanks and Equipment
 - b. Steel Chains
 - c. Steel Bolting Materials
 - d. Steel Flanges and Fittings
 - e. Steel Forgings
 - f. Structural Steel
 - g. Steel Plates, Sheet, Strip
 - h. Steel Castings
 - i. Steel Pipes
 - j. Steel Tubes
 - k. Welded Steel Fittings
 - l. Plastic Pipe Materials
 - m. Plastic Pipe Installation Components and Procedures
 - 2. Code of Federal Regulations (CFR)
 - a. 29 CFR 1910, Subpart D - Walking - Working Surfaces
 - b. 29 CFR 1910, Subpart O - Machinery and Machine Guarding

1.04 QUALITY ASSURANCE

- A. Material and Equipment Qualifications
Provide materials and equipment that are standard products of manufacturers regularly engaged in the manufacture of such products, which are of a similar material, design and workmanship. Standard products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year use shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been for sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period.

- B. Alternative Qualifications
Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturer's factory or laboratory tests, can be shown.
- C. Service Support
The equipment items shall be supported by service organizations. Submit a certified list of qualified permanent service organizations for support of the equipment which includes their addresses and qualifications. These service organizations shall be reasonably convenient to the equipment installation and able to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.
- D. Manufacturer's Nameplate
Each item of equipment shall have a riveted brass nameplate bearing the manufacturer's name, address, model number, serial number rated capacity, head, speed, brake horsepower, and size securely affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable.
- E. Modification of References
In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears. Interpret references in these publications to the "authority having jurisdiction," or words of similar meaning, to mean the ENGINEER.
- F. Mechanical Equipment, Including Drives and Electrical Motors Unless Otherwise Noted
1. Supply and install in accordance with the Williams-Steiger Occupational Safety and Health Act of 1970 and subsequent amendments.
 2. The CONTRACTOR's attention is drawn to the requirements for equipment guards.
 3. The noise level of equipment, drives and motors, unless otherwise noted, shall not exceed 85 dBA measured 3 feet from the unit under free field conditions and shall also not exceed OSHA and other applicable standards under installed conditions.
- G. General Design of Equipment or Machinery
1. Furnish latest improved design suitable for the service specified.
 2. Designed and constructed to operate efficiently, continuously and quietly under the specified requirements with a minimum of maintenance, renewals and repairs.
 3. Such as to permit operation with minimum wear, vibration and noise when properly installed.
 4. Allowable Amplitude Permitted: 2.0 mils maximum for blowers or any 3600 rpm machinery.
 5. All Other Machinery: Maximum allowable amplitude of 4.0 mils.
 6. Provide ample room for erecting, repairing, inspecting and adjusting of all equipment and machinery.
 7. Design, Construction and Installation: Conform to and comply with the latest safety codes and regulations. Design all equipment stands, frames and supports to withstand seismic loads based on applicable building codes.
 8. All Equipment of Identical Size, Type and Service: Product of the same manufacturer.
 9. All equipment selected shall suit the general arrangement of the space in which it is to be installed.
 10. Drive Units, Unless Otherwise Specified: Furnish with driven equipment, mounted and factory aligned.
 11. Electrical Work: Unless otherwise specified in the mechanical equipment, all electrical work, materials, and equipment shall conform to the provisions of

DIVISION 16 - ELECTRICAL.

12. Spare Parts:

- a. Tag with equipment name and number, suppliers name, and part number.
- b. Organize by equipment name and number and store where designated by the ENGINEER.
- c. Store as recommended by the manufacturers with regards to coating and corrosion and damage protection.
- d. The following are the minimum to be supplied when the plant is turned over to the DEPARTMENT for each type of equipment provided under this Contract, as appropriate.
 - 1) Two sets of each size and type of drive chains or belts.
 - 2) One set of each size and type of pulleys and keys.
 - 4) One year supply of all size and type of filters as per manufacturers' recommendations.
 - 5) One year supply of all lubricant as per manufacturers' recommendations.
 - 6) Two sets of all gaskets.
 - 7) Two sets of all seals and sealing strips.
 - 8) Six sets of all types and sizes of shear pins.
 - 9) Packing for 2 complete packing changes.
 - 10) One shaft sleeve of each size.
 - 11) One set each size and type of wearing rings.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Handle, store, and protect equipment and materials to prevent damage before and during installation in accordance with the manufacturer's recommendations, and as approved by the ENGINEER. Replace damaged or defective items.
- B. All equipment shall be factory finished in accordance with the applicable equipment specification section. The CONTRACTOR shall be responsible for touch-up or repainting of all damaged or defective painted surfaces to match manufacturer's existing coating to the satisfaction of the ENGINEER.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Anchor Bolts and Bolts
 1. Either stainless steel or cadmium-plated in accordance with the specification requirements for cadmium-plated anchor bolts.
 2. The CONTRACTOR shall furnish all anchor bolts for all equipment; and shall be in accordance with manufacturer's specifications as to quality, number and location.
- B. Gear Reduction Units
 1. Gears of Gear Reduction Units: Made of highest quality alloys treated for hardness and severe service.
 2. All Gear Reduction Units on Equipment: Selected for Class II or more severe service as classified by the American Gear Manufacturers Association.
 3. The Complete Reduction Unit: Fully enclosed in a heavy cast-iron housing with gears running in oil.
 4. Bearings: Anti-friction type.
 5. Actual and Rated Horsepower, Torque, Overhang Capacity, or Bearing Capacity:

Not less than the horsepower rating of the drive motor nor less than that which will be encountered under full load or under the most severe loading conditions of the equipment, and the ENGINEER may reject any gear reduction unit that does not meet the above requirements.

6. Manufacturer: Long established with a good reputation.
 7. Unless otherwise specified, helical or herringbone type.
 8. Planetary gear units and worm gear type units may be used only where specified.
 9. Class of Service: Class II or heavier, as determined by the manufacturer or as directed by the ENGINEER.
 10. Furnish the ENGINEER with complete engineering information, catalog data, design features, loading capacities, and mechanical efficiency ratings.
- C. Lubrication Fittings:
1. Bring fittings to the outside of all equipment so that they are readily accessible from the outside without the necessity of removing covers, plates, housings, or guards, or without creating falling hazards by unusual elevations.
 2. Buttonhead type.
 3. Mount together wherever possible.
 4. Pressure Grease-lubricated Fittings: "Zerk Hydraulic" type or "Alemite" type.
 5. Housings of Grease-lubricated Bearings: Automatically exhausted to the atmosphere to prevent excessive greasing.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General
1. Furnish complete copies of installation, operation, maintenance, and lubrication instructions for all equipment. Do not install equipment until the above required instructions covering that part of the equipment have been supplied.
 2. Install equipment complete and ready to operate.
 3. Maintain and lubricate all equipment until acceptance of the work.
 4. Welding: By electric arc and best qualified welders in accordance with applicable welding codes of AWS.
- B. Alignment of Motors and Equipment
1. In every case where a drive motor is connected to a driven piece of equipment by flexible coupling, the coupling halves shall be disconnected and the alignment between the motor and the equipment checked and corrected after the complete unit has been leveled on its foundation, and again after grout has set and foundation bolts have been tightened.
 2. In general, checking and correcting the alignment shall follow the procedures set up in the Standards of the Hydraulic Institute for centrifugal pumps.
 3. Equipment shall be properly leveled and brought into angular and parallel alignment.
 4. Do not grout equipment bases or tighten foundation bolts until all piping connections are complete and at satisfactory alignment with no strain transmitted to the equipment.

3.02 FIELD QUALITY CONTROL

- A. Testing Before Plant Start-up
1. Moving Parts of Equipment and Machinery: Carefully install, test for operation,

and adjust so that all parts move freely and function properly to insure satisfactory operation.

2. Replace defective parts without extra compensation.
3. Fill equipment with oil and grease, and furnish all power, water, personnel, chemicals, fuels, and accessories necessary for testing of the equipment for proper operation, efficiency, and capacity.
4. Operate each piece of equipment that will normally be subject to motion for prolonged periods for at least 8 consecutive hours after installation and before testing.
5. Notify the ENGINEER a minimum of 48 hours in advance of all testing.
6. Supply the proper lubricants and perform oil changes where necessary.

END OF SECTION

SECTION 11318

EXTRACTION WELL PUMPS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install submersible extraction well pump and all incidental work. Complete in strict accordance with the Specifications, Drawings, and standard details.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 02540: Site Remediation Piping
- C. Section 15060: Piping and Valves

1.03 SUBMITTALS

- A. Submit the following in accordance with Section 01330, "Submittal Procedures"
 - 1. Manufacturer's Catalog Data
 - a. Pump Construction
 - b. Materials
 - c. Motor data
 - d. Accessories
 - e. Head/capacity curves
 - 2. Provide installation instructions.
 - 3. Operation and maintenance manual

1.04 QUALITY ASSURANCE:

- A. Acceptable Manufacturers
 - 1. Grundfos Pumps Corp.
 - 2. Goulds Pumps, Inc.
 - 3. or approved equal

PART 2 - PRODUCTS

2.01 SUBMERSIBLE PUMPS AND MOTORS

- A. Provide and install extraction well pump P-1. Refer to Table 1 for a pump schedule.
- B. Capable of operating over the entire range of suction water levels possible (ranging between maximum static head and minimum operating head with drawdown).
- C. Pump Control: Manual speed control through Potentiometer with a dry contact start/stop from system control unit based on a level transmitter probe capable of emitting a 4-20ma signal with $\pm 1/10\%$ full scale accuracy or better; see Drawings to determine probe lengths. Level control logic built into package treatment system controls. Variable frequency drive for pump to adjust level.
- D. Motor:
 - 1. Size: HP, voltage, phase, and hertz, as shown in Table 1.
 - 2. Motor shall be water filled for cooling and lubrication. Oils or grease shall not be used for lubrication of bearings.
 - 3. Provide a shaft seal to insure the internal motor fluid is not mixed with the pumped fluid. Shaft seal shall be a nitrile rubber lip seal or a viton seal.

4. Stainless steel housing.
5. Stainless steel shaft.
6. Inverter duty rated.
- E. Capable of continuous operation.
- F. Pump Construction:
 1. Provide materials resistant to corrosion by the water encountered in the well.
 2. Pump casing, shaft, shaft sleeves, and motor casing: stainless steel.
 3. Bowls: stainless steel.
 4. Impellers and Diffusers: stainless steel.
 5. Check valve of stainless steel shall be integrally designed into the pump discharge housing.
 6. Bearings and valve seats to be Teflon.
 7. Inlet Strainer: stainless steel.
 8. Provide adequate lightning and overload protection for the motor.
- G. Pump Controller
 1. Provide integrated pump controller with the following features:
 - a. Capable of controlling pump speed.
 - b. Alarm fault light
 - c. Alarm relay triggered for following conditions
 - 1) No contact
 - 2) Overvoltage
 - 3) Undervoltage
 - 4) Dry running
 - 5) Over temperature
 - 6) Overload
 - 7) Sensor alarm
 - d. Capable of accepting two (2) analog inputs
 - e. Capable of accepting one (1) digital input
 - f. Capable of performing constant level or pressure control
 - g. External On/Off switch
 - h. Equal to a Grundfos CU300
 2. Provide external potentiometer with cabinet for mounting.
 - a. Equal to a Grundfos SPP1.
 3. Provide controller programmer for communication configuration with pump controller.
 - a. Equal to a Grundfos R100
- H. Instrumentation
 1. Pressure Transducer
 - a. 316 SS body 0.75" diameter
 - b. FEP Teflon cable – length as require
 - c. 9-24VDC Loop powered
 - d. 4-20 mA output
 - e. 15 PSIG range with 2X over range protection
 - a. Equal to a PS-9 Series by Instrumentation Northwest Inc.
 2. Spares
 - a. Provide one spare pressure transducer.

2.02 ACCESSORIES:

- A. Cable: Supply suitable lengths of two wire cable between the motor and the top of the well casing.
- B. Furnish a stainless steel wire safety cable to support the pump at the top of the well.

- C. Torque Arrestor: Furnish a torque arrestor to keep the pump centered in the well and absorb the motor thrust.
- D. Provide spacers at 20-foot intervals to keep the wire away from the well casing.
- E. Pitless Adapter: Provide suitable for the discharge pipe shown on the drawings made of stainless steel or red-brass with teflon coated o-rings.

2.03 SPARE PARTS

- A. Provide one set of the spare parts as recommended by the manufacturer.

PART 3 - EXECUTION

3.01 INSTALLATION:

- A. Install all equipment in strict accordance with the manufacturer's recommendations.
- B. Before ordering any materials or doing any work, verify all measurements concerning equipment and layout.
- C. No extra compensation will be allowed for differences between actual dimensions and those shown on the Contract Drawings.

3.02 TESTING:

- A. Test pump function and well level control systems for each well.
- B. Demonstrate that pump is capable of producing the required flow rate and head. Test the pump over a variable flow range of 50% and 100% of desired capacity after an initial 8-hour shake down period and test the operation and accuracy of the liquid level controls over this range of pump capacity.
- C. Perform tests when the groundwater treatment system and the sewer connection is functional.

TABLE 1
PUMP SCHEDULE

PUMP DESCRIPTION	PUMP NUMBER	PUMP CAPACITY (GPM)	PUMP SPEED (RPM)	TDH (FEET)	MOTOR		
					MAXIMUM HP	VOLTAGE/PHASE /CYCLE	MODEL NO.
EW-1 Well Pump	P-1	2*	3450	65*	1/2	230/1/60	Grundfos SQE 5-90

*Pump to be operated by a variable frequency drive to allow for lower operating flow/head conditions.

END OF SECTION

SECTION 13280

PACKAGED SOIL VAPOR EXTRACTION AND GROUNDWATER TREATMENT SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION:

- A. Provide a self-contained soil vapor extraction and groundwater treatment system in a trailer, container, or pre-engineered storage building. The equipment will be installed on the asphalt parking area indicated. Uniform and concentrated loading on the parking area is not to exceed 1,500 pounds per square foot. Any loading above this amount must be submitted and approved by the ENGINEER.
- B. Provide all required controls and appurtenances for a complete system for unattended operation.
- C. Provide adequate access for system maintenance.
- D. Provide a system that, under normal conditions, will operate for a minimum of one week without the presence of an operator.
- E. Provide a system with a minimum design life of 5 years.
- F. National Electric Code General Classification.
- G. The system consists of several components. The CONTRACTOR shall be responsible for selecting and integrating all components to meet the requirements of the Contract Documents. Each component of the system has its own operating and construction requirements. It shall be the CONTRACTOR's responsibility to ensure that all of the system components are constructed and will operate in a manner compatible with each other, while each meeting their individual objectives.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 01600: Operation and Maintenance Manual
- C. Section 11001: Equipment, General
- D. Mechanical: Division 15
- E. Electrical: Division 16

1.03 SUBMITTALS:

- A. Submit the following in accordance with Section 01330 - Submittal Procedures:
 - 1. General arrangement of building interior, to scale.
 - 2. Design Basis/Performance Data.
 - 3. Design Calculations.
 - a. Multi-phase, vapor, and liquid headloss calculations
 - b. Air/liquid separator sizing calculations
 - c. Heating/ventilation sizing calculations
 - d. Power demand calculations
 - e. Heat tracing/insulation calculations.
 - f. Electrical load calculations.
 - 4. Catalog data: Manufacturer's literature and illustrations.
 - 5. Manufacturer's Specifications and Engineering Data.
 - 6. Equipment, Electrical, and Instrumentation Shop Drawings.
 - 7. Carbon Usage Estimates.

8. Manufacturer's paperwork (if any) required for acceptance of spent carbon for reactivation by manufacturer.
9. Piping plan and sections.
10. Material chemical and temperature compatibility assessment/table.
11. Blower head/capacity curves
12. Blower motor data
13. Wiring diagrams/ladder logic
14. Operation and Maintenance Manuals (See Section 01600 – Operation and Maintenance Manual.
15. Equipment and System Warrantees
16. Factory testing/hydrostatic testing Report.

1.04 PERFORMANCE:

- A. Furnish a soil vapor extraction system capable of providing a minimum of 300 scfm at 56-inches of water measured at the well head.
- B. Furnish a liquid treatment system as shown on the contract drawings and as defined in Part 2. The system shall be designed to handle a minimum of 5 gpm. The treatment system effluent shall be directed to a 6-inch PVC discharge pipeline. Refer to the Limited Site Data Document for groundwater concentrations.
- C. Furnish a vapor treatment system as shown on the drawings to a granular activated carbon adsorption system as specified in Part 2.

1.05 QUALITY ASSURANCE:

- A. Acceptable System Manufacturers:
 1. ProAct Services Corporation (Frank Smiddy, 231-843-2711)
 2. or approved equal (alternative suppliers and their qualifications must be identified as part of the bid proposal).
 3. Qualified manufacturer's must demonstrate a minimum of 5-years experience manufacturing similar systems.
- B. The CONTRACTOR shall provide a warranty of workmanship, mechanical systems, piping, electrical systems, process equipment and flow capacity for a period of 1 year after startup.

PART 2 - PRODUCTS

2.01 GENERAL

- A. System shall be resistant to corrosion and chemical degradation by contaminants of concern.
- B. Provide treatment system completely shop-assembled and factory tested. Trailer, container, or building shall contain all equipment, piping, valves, piping specialties, instrumentation, and controls, pre-piped, pre-wired, and tested ready for setting on an asphalt pad.
- C. Design and arrangement of equipment shall include sufficient space for easy access to equipment, valves, instrumentation, and controls for routine operation and maintenance activities, including easy disassembly, removal and replacement.

2.02 INFLUENT SVE MANIFOLD:

- A. Size: 6 leg manifold as shown on drawings

- B. Materials: Schedule 80 PVC
- C. Accessories:
 - 1. Variable area flow meter with bypass and isolation valves for each leg
 - 2. Pressure gauge for each leg (scaled for vacuum).
 - 3. Pressure gauge for common header (scaled for vacuum)
 - 4. Sample valve for each leg (Needs to be a special valve for sampling a vacuum pipeline)

2.03 SVE BLOWER

- A. Performance
 - 1. Blower shall be capable of operating continuously under the following design conditions:
 - a. Number of units: 1
 - b. Inlet air temperature 0 – 100°F
 - c. Maximum blower speed: 3600 RPM
 - d. Minimum blower speed: 1700 RPM
 - e. Minimum flow rate: 300 scfm
 - f. Vacuum and pressure: As calculated by system supplier.
- B. Blower
 - 1. Direct drive regenerative blower.
 - 2. Cast aluminum housing, cover, dual impellers.
 - 3. Stainless steel shafted chemical duty motor.
 - 4. Drain plugs.
 - 5. Ametek Rotron or approved equal
- C. Motors and Drive
 - 1. 480 V, 3 ph, 60 Hz.
 - 2. 1.15 service factor.
 - 3. TEFC
 - 4. Direct coupled drive.
 - 5. Insulation Class F.
 - 6. UL listed.
 - 7. Chemical duty and inverter duty rated. Premium efficiency.
 - 8. The power requirement of the blower shall not exceed the nameplate motor horsepower under standard operating conditions (14.7 psia discharge, 60°F operating liquid).
- D. Blower and Motor Mounting
 - 1. Blower and motor mountings shall be equipped with common steel baseplates, anchor bolts, and sleeves for attachment to foundation.
- E. Blower Accessories
 - 1. Inlet Filter/Silencer:
 - a. Steel housing
 - b. Dry element, cleanable and replaceable.
 - c. Rated to filter 97 percent of 10 micron and larger particles.
 - d. Single connection type.
 - e. Suitable for outdoor environment.
 - f. Sized for the maximum rated capacity of the SVE blower
 - 2. Air/Water Separator
 - a. Quantity: One
 - b. Type: Centrifugal

- c. Size: Sized for moisture removal at maximum capacity of SVE blower while at high liquid level. Minimum 10 gallon liquid storage.
- d. Material: Steel coated inside and out with a coating suitable for the intended service. Designed to continuously withstand 22" mercury vacuum. Designed for contact with chlorinated solvent DNAPLs
- e. Separator Accessories:
 - 1) Sight liquid level indicator
 - 2) Level control and level alarm switches as shown on drawings
 - 3) Hand holes for cleaning purposes.
 - 4) Manual tank drain valve
 - 5) Vacuum safety valve, spring-loaded type set to 0.5 in Hg above maximum working vacuum.
- 3. Particulate Filter: Provide with stainless steel mesh element and manual drain valve. Element shall be cleanable and replaceable and rated to filter 99 percent of 10 micron and larger particles.
- 4. Discharge Silencer:
 - a. Steel construction with line sized connections.
 - b. Baffled interior.
 - c. Minimum noise attenuation: achieve a maximum of 85 dBA measured 3 ft. from the blower.
 - d. In-line type.
- 5. Flexible Connectors:
 - a. Flanged, bulb type on suction and discharge.
 - b. Same as line size.
- 6. Variable Frequency Drive
 - a. CONTRACTOR shall coordinate variable frequency drive manufacturer selection with motor selection, and shall be solely responsible for ensuring that the individual variable frequency drives furnished are completely compatible with all requirements and intended functions of the driven equipment. The VFD system shall include all filters, contactors, control relays, fuses, control power transformers, incoming line circuit breakers, and other accessories equipment for a complete operating system, and shall be the responsibility of one vendor. The vendor shall indicate that the rating that has been provided will meet all operating conditions for the drive and the power system as part of the submittals. The manufacturer shall package the system to include the incoming disconnect circuit breaker through the final output devices.
 - 1) Acceptable variable frequency drive manufacturer is Toshiba, Allen Bradley, ABB constant torque heavy duty unit systems.
 - b. The drive shall be capable of varying the speed of the motor from a virtual standstill to the standard speed of the motor.
 - c. The drive shall have front panel access for operator access of speed indication and adjustment.
 - d. Input voltage shall be as indicated on the Drawings and/or as specified in the equipment specification sections. Frequency shall be 60 Hz.
 - e. Output shall be three (3) phase voltage as indicated on the Drawings and/or as specified in the equipment specification sections.

- f. The drive shall be a PWM (Pulse Width Modulated) transistorized inverter. Drives may be 6 pulse, 12 pulse, and or 18 pulse systems with associated equipment and in compliance with IEEE-519.
- g. The drive manufacturer shall have not less than five years of experience in the manufacture of drives in the United States.
- h. The drive shall be rated for constant or variable torque applications, based on the driven load requirements. For constant torque applications, the output transistors shall be low-gain, fully rated. Derated high-gain transistors are not acceptable. All drives shall be constant torque type with 1.15 SF. Power runs from drives to motors shall be run in RGSC.
- 7. Pressure/Vacuum Relief Valve:
 - a. Provide one (1) pressure and one (1) vacuum relief valve.
 - b. Spring-loaded type; aluminum body; sized for blower.
 - c. Set at ½ psig above/below maximum working pressure/vacuum respectively.
 - d. Capable of discharging/intaking total blower output/input with 10 percent pressure accumulation.
- 8. Valves. Valves shall be as specified in 15060. Gasket materials shall be compatible with the anticipated air temperature.
- 9. All blowers, pumps, and accessories shall be supplied with a factory-applied finish as recommended by the manufacturer.
- 10. Provide manufacturer's standard warranty on all equipment. Minimum warranty shall be the lesser of 12 months from startup or 18 months from shipment.
- 11. Spares
 - a. Provide spare filter element for particulate filter.

2.04 DIFFUSED AERATION SYSTEM

- A. Quantity: One
- B. Size: 5 gpm, minimum hydraulic capacity
- C. Materials: PVC tanks and diffusers, FRP lid
- D. Compartments: Two
- E. Blower: Centifugal, 100 cfm, direct drive, TEFC, 2 HP, 460 V, 3 phase
- F. Carbtrol MSD-2-100 or approved equal.
- G. Piping: Schedule 80 PVC
- H. Controls:
 - 1. Blower shall have a Hand-Off- Auto operation. In Hand, blower shall run. In Auto the blower shall run when the Extraction Well Pump is running and the high level switch in the diffused aeration tank is not active.
 - 2. The diffused aeration tank high level switch shall be
 - a. Stainless steel float type
 - b. Contacts rated at 5A @ 120/240 VAC
- I. Accessories:
 - 1. Removable cover with gaskets for cleaning.
 - 2. High water level switch
 - 3. Inlet air filter silencer, with steel housing, dry replaceable element, rated for blower capacity, and suitable for an outdoor environment.
- J. Spares:
 - 1. Provide spare filter element for inlet filter/silencer.

2.05 AIR-TO-AIR HEAT EXCHANGER

- A. Quantity: One
- B. Design Flow Rate: 300 scfm
- C. Design Inlet Temperature: Per selected blower
- D. Design Outlet Temperature: Less than 110°F
- E. Design Ambient Temperature: 95°F
- F. Material:
 - 1. Compatible with process air temperatures up to 200°F.
 - 2. Compatible with contaminants in air stream (tetrachloroethene and its degradation products)
- G. Configuration: Ducted to use ambient air from outside the treatment enclosure and return air to the outside of the treatment enclosure
- H. Heat exchanger shall be installed for easy removal. After completion of rental period it shall be removed by the CONTRACTOR.
- I. Fan Motor: TEFC, 460 V, 3 phase, maximum 3600 rpm

2.06 VAPOR-PHASE GRANULAR ACTIVATED CARBON FILTERS

- A. Quantity: Minimum two in series
- B. Size: Minimum 2,000 pounds total activated carbon.
- C. Material: Polyethylene, or fiberglass reinforced plastic rated for pressure higher than the maximum SVE blower discharge head.
- D. GAC Media Reactivated Carbon
- E. Accessories:
 - 1. Sample ports
 - 2. Pressure gauge before and after each unit
 - 3. Bottom drain
- F. Manifold: Flexible plumbing manifold for various flow configurations including lead lag vessel switch.
- G. Calgon Vapor-Pac or approved equal.
- H. The activated carbon vessels shall be piped in series with flexible hoses. Piping and valves shall be connected to allow for lead-lag operation of the two vessels.
- I. Each activated carbon vessel shall be permanently labeled with the following information:
 - 1. Maximum Operating Pressure.
 - 2. Manufacturer and Date of Manufacture.
 - 3. Quantity of activated carbon contained in vessel.
 - 4. Unique vessel serial number.
- J. Design Flow Rate: 300 scfm
- K. Design Inlet Air Temperature: 110°F maximum
- L. Design Concentrations:

Table 13280-1 Estimated Design Parameters for Influent Air to GAC	
Parameter	Extracted air concentration during pilot test (µg/m ³)
Tetrachloroethene	700,000
Trichloroethene	14,000

2.07 PROCESS PIPING:

- A. Compatible with chlorinated solvents.
- B. Compatible with pressure and temperature conditions

- C. Size as required within the treatment facility for process flow
- D. Galvanized steel pipe, schedule 80 threaded, ASTM A 53
- E. PVC Schedule 80 PVC socket welded, ASTM D-1784 Type 1 Grade 1;
- F. Valves per Section 15060 - Piping and Valves.
- G. Hose, Teflon interior, vacuum rated
- H. Insulation: Pipelines, valves, and instrumentation shall be insulated and heat traced between the trailer and the building and ground at the locations shown on the drawings with 2" cellular glass ASTM C 552 insulation with a damage resistant outer covering. Pittsburgh Corning Foamglass or approved equal. Provide submittal calculation using the Chromalox guide practices.
- I. Heat Tracing, industrial, minimum 5 watts per foot, minimum starting temperature -30 degrees Fahrenheit, maximum 50 degrees Fahrenheit, maximum circuit length 150 feet, suitable for use on hoses and plastic piping, jacket braided polyolefin with all accessories. Integrate alarm for heat tracing failure into main control system. Provide submittal calculation for sizing.
- J. Support every 3 feet minimum on hanging plumbing. . Support PVC and galvanized steel as recommended by the pipeline manufacturers.
- K. Unions in all appropriate locations to allow removal and cleaning of all components
- L. Label process piping to the satisfaction of ENGINEER using color-coded stick-on type labels with flow direction arrows.
- M. Provide a 1/2" diameter manually operated drain connection at all low points in the process piping system.
- N. Provide 1/2" diameter manual air release valves at high points to facilitate hydrostatic pressure testing. testing and air venting. Provide 1/2" diameter clear plastic tubing from the air release valves to the structure floor.

2.08 INSTRUMENTATION

- A. Provide the minimum number of switches and alarms as indicated on the drawings
- B. Variable area flow meters, Dwyer VisiFloat or approved equal
- C. Pressure gauges, Liquid filled self zeroing, Precision Instrument 201 Series or approved equal
- D. Temperature Indicators, Dwyer BT Series, 3-inch dial or approved equal
- E. Air Flow Element/transmitter, Dwyer Series 641 with LED or approved equal
- F. Liquid Flow Meter
 - 1. Element- axial paddle wheel turbine type flow meter
 - a. 1/2" NPT connection
 - b. Accuracy: $\pm 1\%$ of reading
 - c. Repeatability: $\pm 0.1\%$ of reading
 - d. Viscosity Range: 1 to 15 centistokes
 - e. Working Pressure: 150 psig at 79°C (175°F)
 - f. Max Pressure Drop @ Max Flow: 30 psi on all units (6.5 psi on FTB601)
 - g. Ambient Temperature: -40 to 85°C (-40 to 185°F)
 - h. Wetted Parts: PVDF (Polyvinylidenefluoride),
 - i. Power Supply: 8 to 24 Vdc, 6 to 33 mA
 - j. Output Signal: Square wave pulse
 - k. Flow range of 0.3- 7.5 gpm minimum
 - 2. Transmitter
 - a. Input Power: 110 Vac

- b. Output Power: (AC powered units only) 12 Vdc @ 50 mA, Rate Accuracy: $\pm 0.01\%$ full scale +1 LSD
 - c. K Factor: up to 5 digits
 - d. Temperature: Operating: 32 to 130°F; Storage: -40 to 200°F
 - e. Memory: EEPROM stores data for 10 years if power lost
 - f. Pulse Input: Low= 0-1 Vdc; High= 4-30 Vdc; 10 Kohm impedance; up to 10 KHz; min. 0.05 Hz for rate indication
 - g. Relays: Rated 5 Amps @ 240 Vac or 28 Vdc. SPST
 - h. Auxiliary output 4-20 mA output
- G. Liquid Level Switches
 - 1. float type – suitable for process fluid
 - 2. Dry contacts rated at 5A @120/240 VAC
 - 3. UL Listed for application
- H. Pressure Switches
 - 1. 316ss enclosure corrosion resistant body, 316ss wetted parts.
 - 2. Field adjustable single set point and adjustable deadband.
 - 3. Dry isolated Form C contacts 5 amp rating 120 VAC
 - 4. Range as require for process application.
 - 5. Provide process seal as required.
 - 6. Ashcroft “L” Series or equal.

2.09 TREATMENT ENCLOSURE:

- A. Type: Trailer, skid-mounted pre-engineered metal storage building or container compliant with International Building Code, State of New York and local building codes.
- B. Size: To be determined by CONTRACTOR.
- C. Must fit at the location indicated on the drawing.
- D. The system housing and supports must be designed to withstand all external loads and forces including snowload, wind, and frost, etc. All supports and anchors shall have an adequate factor of safety against overturning and sliding due to wind.
- E. Sound levels shall be attenuated to levels that permit work without special hearing protection.
- F. Accessories:
 - 1. Fire extinguisher
 - 2. Floor leak detection switch
 - 3. Diamond plate flooring
 - 4. Wall and ceiling insulation for heat loss and noise attenuation.
 - 5. Interior plywood walls
 - 6. Heater – Electric. Sized to maintain 50°F minimum when blowers are off at a winter design conditions identified in by local code. Must meet electrical code.
 - 7. Ventilation fan and louvers (with mosquito netting) sized to maintain interior temperature no greater than 5°F above ambient with motors running.
 - 8. Equipment doors positioned for easy removal of any piece of equipment
 - 9. Minimum one personnel door with exit sign, outside automated light and OSHA-compliant steps.
 - 10. Hold down brackets for equipment
 - 11. Security door locks with interior safety release
 - 12. Fork lift or lifting hooks for loading/off-loading (not required for trailer)
 - 13. Lighting sufficient for working on all equipment.
 - 14. Emergency lighting on power failure.

15. 20 amp 110V, duplex GFCI convenience outlet.
16. External mounted fused disconnect switch.
17. Provide “No Smoking” and “Caution – Hot Surface” signage where requested by ENGINEER.
18. Smoke/rate of rise temperature detector with interlock to shut down the treatment system.

2.10 PROCESS CONTROL:

- A. Process control shall be by a programmable control telemonitoring system capable of stand-alone control, remote monitoring, fax and pager reporting, and datalogging. Provide EOS Research ProControl Type A2 or approved equivalent. Provide input of all 4-20 mA and discrete signals (alarms and status) for remote viewing.
- B. Provide a control panel, NEMA 12 enclosure to house all required controls.
- C. General system fault dial out alarm to operator.
- D. UL listed panel.
- E. Minimum transmitters and switches as indicated on the drawings.
- F. Minimum Alarm Conditions (red warning lights) as indicated on the drawings.
- G. Automatic system shut down of the entire system (unless otherwise noted) on the following (minimum) alarms.
 1. Low pressure (high vacuum) on SVE Blower B-1 intake.
 2. High pressure on SVE Blower B-1 exhaust.
 3. High Level on moisture separator tank.
 4. Low Level in extraction well (shut down extraction well EW-1 only)
 5. High Level in Diffused Aeration system (shut down extraction well EW-1 only)
- H. Hand/Off /Auto switch for all system components with green run light
- I. Emergency Shut Off Push Button

2.11 ELECTRICAL:

- A. Hazard Class: General
- B. Service Available: 460 V, three phase, 60 Hz AC, 100 amp minimum.
- C. Provide service in coordination with local utility requirements.
- D. Motor starters in accordance with NEC Article 430:
 1. NEMA-style magnetic controller
 2. Disconnect switch
 3. Short circuit and over-current protection
- E. Wiring: All wiring external to control panel shall be in conduits. Installation to be in accordance with applicable requirements of the national electrical code. Wire controls and instrumentation to terminal blocks.
- F. Grounding: Provide ground pad or other means of grounding for control panel enclosure and other metal equipment.
- G. Power distribution: Provide circuit breaker panelboard for required branch circuits. Provide a minimum of 4 blank spaces for future use.
- H. Include VFD for submersible well pump (specification 11318)

2.12 SPARE PARTS

- A. Provide spare parts of the type and quantities indicated below.
 1. (2) air particulate filters
 2. (1) filter element for each inlet filter installed.

2.13 WARRANTY

- A. Provide a warranty on the entire system for 12 months from startup

PART 3 - EXECUTION

3.01 FACTORY TESTING:

- A. Perform a hydrostatic pressure test as described in Section 15060 - Piping and Valves on piping, tanks, and valves. Submit documentation.
- B. Operate system on municipal water and ambient air to verify mechanical and electrical performance. The ENGINEER may witness operational test at the ENGINEER's discretion. Notify the ENGINEER two weeks prior to testing.

3.02 INSPECTION

- A. The CONTRACTOR and his installer shall inspect the complete system prior to shipment and upon delivery at the job site for defects, damage and conformance with the Specifications.
- B. Should defects become evident during inspection, testing or within the guarantee period, the CONTRACTOR shall repair or replace the defective item as directed by the ENGINEER.

3.03 INSTALLATION:

- A. The equipment manufacturer shall be responsible for delivering the equipment to the Site. The manufacturer shall notify the ENGINEER two weeks prior to delivery and shall identify during the submittal process all equipment necessary for placement of the equipment at the site.
- B. The ENGINEER will verify that equipment and appurtenances are complete and not damaged.
- C. The CONTRACTOR shall set the equipment on the asphalt and install the piping, electrical, and instrumentation connections between the packaged unit and the other components. The CONTRACTOR shall install the SVE and groundwater treatment system according to Drawings and manufacturer's instructions. Manufacturer shall provide all necessary installation instructions, piping diagrams, and electrical diagrams prior to delivery of the equipment.

3.04 FIELD SERVICE

- A. Manufacturer shall make available the services of a field technician on site to instruct the DEPARTMENT, ENGINEER, and/or the CONTRACTOR in operation of the equipment and to troubleshoot the system during startup. The duration of service for the field technician will be determined by ENGINEER during startup. A minimum of one 8-hour day shall be provided with options for additional hours/days.

3.05 FIELD TEST

- A. After installation, the equipment will be given a field test to verify that there are no mechanical defects and that the blowers and accessories operate in accordance with Contract Specification and Drawings for all modes of operations and conditions.
- B. Field test shall be made by the CONTRACTOR in the presence of ENGINEER and manufacturer's representative.

END OF SECTION

SECTION 15011

MECHANICAL, GENERAL REQUIREMENTS

PART 1 - GENERAL

1.01 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.
 - 1. Code of Federal Regulations (CFR)
 - a. 29 CFR 1910.147, Control of Hazardous Energy (Lock Out/Tag Out)

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. This section applies to all Sections of Division 15, "Mechanical" of this project specification, unless specified otherwise in the individual Section.

1.03 QUALITY ASSURANCE

- A. Material and Equipment Qualifications. Provide materials and equipment that are standard products of manufacturers regularly engaged in the manufacture of such products, which are of a similar material, design and workmanship. Standard products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year use shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been for sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period.
- B. Alternative Qualifications. Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6,000 hours, exclusive of the manufacturer's factory or laboratory tests, can be shown.
- C. Service Support. The equipment items shall be supported by service organizations. Submit a certified list of qualified permanent service organizations for support of the equipment which includes their addresses and qualifications. These service organizations shall be reasonably convenient to the equipment installation and able to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.
- D. Manufacturer's Nameplate. Each item of equipment shall have a nameplate bearing the manufacturer's name, address, model number, and serial number securely affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable.
- E. Modification of References. In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears. Interpret references in these publications to the "authority having jurisdiction," or words of similar meaning, to mean the ENGINEER.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Handle, store, and protect equipment and materials to prevent damage before and during installation in accordance with the manufacturer's recommendations, and as approved by the ENGINEER. Replace damaged or defective items.

1.05 SAFETY REQUIREMENTS

- A. Equipment Safety. Provide positive means of locking out equipment so that equipment cannot be accidentally started during maintenance procedures. High-temperature equipment and piping so located as to endanger personnel or create a fire hazard shall be properly guarded or covered with insulation of the type specified. Provide catwalks, maintenance platforms, and guardrails where required for safe operation and maintenance of equipment. Provide ladders or stairways to reach catwalks and maintenance platforms. Ensure that access openings leading to equipment are large enough to carry through routine maintenance items such as filters and tools.
- B. Warning Sign. Provide a permanent placard or sign at the entrance to confined spaces contained in the equipment. The sign shall warn personnel not to enter the space until the atmosphere inside has been tested and systems have been de-energized.
- C. Lockout of Energy Sources. Provide appropriate lockout devices for energy isolating valves and for machines or other equipment to prevent unexpected start up or release of stored electrical, mechanical, hydraulic, pneumatic, thermal, chemical, or other energy in accordance with 29 CFR 1910.147. Lockout devices for valves shall provide a means of attachment to which, or through which, a lock can be affixed or shall have a locking mechanism built into it so that the valve cannot be moved from the lockout position until the lock is removed. Electrical isolation of machines or other equipment shall be in accordance with requirements of DIVISION 16 - ELECTRICAL.

1.06 ELECTRICAL REQUIREMENTS

- A. Furnish motors, controllers, disconnects and contactors with their respective pieces of equipment. Furnish internal wiring for components of packaged equipment as an integral part of the equipment. Extended voltage range motors will not be permitted. Controllers and contactors shall have maximum of 120 volt control circuits, and shall have auxiliary contacts for use with the controls furnished. When motors and equipment furnished are larger than sizes indicated, the cost of additional electrical service and related work shall be included under the section that specified that motor or equipment.

1.07 INSTRUCTION TO OPERATING PERSONNEL

- A. When specified in other sections, furnish the services of competent instructors to give full instruction to the operating personnel in the adjustment, operation, and maintenance, including pertinent safety requirements, of the specified equipment or system. Instructors shall be thoroughly familiar with all parts of the installation and shall be trained in operating theory as well as practical operation and maintenance work. Instruction shall be given during the first regular work week after the equipment or system has been accepted and turned over for regular operation. The number of days (8 hours per day) of instruction furnished shall be as specified in the individual section. When more than 4 days of instruction are specified, use approximately half of the time for classroom instruction. Use other time for instruction with the equipment or system. When significant changes or modifications in the equipment or system are made under the terms of the contract, provide additional instruction to acquaint the operating personnel with the changes or modifications.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION

SECTION 15060

PIPING AND VALVES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install all project piping and valves with the exception of those systems specified elsewhere as indicated in the service index of this specification.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 15140: Hangers and Supports

1.03 REFERENCES

- A. The publications listed below form a part of this Specification to the extent referenced. The publications are referred to in the text by the basic designation only.
 - 1. American Society of Mechanical Engineers (ASME)
 - a. ASME B31.1, Code for Power Piping
 - 2. American Society of Testing and Materials (ASTM)
 - a. ASTM A 53, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc Coated, Welded and Seamless.
 - b. ASTM A 105, Standard Specification for Carbon Steel Forgings for Pipe Applications.
 - c. ASTM A 106, Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service.
 - d. ASTM A 123, Standard Specification for Zinc (Hot-Dipped Galvanized) Coatings on Iron and Steel Products.
 - e. ASTM A 197, Standard Specification for Cupola Malleable Iron.
 - f. ASTM A 234, Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service.
 - g. ASTM A 307, Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.

1.04 SUBMITTALS

- A. Submit the following in accordance with Section 01330 - Submittal Procedures:
 - 1. Piping, Valves, and Appurtenances.
 - a. Manufacturer's catalog data
 - b. Design data

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General
 - 1. Pipe and valve material specifications are listed in the Piping Materials Specifications - General Service Index at the end of this section.

2. Materials and components shall be in accordance with the appropriate ASTM and NSF Standards.
3. Hose
 - a. Shall be used between the building and the packaged SVE and Groundwater Treatment System.
 - b. The hose shall be made with Teflon interior and braided exterior suitable to withstand the full vacuum supplied by the blower.
- B. Buried HDPE Pipe
 1. Provide buried pipe as specified in Division 2.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Fabricate, assemble and erect piping systems specified in this section in accordance with ASME B31.1.
- B. General
 1. Install in a neat workmanlike manner.
 2. Run parallel to building walls when possible.
 3. Install to elevations shown on the Drawings.
 4. Piping Support: Provide support of all piping as required by ASME B31.1 and Section 15140 - Hangers and Supports.
 5. Accommodate thermal expansion and contraction of piping when supporting above grade piping.
- C. All Horizontal Pipe Runs: Pitch to drain where not already indicated on the Drawings.
- D. All Buried Piping: Install as required under Division 2.
- E. Unions: Provide on threaded and solvent welded piping in proximity to all pieces of equipment so that equipment may be readily removed for repairs.
- F. Make ample clearances and allowances for all expansion and contraction of piping, the operation of doors and windows, mechanical equipment, and the passage of personnel without blocking aisles or work spaces.
- G. Wall and Floor Penetrations
 1. Provide sleeves at all penetrations of walls, floors and partitions.
 2. Size sleeves in accordance with Table 1 attached at the end of this section.
 3. Sleeves shall be standard weight carbon steel pipe unless noted otherwise.
 4. Seal space between pipe or insulation and sleeve with oakum or fiberglass and caulk both ends of sleeve with elastic cement.
 5. Where fire rated walls or floors are penetrated, seal space between pipe and sleeve with T & B/Thomas & Betts Corp, Flame-Safe Compound, or approved equal.
 6. Provide Link Seal or similar mechanical seal for exterior, below grade penetrations unless noted otherwise. Size sleeves in accordance with the seal manufacturer's recommendations.

- H. Ells or 90 Degree Bends: Use long radius fittings unless noted otherwise.
- I. Use valves of the same size as the pipe unless noted otherwise.

3.02 PROTECTION OF EQUIPMENT

- A. General
 - 1. Exercise particular care during construction and start-up to prevent foreign materials from getting into the piping systems and lodging in valves, fittings, instrumentation or other equipment.
 - 2. Temporarily block off equipment openings with solid diaphragms until after the piping systems have been cleaned and inspected.
- B. Cleaning
 - 1. Inspect the interior of all equipment to establish that it is free from dirt or other foreign matter prior to its connection with the piping system.
 - 2. The Subcontractor shall be responsible for the repair of equipment damaged by passage of such dirt or foreign matter.
- C. Temporary Strainers
 - 1. Install a flat screen strainer between flanges at the inlet connections of pumps and other equipment prior to initial operation as necessary to prevent damage.
 - 2. Remove, clean and replace as directed and finally remove when the ENGINEER is satisfied that they are no longer required.
- D. Scavenging
 - 1. Upon completion, thoroughly clean and flush or blow out all pipe lines.
 - 2. Furnish and install temporarily connected blow-out lines, through which steam or water may be discharged.
 - 3. Temporary lines shall be properly supported and restrained.
 - 4. Take adequate precautions to prevent impingement of the discharge on structures or to areas where personnel might be injured.
 - 5. When the ENGINEER is satisfied that the line is clean, remove the temporary line and seal the opening in the scavenged system.
 - 6. Provide steam and water for blowing out and washing out pipe lines.

3.03 EXAMINATION

- A. Examine pressure piping system and components in accordance with ASME B31.1.
- B. Examination shall be performed by qualified and certified personnel.
- C. Repair or remove and replace all unacceptable defects or imperfections and re-examine.

3.04 TESTING

- A. General
 - 1. Test finished work in accordance with ASME B31.1 and also by an operating test under normal service conditions.
 - 2. Furnish and remove the test pump and gauge, test piping connections, drains, vents, blanks, etc., where these are required.
- B. Fluid for Tests
 - 1. Test medium shall normally be water unless noted otherwise.
 - 2. Furnish and dispose of test fluid at CONTRACTOR's expense unless noted otherwise.
 - 3. Use potable water for testing.
- C. Precautions
 - 1. Properly support piping under hydrostatic test to prevent damage to its hangers and supports.

- D. Equipment Furnished by Others: Valve bonnets and other joints in equipment furnished by others but installed by the CONTRACTOR shall be taken up or otherwise adjusted by the CONTRACTOR as required to make the work tight.
- E. Repairs
 - 1. At the completion of the tests, immediately make tight, to the satisfaction of the ENGINEER, any leaks which develop under the test; correct loose or otherwise faulty hangers; and apply such devices as may be necessary to eliminate sway or vibration of pipe or supports.
 - 2. Remove, repair, or replace any insulation or other material affected by test conditions or by leaks or other defects whether part of his work or that of others.
 - 3. Any material or work which is defective shall be replaced by new material.
 - 4. The CONTRACTOR shall be responsible for the tightness of all work made up by him and shall promptly eliminate all leaks which develop.

3.05 SCHEDULES AND TABLES

- A. Schedules and tables attached include:
 - 1. Table 1, Sleeve Size.
 - 2. Piping Materials Specifications General Service Index.
 - 3. P-120 (2 pages).
 - 4. P-510 (3 pages).

TABLE 1
SLEEVE SIZE FOR PIPE PENETRATIONS

BARE PIPE NOMINAL SIZE (IN.)	INSULATED PIPE O.D. OF INSULATION (IN.)	PIPE SLEEVE NOMINAL SIZE (IN.)
up to 1	up to 1¼	3
1½ - 2½	1½ - 3	4
3	3¼ - 4	6
4	4¼ - 5½	8
6	5¾ - 7½	10
8	7¾ - 9	12
10	9¼ - 11	14
12	11¼ - 13	16
14	13¼ - 15	18
16	15¼ - 17	20
18	17¼ - 19	22
20	19¼ - 21	24
22	21¼ - 23	26
24	23¼ - 25	28
26	25¼ - 27	30
28	27¼ - 29	32
30	29¼ - 31	34
32	31¼ - 33	36

PIPING MATERIAL SPECIFICATIONS GENERAL SERVICE INDEX

SERVICE	SYMBOL	SIZE	SPECIFICATION SECTION	SECTION 15060 SPEC. NO.
Groundwater Buried (Including inside well)	GW	4" and Down	02735 (HDPE)	---
Groundwater Interior (Including inside manholes)	GW	4" and Down	15060	P-510
Groundwater Exterior/Above Grade	GW	4" and Down	15060	P-510
Treated Effluent/Above Grade	EF	4" to 6"	15060	P-510
Treated Effluent/Below Grade	EF	4" to 6"	02735 (PVC)	---
Drains	DR	6" and down	15060	P-510
Soil Vent (Before Fan)	SV	6" and down	15060	P-510
Soil Vent (After Fan)	SV	6" and down	15060	P-120(GS)
Ambient Air	A	12" and down	15060	P-510
Vent Air	V	6" and down	15060	P-510

Notes:

GS = Galvanized Steel

PIPING MATERIAL SPECIFICATIONS GENERAL				
DESIGN PRESSURE RANGE 0 TO 125 PSIG			DESIGN TEMPERATURE RANGE Ambient TO °F	NOTES:MATL: GS SPEC: P-120
SERVICES: SEE GENERAL SERVICE INDEX				
P-120 Galvanized Carbon Steel				
ITEM	SIZE	RATING OR SCHEDULE	DESCRIPTION	STANDARD REFERENCE
Construction	6" DN		Threaded galvanized steel	
Pipe	6" DN	Std. wt.	Threaded galvanized steel, IPS	ASTM A 53
Couplings	6" DN		Threaded couplings, (galvanized), threaded per ANSI B1.20.1	ASTM A 865
Flanges	6" DN	150#	Threaded flat face per ANSI B16.1	ASTM A105
Bolts			Machine bolts per ANSI B18.2.1 Threads per ANSI B1.1 CL 2A	ASTM A307 GR B
Nuts			Unfinished heavy hex per ANSI B18.2.2. Threads per ANSI B1.1 CL 2B	ASTM A194 GR 1

Notes:

1. All specifications and standards listed shall conform to the latest edition.
2. Maximum operating pressures based on water service.

PIPING MATERIAL SPECIFICATIONS GENERAL				
DESIGN PRESSURE RANGE 0 TO 125 PSIG				NOTES: MTL: GS SPEC: P-120
SERVICES: SEE GENERAL SERVICE INDEX				
P-120 GALVANIZED CARBON STEEL				
ITEM	NOMINAL SIZE (INCHES)	CONNECTION	DESCRIPTION	Valve Manufacturer
Ball Valve	2” DN	Screwed	300# Three Piece CS Body. 316 SS Ball, Stem, and Ends, with Removable Ball and Stem. Teflon Seats and Body Seal.	Powell FIG 4304, or equal
Gate Valve	1 ½” DN	Screwed	150# Bronze Body, Disc and Bonnet, Solid Disc, IRS.	Stockham FIG B-120
	2” – 12”	Flanged	150# WSP, OS&Y, Cast Steel Body, Bronze trim	Stockham FIG 15-OF-W6, or equal
Swing Check	1½" DN	Screwed	125# Bronze Body and Cap, Teflon Disk, Threaded Cap	Stockham FIG B-320T
	2” – 12”	150# Flanged	150# Cast Steel Body and Cap, Teflon O-ring Seal, Bronze Disk	Stockham FIG 15-SF, or equal
Automatic Air Release Valve	¾” DN	Screwed	150# Cast Iron Body and Cover. SS Linkage and Seat with Viton Orifice Button.	GA Industries FIG 905 Minimatic, or equal
Butterfly	2” – 12”	Flanged	Iron Wafer Body, SS Disc, 316SS Shaft, PTFE Seals and Viton Seat	Stockholm LGS12 or Equal

PIPING MATERIAL SPECIFICATIONS GENERAL										
DESIGN PRESSURE RANGE 0 TO 150 PSIG										NOTES MATL: PVC SPEC: P-510
SERVICES: SEE GENERAL SERVICE INDEX										
P-510 PVC										
PRESSURE CORRECTIONS FOR HIGHER THAN AMBIENT (75°F) TEMPERATURES FOR SCH 80 SOCKET WELD PIPING SYSTEM										
NOMINAL PIPE SIZE	MAXIMUM OPERATING PRESSURE (PSI) AT <u>100</u> °F (SEE NOTE)									
	75	80	90	100	110	115	120	125	130	140
½	850	765	637	527	425	382	340	297	255	187
¾	690	621	517	427	345	310	276	241	207	151
1	630	567	472	390	315	283	252	220	189	138
1¼	520	468	390	322	260	234	208	182	156	114
1½	471	424	353	292	235	211	188	164	141	103
2	400	360	300	248	200	180	160	140	120	88
2½	425	382	318	263	212	191	170	148	127	93
3	375	337	281	232	187	168	150	131	112	82
4	324	291	243	200	162	145	129	113	97	71
6	280	252	210	173	140	126	112	98	84	61
8	250	225	187	155	125	112	100	87	75	55
10	230	207	172	142	115	103	92	80	69	50
12	230	207	172	142	115	103	92	80	69	50

Note:

1. The chart above is calculated on maximum operating pressures and temperature correction factors as listed in Chemtrol Industrial Thermoplastic Pipe and Fittings Catalog (Bulletin No. 319 - Revised February, 1976) Page 3.

PIPING MATERIAL SPECIFICATIONS GENERAL				
DESIGN PRESSURE RANGE 0 TO 150 PSIG				NOTES: MATL: PVC SPEC: P-510
SERVICES: SEE GENERAL SERVICE INDEX				
P-510 PVC				
ITEM	SIZE	RATING OR SCHEDULE	DESCRIPTION	STANDARD REFERENCE
Construction	12" DN		Socket weld with flanged joints to equipment or where applicable	
Pipe	12" DN	Sch 80	IPS per ASTM D1785	
Fittings	8" DN	Sch 80	Socket type per ASTM D2467	ASTM D1784 CL 12454-B (TYPE 1 GR 1)
	10" ~ 12"		Socket type PVC, glass over-wrapped	ASTM D1784 CL12454-B (TYPE 1 GR 1)
Flanges	12" DN	150#	Flat face per ASTM D2467 for socket type	ASTM D1784 CL1245-B (TYPE 1 GR 1)
Unions	3" DN	Sch 80	Socket weld with viton O rings	02467 (Type 1)
Bolts			Machine bolts per ANSI B18.2.1 threads per ANSI B1.1 CL2A	ASTM A307 GR B
Nuts			Unfinished heavy hex per ANSI B18.2.2 threads per ANSI B1.1 CL2B	ASTM A194 GR 1

Notes:

1. All specifications and standards listed shall conform to the latest edition.
2. Maximum operating pressures based on water service.

DESIGN PRESSURE RANGE 0 TO 150 PSIG				NOTES:
SERVICES: SEE GENERAL SERVICE INDEX				
P-510 PVC				
ITEM	NOMINAL SIZE (INCHES)	CONNECTION	DESCRIPTION	Valve Manufacturer
Ball (Full port)	¼" ~ 6"	Socket	150# PVC True union, PVC Ball, TFE renewable seat	Chemtrol or equal
Swing Check	1½" and 4"	150# Flanged	PVC Body and disk, EPDM seat and seal; rating @ 100°F, <2"- 150#, 3"-100#, 4"-70#	Asahi/ America or equal
Butterfly	½" ~ 8"	Full face, flat flange	150#, seal bubble tight, stainless steel stem with engagement over the full length of the disc, lever operated, PVC body, PP disc, EPDM or VITON seat and seal.	Asahi/ America, Hayward, or equal
V-port Ball	¼" ~ 2"	Flanged	150#, 316SS Body, replaceable graphite impregnated 316SS seats, 60° V notch, 316SS ball and stem, 3 piece lever handle	Worcester Controls Series 4 or equal.
Multiport (3- way) ball valve	½" ~ 4"	Socket	150#, True union left and right ports, PVC body, Teflon backed with EPDM or VITON seats, EPDM or VITON seals	Asahi/ America or equal
Gate Valve	2” – 4”	Flanged	150#, Type 1, Grade 1, PVC body, PP cylindrical plug, EPDM seals	Asahi/ American or equal

END OF SECTION

SECTION 15140

HANGERS AND SUPPORTS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install all hangers and supports shown, specified, or normally required for pipelines, apparatus and equipment other than electrical equipment. Hangers and supports include all hanging and supporting devices of metallic or plastic construction.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures

1.03 REFERENCES

- A. Publications listed below form a part of this Specification to extent referenced. Publications are referred to in the text by the basic designation only.
 - 1. American Society of Mechanical Engineers (ASME)
 - a. ASME B31.1, Code for Power Piping.
 - 2. American Society for Testing and Materials (ASTM)
 - a. ASTM A 36, Standard Specification for Structural Steel
 - b. ASTM A 575, Standard Specification for Steel Bars, Carbon, Merchant Quality, M-Grades
 - 3. Manufacturer's Standardization Society (MSS)
 - a. MSS-SP-58, Standard Practice for Pipe Hangers and Support Materials, Design and Manufacture
 - b. MSS-SP-69, Standard Practice for Pipe Hangers and Supports-Selection and Application

1.04 SUBMITTALS

- A. Submit the following in accordance with Section 01330 - Submittal Procedures:
 - 1. Shop Drawings, data sheets and catalog information showing quantity, type, design and location of all hangers and supports required before these items are installed.

PART 2 - PRODUCTS

2.01 MATERIALS, DESIGN AND MANUFACTURE

- A. Materials, design and manufacture of pipe hangers and supports shall be in accordance with ASME B31.1 and MSS-SP-58.
- B. Use galvanized steel for interior and exterior hangers and supports; unless in contact with copper piping, then copper-plated or PVC-coated.
- C. Alternatively use thermoplastic Clic® pipe clamps by Litchfield International or approved equal for interior hangers and supports for PVC pipe.

2.02 DESIGN

- A. Adequate to maintain the pipelines, apparatus, and equipment in proper position and alignment under all operating conditions.
- B. Where required, screw adjustable after installation.

- C. Supporting Devices: Design in accordance with the best practice and not unnecessarily heavy.
- D. Install at proper intervals to provide a working safety factor of not less than 5 for each hanger.
- E. On pipes 3 inches in diameter and larger which are covered with heating insulation, include proper pipe protection saddles.
- F. Hangers for Piping:
 - 1. Overhead Hangers: Supported by threaded rods properly fastened in place by suitable screws, clamps, inserts or bolts, or by welding.
 - 2. Hanger Rod Sizes: Determine by the size of pipe supported in accordance with tables 3.2 and 3.3.
- G. Clevis hangers for uninsulated or continuous insulation to be Grinnell Fig. 260 or equal; Clevis hangers for non-continuous insulation to be Grinnell Fig. 300 or equal.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Select and install supports in accordance with ASME B31.1 and MSS-SP-69.
- B. Locate supports to maintain piping, apparatus, and equipment in proper position and alignment under all operating conditions and to allow for expansion and contraction of piping.
- C. In General Locate Supports:
 - 1. Adjacent to changes in direction.
 - 2. Adjacent to concentrated loads (such as valves and instrumentation).
 - 3. On both sides of flanged connections.
 - 4. At all vertical risers.
 - 5. Adjacent to equipment connections.
 - 6. Adjacent to branch connections.
- D. Support Spacing: Do not exceed those given in Table 3.1, unless stated otherwise.
- E. Where a change in direction occurs between supports, total length of pipe between supports shall not exceed 75 percent of maximum span given in Table 3.1, attached at end of this section.
- F. Insulated Piping
 - 1. Copper Tubing
 - a. Provide insulation shields at support points to distribute load.
 - b. Maximum Spacing Between Supports: Conform to Table 3.1, but do not exceed 10 feet for insulated copper lines.
 - 2. Steel Pipe; Polypropylene, PVC pipe
 - a. Up to 2 inch Diameter: Provide insulation shields at support points.
 - b. 2 1/2 Inch Diameter and Larger: Use protection saddles at support points.
- G. Anchors
 - 1. Furnish and install, when specified, shown or required, for holding pipelines and equipment in position or alignment.
 - 2. Designed for rigid fastening to structures, either directly or through brackets.
 - 3. Design of all anchors subject to approval by the ENGINEER.
- H. Hanger Rods
 - 1. Supported from all structures in an approved manner.
 - 2. In concrete construction, use galvanized malleable iron inserts, Grinnell Figure 282, or equal.

3. For supporting from steel beams and joints, use malleable iron beam clamps, Grinnell Figure 229 or 225, or equal.
 4. Where inserts are not provided in concrete construction, support rods from two-unit cinch anchors.
 5. Where piping is installed parallel to and between steel bar joists: Attach hanger rods to structural steel angles welded to top chords of at least two joists.
 6. Provide one-piece threaded rods from support to hanger. Do not use rod couplings except in specific situations approved by the ENGINEER in writing. Where permitted use Grinnell Figure 230, or approved equal, with lock nuts top and bottom.
 7. Use threaded rod size for a given pipe diameter as determined from Table 3.2, attached at end of this section.
 8. In no case shall load on a threaded hanger rod exceed allowable load limits from Table 3.3 attached at end of this section.
- I. Do not support piping from other piping or from metal stairs, ladders, and walkways, unless specifically directed or authorized by the ENGINEER.
- J. Provide pipe supports to minimize lateral forces through valves, both sides of split type couplings, and sleeve type couplings and to minimize all pipe forces on equipment. Do not use equipment to support connecting pipes.
- K. Piping on Walls:
1. Support by hangers securely anchored into the wall construction.
 2. Support risers with approved clamping device, Grinnell riser or socket type, or equal, spaced not greater than 6 feet on centers.
 3. Furnish and install backplates as required of adequate size and thickness to distribute load against wall.
 4. Where use of backplates is not practicable, fasten brackets to wall in such a manner that safe bearing strength of wall will not be exceeded.

3.02 TABLES

- A. See Tables 3.1, 3.2, and 3.3.

TABLE 3-1
MAXIMUM HORIZONTAL PIPE HANGER AND SUPPORT SPACING

	1		2		3		4		5	6	7	8	9	10	11
NOMINAL PIPE OR TUBE DIAM.	STD WT STEEL PIPE				COPPER TUBE				FIRE PROTECTION	CAST IRON PRES.	CAST IRON SOIL	ASBESTOS CEMENT	GLASS	PLASTIC	FIBERGLASS REINFORCED
	WATER SERVICE		VAPOR SERVICE		WATER SERVICE		VAPOR SERVICE								
Inches	ft	m	ft	m	ft	m	ft	m							
¼	7	2.1	8	2.4	5	1.5	5	1.5	Follow requirements of the National Fire Protection Association.	12 ft (3.7 m) maximum spacing	10 ft (3.0 m) maximum spacing	Follow pipe manufacturer's recommendations	8 ft (2.4 m) Maximum spacing, follow manufacturer's recommendations	Follow pipe manufacturer's recommendations for material and service temperature.	10 ft (3.0 m) Maximum spacing
3/8	7	2.1	8	2.4	5	1.5	6	1.8		minimum of one (1) hanger per pipe section close to joint on the barrel. Also at change of direction and branch connections.			minimum of one (1) hanger per pipe section close to joint on the barrel. Also at change of direction and branch connections		minimum of one (1) hanger per pipe section close to joint on the barrel. Also at change of direction and branch connections.
1/2	7	2.1	8	2.4	5	1.5	6	1.8							
3/4	7	2.1	9	2.7	5	1.5	7	2.1							
1	7	2.1	9	2.7	6	1.8	8	2.4							
1 1/4	7	2.1	9	2.7	7	2.1	9	2.7							
1 1/2	9	2.7	12	3.7	8	2.4	10	3.0							
2	10	3.0	13	4.0	8	2.4	11	3.4							
2 1/2	11	3.4	14	4.3	9	2.7	13	4.0							
3	12	3.7	15	4.6	10	3.0	14	4.3							
3 1/2	13	4.0	16	4.9	11	3.4	15	4.6							
4	14	4.3	17	5.2	12	3.7	16	4.9							
5	16	4.9	19	5.8	13	4.0	18	5.5							
6	17	5.2	21	6.4	14	4.3	20	6.1							
8	19	5.8	24	7.3	16	4.9	23	7.0							
10	20	6.1	26	7.9	18	5.5	25	7.6							
12	23	7.0	30	9.1	19	5.8	28	8.5							
14	25	7.6	32	9.8											
16	27	8.2	35	10.7											
18	28	8.5	37	11.3											
20	30	9.1	39	11.9											
24	32	9.8	42	12.8											
30	33	10.	44	13.4											

1

Note: Does not apply where span calculations are made or where there are concentrated loads between supports such as flanges, valves, specialties, etc., or changes in direction requiring additional supports.

TABLE 3-2

MINIMUM ROD DIAMETER FOR SINGLE ROD HANGERS^{1,2}

	COLUMNS ³ 1, 2, 6, 7, 9	COLUMNS ³ 3, 4, 8, 10, 11
NOMINAL PIPE/TUBING DIA.	NOMINAL ROD DIA.	NOMINAL ROD DIA.
IN.	IN.	IN.
1/4	3/8	3/8
3/8	3/8	3/8
1/2	3/8	3/8
3/4	3/8	3/8
1	3/8	3/8
1	3/8	3/8
1 1/4	3/8	3/8
1 1/2	3/8	3/8
2	3/8	3/8
2 1/2	1/2	1/2
3	1/2	1/2
3 1/2	1/2	1/2
4	5/8	1/2
5	5/8	1/2
6	3/4	5/8
8	7/8	3/4
10	7/8	3/4
12	7/8	3/4
14	1	7/8
16	1	
18	1	
20	1 1/4	
24	1 1/4	

Notes:

1. For calculated loads, rod diameters may be sized in accordance with Table 3-3.
2. Rods may be reduced one size for double rod hangers with 3/8 inch minimum diameter.
3. Columns noted refer to Table 3-1.

TABLE 3-3

**LOAD RATINGS OF THREADED HOT-ROLLED STEEL
ROD CONFORMING TO ASTM A 36 OR ASTM A 575**

NOMINAL DIAMETER THREADED ROD	ROOT AREA OF THREAD	MAXIMUM SAFE LOAD* AT ROD TEMP OF 650°F
(IN.)	(SQ. IN.)	(LBS.)
3/8	0.068	610
1/2	0.126	1130
5/8	0.202	1810
3/4	0.302	2710
7/8	0.419	3770
1	0.552	4960
1 1/4	0.889	8000
1 1/2	1.293	11630

Notes:*Tabulated loads are based on an allowable tensile stress of 12,000 psi with a 25 percent reduction.

END OF SECTION

SECTION 16010

ELECTRICAL - GENERAL

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Provide all labor, materials, equipment, operations, methods and procedures as indicated in the Contract Documents, together with all items necessary for or incidental to the completion of the work.
- B. All systems or additions to existing systems indicated in the Contract Documents shall mean all necessary supervision, labor, equipment and materials required to provide complete, properly functioning systems.
- C. All systems shall be adjusted, tested, inspected and turned over to the DEPARTMENT in perfect working order.
- D. The words "provide", "supply", "supply and install", "install", "furnish" or "furnish and install", as used in DIVISION 16 or as indicated on the Drawings related to DIVISION 16 shall mean a complete and properly functioning Electrical installation performed by the Subcontractor.
- E. References:
 - 1. Refer to Architectural, Structural and Civil Drawings to coordinate material and equipment locations and electrical requirements.
 - 2. The general provisions of the Contract, including General and Supplementary Conditions and General Requirements (if any), apply to the work specified in this Section.
- F. Work Specified Herein:
 - 1. Visit and examine the project site and become familiar with all existing conditions pertinent to the work to be performed thereon. No additional compensation will be allowed for failure to be so informed.
 - 2. The following scope of work is a brief generalization of the type and extent of the work specified under DIVISION 16. Detailed requirements are indicated on the Drawings and in related sections of the Specifications. The work specified under DIVISION 16 includes, but is not necessarily limited to the following:
 - a. Provide Electrical Distribution System as indicated on the related Plans, and other drawings and schedules, and as specified herein.
 - b. Provide all required 480 Volt Power wiring. No additional compensation will be allowed for modifications required due to equipment and device sizes, ratings, etc. which differ from those of specified equipment.
 - c. Coordinate the work of other trades which will affect the work under DIVISION 16 and direct such trades as required to accomplish all necessary cutting, patching, excavation, trenching, backfill, and concrete work necessary for the completion of the work under DIVISION 16.
- G. Work Specified Elsewhere:
 - 1. The materials and methods used for all Electrical Work indicated in the Contract Documents shall meet the requirements specified in Division 16.
 - 2. The following Electrical Work and Work relating to the Electrical Work will be performed under other Divisions of the Contract Documents:
 - a. Substitutions, product options, cleaning up and project record documents are specified in DIVISION 1.

- b. Site work and excavation are specified in DIVISION 2.
 - c. Concrete Work DIVISION 3.
 - d. Mechanical equipment is specified in DIVISION 11, and/or DIVISION 15.
 - f. Special equipment and instrumentation is specified in DIVISION 13.
- H. Removals, Relocations and Rearrangements:
 - 1. Examine the existing site, structure(s) and installation(s) for the work of all trades which will influence the cost of the work under DIVISION 16. This work shall include removals, relocations and rearrangements relating to the work of all trades which may interfere with, disturb or complicate the performance of the work under DIVISION 16; and relating to the work involving systems, equipment and related service lines which shall continue to be utilized as part of the finished project.
 - 2. When the Contract Documents indicate elimination of, or structural changes in walls, floors, ceilings, enclosures, pipe chases, etc., remove, relocate, rearrange and reconnect as required, all existing Electrical Work such that systems to remain shall continue to function properly.
 - 3. Provide in the Base Bid a sufficient amount to include all removals, relocations, rearrangements and reconnections herein specified, necessary or required to provide approved operation and coordination of the combined new and existing systems and equipment. Remove, salvage and deliver to the DEPARTMENT any salvaged equipment requested by the DEPARTMENT.
- I. Codes and Fees:
 - 1. Comply with the following codes, standards, regulations and specifications:
 - a. National Electrical Code (NFPA No. 70 - most recent edition)
 - b. Life Safety Code (NFPA No. 101 - most recent edition)
 - c. Occupational Safety and Health Act (OSHA) - regarding construction practices.
 - d. Utility Company standards, specifications and requirements.
 - e. State and local electrical codes, building codes and fire codes for the locale where the work is to be performed.
 - 2. Compliance with the above codes, standards, etc., does not relieve the Subcontractor from the requirements of the Contract Documents which may exceed these codes, standards, etc. but which are not contrary to them.
 - 3. If it is observed that the Contract Documents are at variance with any of the above codes, standards, etc., promptly notify the ENGINEER in writing, and necessary changes shall be adjusted by appropriate modification. If any work is performed which is contrary to such codes, standards, etc., the Subcontractor shall assume full responsibility therefore and shall bear all costs in correcting such work in order to comply with such codes, standards, etc.
 - 4. Secure and pay for all permits, fees and licenses necessary for the proper execution of the work under DIVISION 16.
- J. Tests and Procedures Prior To Start-up:
 - 1. All equipment shall be properly identified as indicated in this section.
 - 2. All equipment and materials shall be clean, dry and free of foreign materials. All screw and bolt connections shall be checked for tightness.
 - 3. Conductor connections and terminations, and all bus bar connections shall be checked for proper tightness and continuity.

4. Provide 1000 volt "Megger" insulation testing on all 600 volt feeder conductors and motor power conductors.
 5. Test the grounding system to assure continuity and to assure that resistance to ground does not exceed specified limits.
- K. Demonstration of Complete Electrical Systems
1. The DEPARTMENT will assume no liability or responsibility for any portions of the installation under this Contract until they are demonstrated and accepted in writing. Final demonstrations shall be made only after the ENGINEER is satisfied that the work has been completed in accordance with the intent of the Contract Documents.
 2. After the Electrical system is completed, and when directed by the ENGINEER, demonstrate the total system operation and make final adjustments to the system. If any system or piece of equipment within a system fails to function properly, rectify such defects or inadequacies and make a final demonstration as directed by the ENGINEER.
 3. Pay all charges or fees, including the cost of any special test equipment, factory engineers, etc. necessary for the proper performance of the specified tests, demonstrations and instructions.
 4. All demonstrations and instructions referred to shall be scheduled at the convenience of the ENGINEER and the DEPARTMENT and in no case shall be scheduled without at least seventy-two (72) hours written notice. Provide written certification by system and or major equipment system along with industry acceptable test documentation that the electrical and instrumentation systems have been completely tested and are in proper operational working condition.
- L. Identification:
1. All distribution equipment, switchboards, distribution panel boards, transformers, transfer switches, disconnects, starters, control panels, etc.) shall have an engraved lamaroid tag, mounted adjacent to the manufacturer's nameplate, indicating the equipment's designation and identification number per the Contract Documents or site standards.
 2. All switchboard and distribution panel over current devices, individually mounted motor controllers, disconnect switches, bus plugs, control devices, etc., shall be provided with engraved lamaroid tags indicating the equipment which they serve or control per the equipment designation and identification number indicated in the Contract Documents or site standards and in accordance with OSHA requirements.
 3. Power conductors shall be continuously polarized and color coded throughout using the following scheme:
 - a. White or gray - All neutral conductors, 240/120V and 208/120V systems
 - b. White w/tracer of any color but Green - All neutral conductors, 480/240V and 480/277 volt systems
 - c. Green - All ground conductors
 - d. Phase Conductors -

240/120V 1PH Systems	208/120V 3PH Systems	480/277V 3PH Systems
Black	Black	Brown
Red	Red	Orange
	Blue	Yellow
White (Neutral)	White (Neutral)	Gray (Neutral)

- | | | | |
|--|----------------|----------------|----------------|
| | Green (Ground) | Green (Ground) | Green (Ground) |
|--|----------------|----------------|----------------|
- e. For conductors No. 6 and smaller, color coding shall correspond to the color of the conductor insulation. For color coding of wire larger than No. 6, use self-adhesive, wrap-around type markers. These markers shall be used at all panel boards, junction boxes, disconnect switches, circuit breakers, etc.
 - 4. Control conductors shall be identified using numerical tags corresponding to conductor designations indicated on approved shop drawings of schematic diagrams, and as required for clarification of system and equipment connections. Conductors shall be clearly identified at each terminal block, equipment connection and junction. Tags and labels shall be pre-manufactured for intended purpose.
 - 5. Lamacoid tags shall be sized to be legible from the approachable distance to the device without the use of ladders or lifts. Minimal size of 1" x 4" with 3/8" black lettering on white background, or site standard.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- C. Section 16050: Basic Materials and Methods

1.03 SUBMITTALS

- A. Substitutions
 - 1. Where new equipment is specified to be provided as part of an extension to an existing system, the manufacturer of that equipment shall match that of the original. Substitutions will not be considered as equal unless specifically noted so.
 - 2. Certain new equipment and systems have been specified with one or more make(s) followed by the phrase "or equal". In such cases, the Subcontractor may submit a proposed substitution for review by the ENGINEER. The decision of equality of a proposed substitution rests fully with the ENGINEER.
 - 3. Certain new equipment and systems have been specified with one or more make(s) without the phrase "or equal". In such cases, only one of the manufactured products listed will be allowed.
 - 4. Where substitutions are allowed as "equal" it shall be the Subcontractor's responsibility to make any and all necessary modifications required to accommodate the installation of the substituted item(s).
- B. Shop Drawings and Samples:
 - 1. Submit Shop Drawings in accordance with General Conditions, Section 01330 - Submittal Procedures and as indicated herein.
 - 2. Shop Drawings shall be submitted on all items of equipment and systems as indicated in related sections of Division 16.
- C. Provide all certificates of inspection and approval from all regulatory agencies having jurisdiction over the Work under Division 16.
- D. Maintain properly documented and witnessed test and checkout reports and submit these to the ENGINEER prior to energizing the Electrical system.
- E. Upon completion of the Work and before request for final payment, deliver to the ENGINEER three (3) bound sets of full and complete directions pertaining to the operation and maintenance of all equipment and systems installed under this Contract. These directions shall be neatly bound, consist of typewritten on 8-1/2" x 11" sheets with index tabs, and shall be accompanied by plans, diagrams, etc. of the work installed, parts

lists, etc. necessary for the guidance of the DEPARTMENT in operating, altering or repairing the installation.

- F. At the completion of the installation, provide reproducible Record Drawings indicating the final configuration of all Electrical Systems as they were installed. Symbols, equipment designations, etc. shall be consistent with the Contract Documents. Provide exact locations of all work which has been concealed in concrete, masonry or underground.

1.04 QUALITY ASSURANCE

- A. Supply all new materials, devices and equipment in conformance with:
 - 1. Underwriter's Laboratory, Inc.
 - 2. National Electrical Manufacturers Association.
 - 3. American National Standards Institute.
 - 4. National Electrical Code.
 - 5. Local power company.
 - 6. OSHA
- B. All materials provided under this Contract shall be equal in quality, appearance and performance to that specified herein and shall be subject to the review of the ENGINEER. Verify the availability of all materials proposed to be used in the execution of the work prior to submitting same for ENGINEER's review. The discontinuance of production of any material or product after the ENGINEER's review has been made shall not relieve the Subcontractor from furnishing an alternate of equal quality and design without additional cost.
- C. Materials and equipment furnished under this Contract shall be standard products of manufacturers regularly engaged in manufacture of such products and shall be manufacturer's latest standard design that complies with Specification requirements. Products shall essentially duplicate material and equipment that have been in satisfactory local use at least three years.
- D. The Subcontractor shall have supplied comparable systems to those specified herein and shall maintain engineering and service departments capable of designing and maintaining these systems. For a period of twelve (12) months from the date of acceptance of the work, provide all necessary supervision, labor, materials, and equipment, in order to correct any defects in any system due to faulty materials, equipment, installation methods, or workmanship and consequent damage resulting from such defects. This work shall be scheduled during normal working hours and at the convenience of the DEPARTMENT.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Coordinate material and equipment delivery with the project schedule. Notify the ENGINEER immediately, in writing, if material or equipment delivery will adversely affect the project schedule, include documentation from equipment suppliers indicating the revised delivery dates and the reason for the delay.
- B. Exercise care during loading, transporting, unloading and handling of materials to prevent damage.
- C. Check for defective or damaged materials, and for incomplete equipment shipments within seven (7) days after equipment delivery to the project site.
- D. Store materials and equipment on the construction site in enclosures or under protective covering in order to assure that materials and equipment are kept undamaged, clean and dry.

- E. Replace or repair, to the satisfaction of the ENGINEER, all materials and equipment that are defective or that have been damaged during installation, at no additional cost to the DEPARTMENT.

1.06 JOB CONDITIONS

- A. Schedules:
 - 1. Cutting and Patching: Perform all cutting, patching, trenching, trench covers, plastering, chases, slots, furring, grounds, masonry foundations, piers, excavating, pole bases, backfilling, pads, and other work incidental to installation of apparatus as required for electrical work.

1.07 GUARANTEE

- A. Guarantee all equipment, materials and workmanship in accordance with the General Conditions of the Construction Contract.
- B. Warrant all material furnished and work executed is in accordance with all applicable laws and regulations.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Materials shall be as specified in the appropriate Sections of DIVISION 16.
- B. Approval of materials shall be as indicated in this Section.

PART 3 - INSTALLATION

3.01 INSTALLATION

- A. Installation shall be as specified in the appropriate Sections of DIVISION 16.

3.02 TESTS

- A. Refer to paragraphs 1.01.J and 1.01.K of this Section.
- B. Provide additional testing as indicated in the appropriate Sections of DIVISION 16.

3.03 CLEANING

- A. Do not allow refuse and surplus materials to accumulate on the project site during the course of the work.
- B. Upon completion of the work, remove all refuse and surplus materials and leave the premises neat and clean.
- C. Clean all equipment surfaces and touch up all damaged surfaces to the satisfaction of the ENGINEER.

END OF SECTION

SECTION 16050

BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Drawings are basically diagrammatic, unless detailed dimensioned Drawings are included, and show only approximate locations of equipment, fixtures, panelboards, wiring devices, etc. Exact locations shall be subject to the approval of the ENGINEER.
- B. While the general run of electrical feeders, branch circuits, conduits, etc. is indicated on the Drawings, it is not intended that exact routing be determined therefrom. Circuit designations on Single Line Diagrams, Electrical Schematics, Instrumentation Schematics, Panelboard Schedules and in the form of "Home Runs" on branches indicate the designation of the branch circuit, the size and quantity of branch circuit conductors, the branch circuit overcurrent device rating and the panelboard or interconnection box from which the branch circuit is served, these designations may be modified subject to field conditions and review of the ENGINEER.
- C. Where the type, size, rating or mounting of equipment, raceways, conductors, wiring devices, etc. indicated in the Contract Documents is not clearly defined, request clarification, in writing, no less than ten (10) days prior to the Bid date. If clarification is not requested within this time frame, provide Electrical work as directed by the ENGINEER. Electrical Subcontractor shall verify with the General Subcontractor and other filed sub bid contractors that equipment sizes remain per design prior to submitting bid. Subcontractor shall verify that all work required for a complete system is included in their bid.
- D. Measurements shall be made at the site and in the building during construction and all systems installed as the work progresses in such a manner that the equipment, piping, vents, ducts, conduit, etc., will fit in the space provided, maintain head room and if in unfinished areas, be as neatly installed, as obscure and "out-of-the- way" as physically possible.
- E. Prior to submission for review any item of equipment, determine whether or not it will fit in the space provided. Any changes in the size or location of the material or equipment supplied, which may be necessary in order to meet field conditions or in order to avoid conflicts between trades, shall be brought to the immediate attention of the ENGINEER and approval received before such alterations are made.
- F. All equipment and accessories and its interconnecting piping, ductwork, conduit, etc., shall be installed in such a manner that ample maintenance and passage space and Code requirement space/access will be provided.
- G. Where more than one trade is involved in an area, space or chase, all shall cooperate and install their own work to utilize the space equally between them in proportion to their individual requirements. In general ductwork shall be given preference (except where grading of piping becomes a problem) followed by piping then electrical wiring. If, after installation of any equipment, piping, ducts, conduit, etc., it is determined that ample maintenance and passage space has not been provided, rearrange work and/or furnish other equipment as required to provide this space.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 16010: Electrical – General

1.03 SUBMITTALS

- A. Submit shop drawings for the following equipment, materials, products, etc.:
 - 1. Conduit, Raceway and Tubing.
 - 2. Conductors and Cable
 - 3. Outlet Boxes
 - 4. Pull and Junction Boxes
 - 5. Terminal and Equipment Cabinets
 - 6. Wiring Devices
 - 7. Safety Disconnect Switches
 - 8. Metal Framing Channel
- B. Submit Shop Drawings per Section 01330 - Submittal Procedures.

1.04 QUALITY ASSURANCE

- A. In General, the workmanship of the electrical installation shall be as described in the N.E.C.A. Electrical Design Guidelines. All methods of construction, details of workmanship, etc. that are not specifically described therein or indicated in the Contract Documents, shall be subject to the control and approval of the ENGINEER.
- B. Equipment and materials shall be of the quality and manufacture indicated in their respective sections of the Specifications.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Conduit, Raceway and Tubing
 - 1. Rigid Heavy Wall Steel Conduit (RSC or RGS) shall be constructed of hot dipped galvanized or electro-galvanized steel. Acceptable Manufacturers: Republic, Triangle PWC, Allied, Wheatland.
 - 2. Intermediate Metal Conduit (IMC) shall be hot-dipped galvanized or electro-galvanized steel. Acceptable Manufacturers: Triangle PWC, Republic, Allied, Wheatland.
 - 3. Electrical Metallic Tubing (EMT) shall be constructed of electro- galvanized steel. Acceptable Manufacturers: Republic, Triangle PWC, Allied, Wheatland.
 - 4. Aluminum Conduit shall be rigid, heavy wall aluminum. Acceptable Manufacturers: Anaconda, Kaiser, VAW.
 - 5. Flexible Metal Conduit shall be constructed of one continuous length of UL Approved electro-galvanized, spirally wound steel strip with interlocking convolutions and interior surfaces free from burrs and sharp edges. Flexible metal conduit installed in damp and wet locations shall be "liquid-tight" with PVC jacket. Acceptable Manufacturers: Alfex, Electro-Flex.
 - 6. Non-Metallic (PVC) Conduit shall be Schedule 40, heavy wall and UL listed for use above ground and direct burial underground. PVC conduit to be direct buried (not encased in concrete) shall be Schedule 80, extra heavy wall and UL Listed for the use intended. Acceptable Manufacturers: Carlon, Rob-Roy, Certainteed.

7. PVC Coated Metallic Conduit. Acceptable Manufacturers: Rob-Roy "Plasti-Bond".
- a. The galvanized metallic conduit, prior to plastic coating, shall conform to Federal Specifications WW-C-581d, ANSI Standard C80.1, UL Standard #6 and NEMA RN1-1980.
 - b. The conduit shall be hot dip galvanized inside and out with galvanized threads.
 - c. All conduit, conduit bodies, connectors, support systems and accessories in the corrosive areas, above grade or below grade, shall be coated as specified.
 - d. Before coating, the galvanized surface shall be coated with an epoxy-acrylic primer to provide a bond greater than the tensile strength of the coating.
 - e. The plastic coating shall be applied by the plastisol dip method.
 - f. The thickness of the coating is to be a nominal 40 mils except where the configuration or application of the unit dictates otherwise.
 - g. The plastic coating shall be factory-applied by the same manufacturer who produces hot dip galvanized conduit. The coated conduit shall conform to NEMA Standard No. RNI-1980 (Type 40).
 - h. Every female opening shall have a plastic sleeve extending one pipe diameter or 2", whichever is less, beyond the opening. The inside diameter of the sleeve shall be the same as the outside diameter of the pipe used with it. The wall thickness of the sleeve shall be the same as the plastic coating.
 - i. Fittings and Accessories:
 - 1) Right angle beam clamps and U-bolts will be provided with PVC encapsulated nuts that cover all exposed parts of the threads. These encapsulated nuts shall be installed with a socket wrench available from the manufacturer.
 - 2) U-bolts will be sized to snugly fit the nominal 40 mil coated conduit.
 - 3) The screw heads on Form 8 condulets shall be encapsulated with a corrosion-resistant material by the manufacturer. The screw heads (on Form 8 condulets) will be hexagonal with a screwdriver slot.
 - 4) Couplings shall have longitudinal ribs 40 mils in thickness to protect them from wrenches or channel-locks.
 - 5) All coated conduit must be installed wherever possible using a tool available from the manufacturer for the use intended.
 - j. Installation of the system is to be performed in accordance with the manufacturer's instructions.
 - k. A phenolic coating shall be fusion-bonded to the inside of PLASTI-BOND RED conduit, with a thickness of 4 to 6 mils.
 - l. The interior coating shall be applied in such a manner so as to allow field bending without cracking or flaking of the interior coating.
 - m. All conduit fittings which are hollow and serve as part of the raceway (access fittings, explosion-proof fittings, etc.) will be coated with the same exterior PVC coating and interior phenolic coating on the inside, as described in k above.

- n. Approved material: PLASTI-BOND RED as indicated on the Drawings and as manufactured by ROBROY INDUSTRIES, Verona, Pennsylvania.
 - 8. Surface metal raceway shall be of .040" steel with buff finish. Acceptable Manufacturers: Wiremold "700 Series", Walkerdut "333 Series".
 - 9. All fittings shall be of the same material as the respective raceway system.
 - 10. Expansion fittings shall be watertight combination expansion and deflection type designed to compensate for movement in any direction. Fittings shall have flexible copper braid bonding jumpers, neoprene sleeve and stainless steel bands. Acceptable Manufacturer: O.Z./Gedney Type DX or approved equivalent.
 - 11. Fittings for sealing around conduits passing through new below-grade concrete walls or floor shall be O.Z./Gedney Co. Type FSK, or equivalent.
 - 12. Conduit wall and floor seals for cored holes and sleeved openings shall be Type CSM series as manufactured by O.Z./Gedney Co., or equivalent.
 - 13. Conduit sealing bushings to seal the ends of conduits entering enclosures from below grade shall be O.Z./Gedney Co. Type CSB series, or equivalent.
 - 14. Electrical metallic tubing fittings shall be interlocking compression type of cadmium-plated malleable iron or zinc coated steel, or stainless steel. No die cast, set screw and indenter type fittings shall be used.
- B. Conductors and Cable
- 1. All power wiring conductors shall be insulated for 600 volts, unless otherwise noted, and shall be standard AWG and MCM sizes. Conductors shall be 98 percent copper, stranded, heat and moisture resistant and thermal plastic insulated for all sizes No. 12 AWG and larger. Smaller sizes shall not be used except for communications and special systems. For lighting and receptacle circuits, solid wire may be used in lieu of stranded wire, for No. 12 and No. 10 AWG only. Conductors shall be labeled with U.L. approval and be marked with the manufacturer's name, wire size and insulation type. Insulation for all 600 volt conductors shall be Type THWN/THHN or Type XHHW. All wiring shall be suitable for wet water filled applications. Acceptable Manufacturers: Okonite, Southwire, Pirelli, Cablec, BIW.
 - 2. Metal clad cable shall consist of thermal plastic insulated 600V copper conductors, of size and quantity indicated, protected by a positive interlocked armor of galvanized steel. The conductors shall be twisted together and shall have an overall moisture and fire resistant fibrous covering. The cable shall have a grounding conductor of copper. The cable shall meet the requirements of Article 334 of the National Electrical Code for "Type MC" Metal Clad Cable and shall bear the U. L. Label. Acceptable Manufacturers: U.S. Wire & Cable, Houston Wire & Cable, or equal.
- C. Pull and Junction Boxes
- 1. Boxes shall be constructed with trim for flush or surface mounting in accordance with the location to be installed. Provide screw-on type covers. Boxes installed in damp locations shall be of watertight construction with gasketed cover and conduit hubs.
 - 2. In no case shall boxes be sized smaller than as indicated in Article 370 of the National Electrical Code for Conduit and Conductor sizes installed.

D. Safety Switches

1. Furnish and install heavy duty safety switches as indicated on the plans and specifications and required by NEC. All safety switches shall be NEMA Type HD and Underwriters Laboratories listed.
2. All switches shall have switch blades which are fully visible in the "OFF" position when the switch door is open. All current carrying parts shall be plated to resist corrosion and promote cool operation. Switches shall have removable arc suppressers where necessary to permit easy access to line side lugs. Lugs shall be front removable and UL listed for 60°C or 75°C, aluminum or copper wires.
3. Switches shall be quick-make, quick-break such that, during normal operation of the switch, the operation of the contacts shall not be capable of being restrained by the operating handle after the closing or opening action of the contacts has started. The operating handle shall be an integral part of the box, not the cover. Provisions for padlocking the switch in the "OFF" position with at least three locks shall be provided. Switches shall have a dual cover interlock to prevent unauthorized opening of the switch door when the handle is in the "ON" position, and to prevent closing of the switch mechanism with the door open. The handle position shall indicate whether the switch is "ON" or "OFF".
4. Switches shall be horsepower rated for ac and/or dc as indicated by the plans. All fusible switches rated 100 thru 600 amperes at 240 volts and 30 thru 600 amperes at 600 volts shall have a UL approved method of field conversion from standard Class H fuse spacing to Class J fuse spacing. The switch also must accept Class R fuses and have provisions for field installation of a UL listed rejection feature to reject all fuses except Class R. The UL listed short circuit rating of the switches shall be 200,000 rms symmetrical amperes when Class R or Class J fuses are used with the appropriate rejection scheme. The UL listed short circuit rating of the switch, when equipped with Class H fuses, shall be 10,000 rms symmetrical amperes. 800 and 1200 ampere switches shall have provisions for Class L fuses and shall have a UL listed short circuit rating of 200,000 rms symmetrical amperes. The cost of any conversion kit and labor associated with conversion to accommodate the required fuses shall be included in the base bid. In general, U.L. Class H fuses are not to be used. Refer to the paragraph on fuses, this section on further requirements for fuses.
5. Enclosures
 - a. Safety switches enclosure NEMA ratings shall be as required for the area installed.
 - b. Switches supplied as NEMA 7 and 9 shall be furnished in cast aluminum enclosures with conduit provisions as required. Enclosures shall be provided with a bolted cover and with sealing means for hazardous location protection. "ON" and "OFF" position identification shall be cast into the cover, not painted on or applied with an adhesive.
6. Acceptable Manufacturers: Square-D, Cutler Hammer, General Electric, Siemens, or Eaton.

E. Metal Framing Channel

1. Channel for dry locations shall be roll formed from 12 gauge steel standard A570, Grade 33.

2. Channel for wet or exterior locations shall be roll formed from 12 gauge steel and shall be hot-dip galvanized after fabrication, material standard A570, Grade 33 and finish standards A153 and A386.
 3. Channel for corrosive locations shall be roll formed from stainless steel AISI Type 304.
 4. Use fittings of same material as channel. Fittings shall be by same manufacturer.
 5. Metal framing shall be B-Line Systems, Inc. of Highland, Illinois or equal.
- F. Electric Hand Hole
1. Hardware:
 - a. Frames and covers as shown on the drawings.
 - b. Cast the words "Electric" in the top of the cover
 - c. Fasteners shall be stainless steel.
 2. Precast units shall comply with ASTM C478, C478M
 3. Size: Plan area and clear height shall be not less than that shown on the drawings adjust size for conduit used and field conditions.
 4. FIBERGLASS HANDHOLES:
 - a. Shall be matched die molded of dark green fiberglass with approximate dimensions as shown on drawings. When buried, the unit shall be capable of supporting an ultimate downward load 6500 pounds distributed over a 6 by 6 inch area imposed anywhere on the cover surface. A. Covers shall be capable of being locked into position.
- G. Extraction Well Disconnect Switch
1. Switch rated plug and receptacle
 - a. Plugs and receptacles must be listed to UL Subject 2682 'Switch Rated Plugs and Receptacles.
 - b. Plugs and receptacles must have constant pressure butt-contacts with solid silver-nickel tips. Pin and sleeve contacts are not permitted.
 - c. Receptacles must have dead front construction: live parts must be inaccessible to thin tool or wire.
 - d. Plugs and receptacles must incorporate an integral switching mechanism to ensure the load is broken before the plug is removed from the receptacle.
 - e. Plug and receptacle wire terminals must be spring-assisted to prevent loosening due to conductor yielding, shocks, vibrations or thermal cycling.
 - f. The minimum environmental rating of plugs and receptacles must be, NEMA 4X.
 - g. Ingress protection must be achieved automatically when the plug is fully inserted into the receptacles.
 - h. Plugs and receptacles installed outdoor must be able to withstand UV radiation.
 - i. Plugs and receptacles shall be Meltric Decontactor Series or equal.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Unless otherwise noted, wiring for all systems indicated in the Contract Documents shall consist of insulated conductors installed in raceways. Raceways shall be continuous from outlet box to outlet box and from outlet box to cabinet, junction or pull box. Secure and

bond raceways to all boxes and cabinets such that each system of raceways will be electrically continuous throughout.

B. Unless otherwise indicated on the Drawings, install all wiring in the following applicable raceway system:

1. Wiring above 600 volts in indoor dry locations or outdoor, above grade locations: Galvanized rigid heavy wall steel conduit or rigid heavy wall aluminum conduit.
2. Wiring 600 volts or less in dry concealed locations: Galvanized electrical metallic tubing (for raceway sizes up to and including 2" trade size), galvanized intermediate metal conduit, rigid heavy wall aluminum conduit or galvanized rigid heavy wall steel conduit.
3. Wiring 600 volts or less in dry exposed indoor locations: galvanized intermediate metal conduit, galvanized rigid heavy wall steel conduit.
4. Wiring 600 volts or less in outdoor, above grade locations: Galvanized rigid heavy wall steel conduit, rigid heavy wall aluminum conduit, or intermediate metal conduit.
5. Wiring 600 volts or less in indoor wet locations: galvanized rigid heavy wall steel conduit.
6. Wiring 600 volts or less in indoor corrosive locations: PVC-coated rigid steel conduit, or PVC Schedule 40 or 80 conduit where not subject to physical damage.
7. All wiring installed in hazardous locations: Galvanized rigid heavy wall steel conduit.
8. Flexible metal conduit shall be used for final connection to all trailers. Liquid-tight flexible conduit shall be used in all wet or damp locations. Maximum length of flexible conduit shall be 36 inches.

C. Raceways Shall Be:

1. Sized as indicated on the Drawings. Where sizes are not indicated, raceways shall be sized per the National Electrical Code in accordance with the quantity, size, type and insulation of conductors to be installed; however, raceways shall be minimum one-half inch (1/2") trade size for branch circuit wiring and minimum three-quarter (3/4") trade size for all telephone, intercommunication, instrumentation and fire alarm and systems and for all branch circuit feeders to panelboards.
2. Installed to provide adequate grounding between all outlets and the established electrical system ground.
3. Cut square, free of burrs due to field cutting or manufacture, and bushed where necessary.
4. Installed with exterior surfaces not less than six inches (6") from any surface with a temperature of 200 degrees F or higher.
5. Plugged at the ends of each roughed-in raceway with an approved cap or disc to prevent the entrance of foreign materials during construction.
6. Concealed throughout except where exposure is permitted by the ENGINEER.
7. Installed parallel or perpendicular to floors, walls and ceilings.
8. Installed with a minimum of bends and offsets. All bends shall be made without kinking or destroying the cross section contour of the raceway. Factory made bends shall be used for raceways one-inch (1") trade size and larger.
9. Installed with U. L. approved rain tight and concrete-tight couplings and connectors.

10. Firmly fastened within three feet of each outlet box, junction box, cabinet or fitting. Raceways shall not be attached to or supported by wooden plug anchors or supported from Mechanical Work such as ductwork, piping, etc.
11. Installed with a #14 AWG fish wire in all telephone, inter communication, "Spare" or "Empty" conduit runs to facilitate future installation of conductors.
12. Installed with expansion fittings at all building expansion joints such that no undue stress is placed on any electrical raceway due to the proper functioning of expansion joints.
13. Arranged in a neat manner for access and allow for access to work installed by other trades.
14. If it is necessary to burn holes through webs of beams or girders, call such points to the attention of the ENGINEER and receive written approval both as to location and size of hole before proceeding with work. All holes shall be burned no larger than absolutely necessary.
15. Support adequately by malleable iron pipe clamps or other approved methods. In exterior or wet locations supports shall allow not less than 1/4 inch air space between raceway and wall. Firmly fasten raceway within 3 feet of each outlet box, junction box, cabinet or fitting. The following table lists maximum spacing between supports. Additional supports may be required due to field conditions, strength of supporting members, etc. Furnish and install such supports at no additional cost to the DEPARTMENT.

Conduit Trade <u>Size</u>	Type of <u>Run</u>	Horizontal Spacing in <u>Feet</u>	Vertical Spacing in <u>Feet</u>
1/2", 3/4"	Concealed	7	10
1", 1-1/4"	Concealed	8	10
1-1/2" & lgr.	Concealed	10	10
1/2", 3/4"	Exposed	5	7
1", 1-1/4"	Exposed	7	8
1-1/2" & lgr.	Exposed	10	10

16. Where raceways penetrate fire-rated walls, floors, or ceilings, install firestops equal to the rating of the wall, floor, or ceiling.
 17. Provide a bushing at each conduit termination unless fitting at box where conduit terminates has hubs designed in such a manner to afford equivalent protection to conductors. Provide grounding type insulated bushings on all conduit sizes one and one-quarter inch (1-1/4") trade size and larger, and on all feeder raceways regardless of size. Provide standard bushings for conduits one inch (1") and smaller unless otherwise stated. Provide sealing bushings for all conduits entering from below grade.
- D. Become familiar with the general construction of the building and place sleeves, inserts, etc., as required. All penetrations through existing concrete floors and walls shall be core drilled and sleeved. In areas where dampness or gases are present, seal around conduits using fittings as specified in Paragraph 2.01.A.12. All penetrations through new below-grade concrete walls or floors shall be sealed using fittings as specified in Paragraph 2.01.A.11.
- E. Wiring Methods
1. Do not pull conductors into raceways until raceway system, including all outlets, cabinets, bushings and fittings, is completed. Verify that all work of other trades which may cause conductor damage is completed. Use only U.L. approved cable

- lubricants when necessary. Do not use mechanical means to pull conductors No. 8 or smaller.
2. In general, conductors shall be the same size from the last protective device to the load.
 3. All wiring systems shall be properly grounded and continuously polarized throughout, following the color coding specified. Connect branch circuit wiring at panelboards, as required, in order to provide a "balanced" three-phase load on feeders.
 4. All feeder connections shall be made to bus and other equipment using solderless, pressure type terminal lugs, as manufactured by Burndy, National, O.Z., T. & B., or equal.
 5. For splices and taps, No. 10 AWG and smaller, use solderless "Thread-On" connectors having spiral steel spring and insulated with a vinyl cap and skirt, as manufactured by 3M Co. (pre- insulated "Scotch-Lock") or Ideal ("Wing-Nuts").
 6. For splices and taps, No. 8 and larger, use solderless "Split Bolt" type connector as manufactured by Anderson, Burndy, Kearney, Thomas & Betts, or approved equal.
 7. Use cast connections, Cadweld or Thermoweld, for ground conductors.
 8. Make all splices and connections in accessible boxes and cabinets only.
 9. Cover uninsulated splices, joints and free ends of conductor with rubber and friction tape or PVC electrical tape. Plastic insulating caps may serve as insulation.
 10. Feeder conductors shall be continuous from point of origin to load termination without splice, except where indicated on the drawings. If this is not practical, contact the ENGINEER and receive written approval for splicing prior to installation of feeder(s). Where feeder conductors pass through junction and pull boxes, bind and lace conductors of each feeder together. For parallel sets of conductors, match lengths of conductors as near equal as possible.
 11. Provide conduit seals and explosion proof devices as indicated on the plans and as dictated by the National Electrical Code for all Hazardous Locations indicated on the Drawings.
- F. Junction and Pull Boxes
1. Install junction and pull boxes in readily accessible locations. Access to boxes shall not be blocked by equipment, piping, ducts and the like. Provide all necessary junction or pull boxes required due to field conditions and as required by the National Electrical Code.
- G. Equipment Mounting Heights
1. All mounting heights shall comply with latest Applicable Codes.
- H. Hangers and Supports
1. Provide steel angles, channels and other materials necessary for the proper support and erection of electrical materials.
 2. Panelboards, cabinets, large pull boxes, large junction boxes, cable support boxes and starters shall be secured to ceiling and floor slab and not supported from conduits. Small panelboards, etc., as approved by the ENGINEER, may be supported on walls. Racks for support of conduit and heavy electrical equipment shall be secured to building construction by substantial structural supports.

3.02 TESTS

- A. For all feeder wiring rated 600 volts or less, provide 1,000 volt "Megger" insulation test prior to energizing feeders. Use a motor driven megger for all tests. Test voltage shall be applied until readings reach a constant value, and until three (3) equal readings, each one (1) minute apart, are obtained. Minimum megger reading shall be 45 megohms for feeder conductors. Document test results and submit for approval prior to energizing conductors.

END OF SECTION

SECTION 16400

SERVICE AND DISTRIBUTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Provide electrical power and distribution including the incoming service entrance with metering, main fused disconnect, power distribution panel board, transformers, local control panels, local control stations, full voltage starters, variable frequency drives, , receptacle panel boards, accessories and all wiring and conduit as required for a complete system.
- B. Provide a complete distribution system as indicated on the "Single- Line Diagram", schematics, schedules, specifications and as specified herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01330: Submittal Procedures
- B. Section 16010: Electrical – General
- C. Section 16050: Basic Materials and Methods

1.03 SUBMITTALS

- A. Submit Shop Drawings for all service and distribution equipment specified herein including the following information:
 - 1. Manufacturer and equipment type.
 - 2. Standard catalog information sheet.
 - 3. Detailed Shop Drawings indicating plan, elevation, end, and isometric views.
 - 4. Single-line diagram.
 - 5. Complete bill of materials.
 - 6. Additional information necessary to verify equipment to be supplied has features specified.
 - 7. The above shall be submitted in a single complete brochure which shall be in the form of a soft cover binder with index tabs.
- B. Provide six (6) copies of all correspondence, including verbal communications, with the utility company to the ENGINEER. Correspondence shall verify approval of the utility company for the proposed service.
- C. Submit documentation of all grounding tests.
- D. The vendor shall provide a coordination study, calculations and recommendations for circuit breaker trip settings for the complete system lineup.

1.04 QUALITY ASSURANCE

- A. The equipment specified herein is based upon the first manufacturer named after the phrase "Acceptable Manufacturer's". Equipment types, device ratings, dimensions, etc. correspond to the nomenclature dictated by that manufacturer. Equipment of other acceptable manufacturer's shall be equivalent in every way to that of the equipment specified.
- B. All equipment shall be tested at the factory. Unless specified elsewhere, standard factory inspection and operational tests will be acceptable.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Metering:

1. Provide complete KWH metering at the service entrance per utility company requirements.
2. Ratings: Shall match voltage and current rating of potential and current transformers.
3. Acceptable Manufacturers: Anchor Electric or equal.
4. Coordinate with the Utility
5. The metering current transformers shall be rated as required by the utility, and located in the service entrance switchboard, and approved by the utility. The metering and enclosure shall be located outside the building.

B. Low Voltage Distribution Switchboards:

1. General Construction

- a. Furnish and install where indicated a dead front type, completely metal enclosed, self-supporting structure independent of wall supports. Voltage rating shall be as indicated on the drawings. It shall consist of the required number of vertical sections bolted together to form one rigid switchboard.
- b. Equipment shall comply with the latest applicable standards of NEMA PB2 and UL 891. Where switchboards are used as service entrance equipment, they shall comply with all NEC and UL requirements for service entrance and a UL service entrance label shall be provided.
- c. Small wiring, necessary fuse blocks and terminal blocks within the switchboard shall be furnished as required. All groups of control wires leaving the switchboard shall be provided with terminal blocks with suitable numbering strips.
- d. Switchboard shall be provided with adequate lifting means and shall be capable of being rolled or moved into installation position and provided with CONTRACTOR supplied floor sills to be set level.
- e. Furnish cable pull sections or top cable pull boxes where shown on the drawings complete with cable tie down supports. Where cable pull section or pull boxes contain utility service cables, provide utility acceptable sealing means.
- f. Switchboard shall be manufactured by Cutler Hammer Corporation, General Electric Co., Square D Co or equivalent.

2. Bussing

- a. All bus bars shall be copper with bolted connections at joints. The bus bars shall be of sufficient size to limit the temperature rise to 65 degree C rise based on UL tests, and rated to withstand mechanical forces exerted during short circuit conditions when directly connected to a power source having an available fault current of 65KAIC amperes symmetrical at rated voltages. Provide full capacity neutral where a neutral is indicated on the drawings.
- b. A ground bus shall be furnished firmly secured to each vertical section structure and shall extend the entire length of the switchboard. An incoming ground lug shall be furnished. Other ground lugs for feeder circuits shall also be supplied as shown in the schedules on the drawings.

- c. All hardware used on conductors shall be high-tensile strength and plated. All terminals shall be of the anti-turn solderless type suitable for copper or aluminum cable of sizes indicated for 75 degree C cable.
 - 3. Switchboard Type(s) - See equipment schedules on the types to be provided.
 - a. Front Accessible Panel Mounted Feeder Devices
 - 1) Switchboards shown mounted against a wall shall be of construction equal to Westinghouse POW-R-LINE C front accessible. All sections of the switchboard shall be 18 inches deep except service sections containing large ampacity main disconnects which may be deeper as indicated. All sections of the switchboard shall align so that the back of the complete structure may be placed flush against a wall.
 - 2) Construction shall allow maintenance of incoming line terminations, main device connections and all main bus bolted connections to be performed without rear access. The feeder or branch devices shall be removable from the front and shall be panel mounted with the necessary device line and load connections front accessible. Provide lugs on all devices for cable sizes shown on drawings.
 - 4. Overcurrent Devices
 - a. Panel mounted feeder protective devices shall be molded case breaker type with frame and trip ratings as shown on the drawings and have additional characteristics as specified.
 - b. Devices shall have a minimum interrupting rating of 10KAIC amperes at 480 volts but not less than the available utility fault current.
 - c. Devices shall be manually operated (MO) or electrically operated (EO) as indicated on the drawings, and as required.
 - d. Nameplates
Engraved nameplates shall be furnished for all mains and feeder circuits with designation and circuit number as indicated on the drawings. Furnish Master Nameplate giving voltage, ampere rating, short circuit rating, manufacturer's name, general order number and item number.
 - e. Enclosures
Enclosures shall be of indoor ventilated construction as shown on the drawings. Control power shall be obtained from an internal control power transformer.
 - f. Finish
All exterior and interior steel surfaces of the switchboard shall be properly cleaned and provided with a rust-inhibiting phosphatized coating. Color and finish of the switchboard shall be ANSI 61 and use the manufacturer's standard process.
- C. Panel boards - Lighting and Distribution (480 volt 3phase, 240/120volt 1phase)
 - 1. General
 - a. The CONTRACTOR shall furnish and install at locations as shown on the drawings approved panel boards of a type indicated and specified herein.
 - b. Panels identified for use as service entrance equipment shall be so labeled.
 - c. Panel boards shall comply with the applicable sections of UL, NEC and NEMA and shall be as manufactured by Westinghouse Electric Corporation or equivalent by General Electric Co. or Square D Co.

2. Interiors
 - a. Interior shall be completely factory assembled with bolt-on devices. They shall be designed such that switching and protective devices can be replaced without disturbing adjacent units and without removing the main bus connectors.
 - b. Unless otherwise noted, full size insulated neutral bars shall be included. Bus bar taps for panels with single pole branches shall be arranged for sequence phasing of the branch circuit devices. Neutral bussing shall have a suitable lug for each outgoing feeder requiring a neutral connection.
 - c. Main bus bars shall be copper sized in accordance with UL standards to limit temperature rise on any current carrying part to a maximum of 50 degrees C above an ambient of 40 degrees C maximum.
 - d. A ground bus shall be included in all panels.
3. Boxes
 - a. Boxes shall be at least 20 inches wide made from galvanized steel. Provide minimum gutter space in accordance with the National Electrical Code. Where feeder cables supplying the mains of a panel are carried through its box to supply other electrical equipment, the box shall be sized to include the additional required wiring space. At least four interior mounting studs with adjustable nuts shall be provided.
 - b. Boxes shall be provided with removable blank ends.
4. Trims
 - a. Trims for lighting and appliance panelboards shall be supplied with a hinged door over all circuit breaker handles. Doors in panelboard trims shall not uncover any live parts. Doors shall have a semi-flush cylinder lock and catch assembly. Doors over 48 inches in height shall have auxiliary fasteners.
 - b. Distribution panelboard trims shall cover all live parts. Switching device handles shall be accessible.
 - c. Surfaces of the trim assembly shall be properly cleaned, primed and a finish coat of gray ANSI 61 paint applied.
 - d. Surface trims shall be same height and width as box. Flush trims shall overlap the box by 3/4 of an inch on all sides.
 - e. A directory card with clear plastic cover shall be supplied mounted on the inside of each door.
 - f. Provide an engraved nameplate for each panel section.
5. Panelboard Ratings
 - a. Panelboards rated 240 VAC or less shall have short circuit ratings as shown on the drawings or as herein scheduled, but not less than available fault current from utility.
 - b. Panelboards rated 480 VAC shall have short circuit ratings as shown on the drawings or as herein scheduled, but not less than calculated utility available fault current.
 - c. Breakers shall be a minimum of 100 ampere frame. Breakers 15 through 100 amperes trip size shall take up the same pole spacing
 - d. Panelboards shall be labeled with a UL short circuit rating. When series ratings are applied with integral or remote upstream devices, a label shall be provided. Series ratings shall cover all trip ratings of installed frames. It shall state the conditions of the UL series ratings including:
 - 1) Size and type of upstream device

- 2) Branch devices that can be used
 - 3) UL series short circuit rating
- D. Motor Starters
 - 1. For Three Phase Motors: Full voltage non reversing, employing magnetic starter, rated to match the equipment served, with thermal overload protection for each phase and with an M.C.P. type circuit breaker sized per the circuit breaker manufacturer's recommendations for coordination with the thermal overload protection. Starters shall be provided with a (480)-120 volt control power transformer with primary and secondary fusing. Provide 2 sets N.O. and 2 N.C. auxiliary contacts. Provide similar starters for 240V one phase motors.
 - 2. Acceptable Manufacturers:
Square-D, Cutler Hammer, General Electric, Furnas, Allen-Bradley, Siemens or approved equal.
- E. Dry Type Transformers (75 kVA and Below)
 - 1. General
 - a. Furnish and install, single phase general purpose individually mounted dry-type transformers of the two-winding type, self-cooled, with ratings and voltages as indicated on the drawings. Transformers shall be manufactured by Square D, General Electric, Hevi-Duty, Westinghouse Electric Corporation or equivalent.
 - b. Transformers shall be designed, manufactured, and tested in accordance with all the latest applicable ANSI, NEMA, and IEEE standards. All 600 volt class transformers shall be UL listed and bear the UL label.
 - c. Transformers shall be designed for continuous operation at rated kVA, for 24 hours a day, 365 days a year operation, with normal life expectancy as defined in ANSI C57.96.
 - 2. Insulation Systems
 - a. Transformers shall be insulated as follows:
 2 kVA and below: Class B insulation for 150 degrees C total temperature, based on 80 degree C rise.
 3 through 30 kVA: Class F insulation for 185 degrees C total temperature, based on 115 degree C rise.
 30 kVA and above: Class H insulation for 220 degrees C total temperature, based on 150 degree C rise.
 - b. Required performance shall be obtained without exceeding the above indicated temperature rise in a 40 degree C maximum ambient, with a 30 degree C average ambient over 24 hours.
 - c. All insulation material shall be flame-retardant and shall not support combustion as defined in ASTM Standard Test Method D635.
 - 3. Core and Coil Assemblies
 - a. Transformer core shall be constructed with high grade, non-aging, grain-oriented silicon steel with high magnetic permeability, and low hysteresis and eddy current losses. Maximum magnetic flux densities shall be substantially below the saturation point. The

transformer core volume shall allow efficient transformer operation at 10% above the highest tap voltage. The core laminations shall be tightly clamped and compressed. Coils shall be wound of electrical grade aluminum with continuous wound construction.

- b. On units rated below 30 kVA, the core and coil assembly shall be completely encapsulated in a proportioned mixture of resin and aggregate to provide a moisture-proof, shock resistant seal.
4. Enclosures
- a. The enclosure shall be made of heavy gauge steel and shall be degreased, cleaned, primed, and finished with ANSI 61 color weather-resistant enamel. All transformers shall be equipped with a wiring compartment suitable for conduit entry and large enough to allow convenient wiring. The maximum temperature of the enclosure shall not exceed 90 degrees C. The core of the transformer shall be visibly grounded to the enclosure.
 - b. On units rated below 30 kVA, the enclosure construction shall be totally enclosed, non-ventilated, NEMA 3R, with lifting eyes.
 - c. On units rated 30 kVA and above, the enclosure construction shall be ventilated, NEMA 2, drip-proof, with lifting holes. All ventilation openings shall be protected against falling dirt. On outdoor units, provide suitable weather shields over ventilation openings.
5. The following tests shall be made on all transformers:
- a. Ratio tests on the rated voltage connection and on all tap connections.
 - b. Polarity and phase-relation tests on the rated voltage connection.
 - c. Applied potential tests
 - d. Induced potential test

PART 3 - EXECUTION

3.01 INSTALLATION

A. Grounding:

- 1. Provide a service entrance ground and equipment grounding system as dictated by Article 250 of the National Electrical Code and as indicated on the Contract Documents. Service entrance ground conductors shall be copper with green thermoplastic insulation installed in rigid galvanized steel conduit. Use Cadwell type connectors for all service entrance ground connections. Provide a building grounding loop system as indicated on the drawings.
- 2. Ground all exposed non-current carrying metallic parts of the electrical system and ground all raceway systems.
- 3. Ground all transformer enclosures and secondary neutral connections.
- 4. Ground all lightning arresters, pole top hardware, exterior conduit risers, and 5KV cable shields. Ground cable shields at all terminations and splices.
- 5. Ground all motor frames using copper bonding conductor between raceway system and motor frame.

- B. Inspect all bus bolts in panelboards prior to energization to check for looseness developed during shipment or handling.
- C. Install dry-type transformers with adequate clearances for proper ventilation.
- D. Panelboards:
 - 1. All panelboards shall be installed so that the top circuit breaker handle is not higher than 6'-6" above finished floor.
 - 2. Loads shall be balanced on all phases and branch circuiting rearranged, if required, for balancing.
 - 3. Provide and install panelboards in the number, sizes and construction as stated in the panelboard schedule or as required for system.

3.02 TESTS

- A. Grounding
 - 1. Grounds and grounding systems shall have a resistance to solid earth ground not exceeding following values:
 - a. For grounding secondary service neutral 25 ohm
 - b. For grounding non-current carrying metal parts associated with secondary distribution system25 ohms
 - 2. Provide grounding tests to verify the above values. Where these values are not met, add additional ground rods in order to meet these values.

END OF SECTION

SECTION XII

Measurement for Payment

SECTION XII

MEASUREMENT FOR PAYMENT

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section covers the methods and procedures that the **DEPARTMENT** will use to measure the **CONTRACTOR'S** work and provide payment. This general outline of the measurement and payment features will not, in any way, limit the Responsibility of the **CONTRACTOR** for making a thorough investigation of the Contract Documents to determine the scope of the work included in each bid task.
- B. Payment will be made to the **CONTRACTOR** in accordance with the specified methods of measurement and the unit or lump sum prices stipulated in the accepted bid. Payment will constitute complete compensation for all work required by the Contract Documents including all costs of accepting the general risks, liabilities and obligations, expressed or implied. Payment under all tasks will include, but necessarily be limited to, compensation for furnishing all supervision, labor, equipment, overhead, profit, material, services, applicable taxes, and for performing all other related work required. No other payment will be made.
- C. No payment will be made for work performed by the **CONTRACTOR** to replace defective work, work which is not required by the Contract Documents, work outside the limits of the Contract and additional work necessary due to actions of the **CONTRACTOR**, unless ordered by the **ENGINEER** in writing.
- D. For unit price items, the **CONTRACTOR** shall be paid for the actual amount of work accepted and for the actual amount of materials in place during the period of construction. After the work is completed and before final payment is made, the **ENGINEER** or **CONTRACTOR** as specified in the pay items will make final measurements to determine the quantities of the various items of work accepted as the basis for final payment. The **CONTRACTOR** shall accept compensation, as herein provided, in full payment for furnishing all materials, labor, tools, equipment, and incidentals necessary to the completed work and for performing all work contemplated and embraced by the Contract.
- E. For lump sum items, the **CONTRACTOR** will be paid on the basis of actual work accepted until the work item is completed. Upon completion of the item, 100 percent of the lump sum price may be paid, subject to the terms of the Agreement. The pay items listed below describe the measurement of and payment for the Work to be done under the respective items listed in the Bid as outlined in the approved schedule of values.
- F. All units of measurement shall be standard United States convention, as applied to the specific items of work by tradition and as interpreted by the **ENGINEER**. Each unit or lump sum price stated in the Bid shall constitute full compensation, as herein specified, for each item of the Work completed.

1.02 ENGINEER'S ESTIMATE OF QUANTITIES

- A. The Estimated quantities for unit price items, as listed in the bid schedule, are only approximate and are included solely for the purposes of the comparison of bids. The

ENGINEER does not expressly, or by implication, agree that the nature of the materials encountered or required shall correspond therewith and reserves the right to increase or decrease any such quantity or to eliminate any quantity as the **ENGINEER** may deem necessary.

1.03 INCIDENTAL ITEMS

- A. Except for the items designated hereunder for Measurement and Payment, the costs of items necessary to complete the work as specified are considered incidental to the items specified for Measurement and Payment. The costs of incidental items shall be included in the prices of items specified for Measurement and Payment.

1.04 QUANTITIES

- A. The Estimated quantities indicated in the Bid Schedule are the quantities for the evaluation of bids. The actual quantities of items to be paid for on a unit price basis may vary significantly from the quantities indicated in the Bid Schedule.

1.05 RELATED PROVISIONS SPECIFIED ELSEWHERE

- A. Payment to **CONTRACTOR**: Refer to General Conditions and Contract Agreement Section 6.
- B. Changes in the Contract Price: Refer to General Conditions and Contract Agreement Section 6.

1.06 SUBMITTALS

- A. Bid Breakdowns/Schedule of Values: Submit in accordance with Section VIII, Article 1.4, 1.6 and Article 13.

PART 2 – MEASUREMENT

- A. Under this Contract, the **CONTRACTOR** shall provide all labor, equipment, and materials and shall complete all work as shown and described in the Contract Documents and as directed by the **ENGINEER**, in accordance with the expressed intent of the contract to secure a complete construction of a functionally complete project. The bid items described in Part 3 BID ITEMS shall together include all work set forth in the Contract Documents or required to properly complete the work. Any necessary work that is not described shall be considered included in the item to which it properly belongs. Where used in the Contract Documents, the word “including” (“includes”, “include”) shall mean “including (includes, include) but not restricted to”. Each item includes:
 - 1. All labor, material, equipment, plant services, bonds and insurance, tests, adjustments, warranties, overhead, and other expenses required to perform the work.
 - 2. All accessories, manuals, and services pertinent to the proper installation of materials and equipment.
 - 3. All accessories, manuals, and services pertinent to the proper start-up, operation, and maintenance of materials and equipment.
- B. Lump Sum Items: Measurement of all Lump Sum Items will be on a total job basis.
 - 1. The quantities of work performed under lump sum items will not be measured except for the purpose of determining reasonable interim payments. Interim payments will

- be made in accordance with the estimated value of work performed and found acceptable as determined by the **ENGINEER**, or as specified in this section.
2. Where indicated for a lump sum item, the **CONTRACTOR** shall provide a schedule of values per Subpart 1.06 of this Section. The schedule of values shall include a breakdown of major cost items included within the lump sum in sufficient detail to document specific costs of all items included in the lump sum item. The schedule of values shall be provided to the **ENGINEER** prior to initiation of work.
 3. Measurement for Progress Payments of all lump sum items will be on a percent complete basis as established in the General Conditions and Section VI, Article 9.
- C. Unit Price Items: Where items are specified to be measured on a unit basis, measurement will be of each particular unit as specified.
1. **Volume Basis** - Where items are specified to be measured on a volume basis, the volume will be determined on an in-place basis (prior to excavation for excavation or after placement and compaction for imported fill) between the existing and final ground surfaces or grade lines shown on the drawings. If no tolerance is specified, the tolerance shall be interpreted to be 0.00 foot.
 2. **Area Basis** - Where items are specified to be measured on an area basis, the area will be measured as the actual surface area within the specified limits based on a plan view. If a specified width of an item is indicated, the area will be determined by the actual length along the centerline multiplied by the specified width. No adjustments will be made for the required overlap of materials.
 3. **Length Basis** - Where items are specified to be measured on a length basis, the length will be measured as the actual length along the centerline within specified limits based on a plan view. No adjustments will be made for the required overlap of materials.
 4. **Weight Basis** - Where items are specified to be measured on a weight basis, the weight will be measured based on certified weigh scale tickets obtained from a weigh scale certified by the County Office of Weights and Measures and approved by the **ENGINEER**. The weights shall be taken in the presence of a **DEPARTMENT** representative. When the weight is per ton, trucks shall be weighed entering the site and exiting the site, using either an on-site or off-site scale. The measured tonnage will be the difference between the measured truck weight upon entering and exiting the certified weight scale.
- D. Measurement and payment will be made only for work that has been acceptably performed within the limits shown on the Construction Drawings and in conformance with the Contract Specifications, as specified, or ordered by the **ENGINEER**.

PART 3 - BID ITEMS

- A. Bid Item LS-1 – Mobilization/Demobilization and Site Preparation
1. Provide all labor, materials, equipment, and incidentals necessary for:
 - a. Mobilization/demobilization of labor, materials, and equipment
 - b. Decontamination station/pad
 - c. Clearing and grubbing

- d. Staging/stockpile areas
 - e. Temporary utilities (e.g., electric, telephone, internet, potable water)
 - f. Field offices/trailers and support areas
 - g. Project signs
 - h. Control, layout, and as-built surveys
 - i. Erosion, sediment, and surface water controls
 - j. Environmental control measures
 - k. Temporary sanitary facilities
 - l. Handling and proper containment of **CONTRACTOR**-generated trash/rubbish
 - m. Site access controls (e.g., fencing, signage, flaggers)
 - n. Submittals (e.g., schedules, shop drawings, record drawings)
 - o. Bonds and insurance
 - p. Preparation of a Shoring Plan to be submitted to the **ENGINEER** for review.
- 2. In accordance with Section 3, Article 12, the **CONTRACTOR** shall submit a bid breakdown of this bid item that lists the individual costs required to complete this bid item as well as miscellaneous items not specified elsewhere that are necessary for proper completion of the work (provide detail).
 - 3. Bid Item LS-1 shall be measured on a lump sum basis.
 - 4. Measurement for payment for Bid Item LS-1 – Mobilization/Demobilization and Site Preparation shall be for items complete, installed, and properly functioning as documented and approved by the **ENGINEER**. The **CONTRACTOR** may invoice for up to 70% of this item upon successful installation of the work as stipulated within the Contract Documents and the remaining 30% at substantial completion. Payment shall be lump sum bid for each individual item listed in the bid breakdown. The total bid price for this bid item shall be limited to a maximum of 7.5% of the total bid amount for the entire project.
- B. Bid Item LS-2 – In-Situ Chemical Oxidation Pipe Installation at Excavation
- 1. Provide all labor, materials, equipment, and incidentals necessary to install pipe for future application of reagent by others.
 - 2. Bid Item LS-2 shall be measured on a lump sum basis.
 - 3. Payment for this Item will be made upon review and acceptance by the **ENGINEER** for the total value listed for this Bid Item on the Bid Form, as applicable. Progress payments based upon estimated percent complete as determined by the **ENGINEER** will be made as described in The General Conditions.
- C. Bid Item LS-3 – Dewatering/Treatment/Disposal of Contaminated Water
- 1. Provide all labor, materials, equipment, and incidentals necessary for:
 - a. Collection, management, handling, and temporary storage of construction-related water (e.g., water from excavation dewatering, decontamination, groundwater

monitoring well development) in compliance with all Federal, State and local laws, rules, and regulations.

- b. On-site treatment (as necessary) and transportation and off-site disposal, including direct disposal to the POTW, of construction-related water in compliance with all Federal, State, and local laws, rules, and regulations.
 - c. Laboratory analyses required for characterization related to the disposal.
 - d. Removal of equipment used for on-site treatment (as necessary).
- 2. Bid Item LS-3 shall be measured on a lump sum basis. Bills of lading/weight tickets/certified meter and/or measured tank capacity documenting gallons of construction-related water disposed of shall be submitted to the **ENGINEER** to substantiate requests for payment.
 - 3. Payment for this Item will be made upon review and acceptance by the **ENGINEER** for the total value listed for this Bid Item on the Bid Form, as applicable. Progress payments based upon estimated percent complete as determined by the **ENGINEER** will be made as described in The General Conditions.

D. Bid Item LS-4 – Groundwater Extraction and Treatment (GWET) Well and Piping

- 1. Provide all labor, materials, equipment, and incidentals necessary to:
 - a. Install, maintain, and remove work area barrier
 - b. Excavate GWET collection and discharge trenches including shoring and soil handling. Transportation and disposal of soil is covered under Bid Items UC-5 and UC-6
 - c. Supply and install bedding material
 - d. Supply and install well pump, pipe to treatment system, power wire and conduit between treatment trailer and well, instrumentation wire and conduit between treatment trailer and well, and well instrumentation
 - e. Supply and install new concrete well head
 - f. Supply and install water discharge pipe
 - g. Backfill and compaction of trenches
 - h. Trailer to house GWET system is covered under Bid Item LS-6.
 - i. Supply and Installation of treatment component of GWET system is covered under Bid Item LS-6.
 - j. Exterior site restoration is covered under Bid Items UC-8, UC-9, and UC-10.
- 2. In accordance with Section 3, Article 12, the **CONTRACTOR** shall submit a bid breakdown of this bid item that lists the individual costs required to complete this bid item as well as miscellaneous items not specified elsewhere that are necessary for proper completion of the work (provide detail).
- 3. Bid Item LS-4 shall be measured on a lump sum basis.
- 4. Payment. Payment for this Item will be made upon review and acceptance by the **ENGINEER** for the total value listed for this Bid Item on the Bid Form, as

applicable. Progress payments based upon estimated percent complete as determined by the **ENGINEER** will be made as described in The General Conditions.

E. Bid Item LS-5 – Soil Vapor Extraction (SVE) Wells and Piping

1. Provide all labor, materials, equipment, and incidentals necessary to:
 - a. Abandon floor drains.
 - b. Install, maintain, and remove work area barrier
 - c. Install soil vapor extraction (SVE) wells
 - d. Install vacuum points
 - e. Supply and install above-ground extraction pipe from SVE wells to building exterior.
 - f. Trailer to house SVE extraction and treatment system is covered under Bid Item LS-6.
 - g. Installation of package SVE system is covered under Bid Item LS-6.
2. In accordance with Section 3, Article 12, the **CONTRACTOR** shall submit a bid breakdown of this bid item that lists the individual costs required to complete this bid item as well as miscellaneous items not specified elsewhere that are necessary for proper completion of the work (provide detail).
3. Bid Item LS-5 shall be measured on a lump sum basis.
4. Payment. Payment for this Item will be made upon review and acceptance by the **ENGINEER** for the total value listed for this Item on the Bid Form, as applicable. Progress payments based upon estimated percent complete as determined by the **ENGINEER** will be made as described in The General Conditions.

F. Bid Item LS-6 – GWET and SVE Systems Furnishing, Installation, and Startup

1. Provide all labor, materials, equipment, and incidentals necessary to:
 - a. Furnish and install complete package GWET system at the job site.
 - b. Furnish and install complete package SVE system at the job site.
 - c. Furnish and install trailer to house GWET and SVE systems.
 - d. Startup and prove-out GWET and SVE systems.
2. Work elements not included under this bid item are:
 - a. Heat exchanger and activated carbon vessel rental (see Bid Item UC-12)
3. The Subcontractor shall provide a cost for the start up and prove-out of the GWET and SVE systems. Start up and prove-out shall be a two week period during which all mechanical and electrical systems shall be tested and any deficiencies repaired. The two week period shall be extended indefinitely, at the **CONTRACTOR'S** expense, until a 90% up time of all equipment is maintained throughout a consecutive two week period. Preparation and provision of the Operation and Maintenance Manual shall also be included under this bid item.
4. In accordance with Section 3, Article 12, the **CONTRACTOR** shall submit a bid breakdown of this bid item that lists the individual costs required to complete this bid

item as well as miscellaneous items not specified elsewhere that are necessary for proper completion of the work (provide detail).

5. Bid Item LS-6 shall be measured on a lump sum basis.
 6. Payment for Bid Item LS-6 will be made at:
 - a. 20% of the lump sum price upon acceptance of all submittals by the **ENGINEER** associated with the package SVE/GWET system.
 - b. 60% of the lump sum price upon delivery and acceptance of the SVE/GWET system by the **ENGINEER** at the job site.
 - c. 10% upon successful completion of the prove-out period for the GWET system in the opinion of the **ENGINEER**.
 - d. 10% upon successful completion of the prove-out period for the SVE system in the opinion of the **ENGINEER**.
- G. Bid Item LS-7 – Vacuum Monitoring Points/Injection Wells
1. Provide all labor, materials, equipment, and incidentals necessary to:
 - a. Install vacuum monitoring points/injection wells through the building sub-slab flooring
 - b. Collect, transport, and analyze soil and groundwater samples beneath the building
 2. Bid Item LS-7 shall be measured on a lump sum basis.
 3. Payment for this Item will be made upon review and acceptance by the **ENGINEER** for the total value listed for this Bid Item on the Bid Form, as applicable. Progress payments based upon estimated percent complete as determined by the **ENGINEER** will be made as described in The General Conditions.
- H. Bid Item UC-1 – Site Services
1. Provide all labor, materials, equipment, and incidentals necessary for:
 - a. Site security
 - b. Field office/trailer amenities (e.g., desk, lighting, file cabinets)
 - c. Proper disposal of **CONTRACTOR**-generated trash/rubbish
 - d. Permits and other regulatory requirements
 - e. Project meetings
 - f. Maintenance of temporary utilities
 - g. Maintenance of decontamination station/pad
 - h. Maintenance of staging/stockpile areas
 - i. Maintenance of sanitary facilities
 - j. Maintenance of erosion, sediment, and surface water controls
 - k. Traffic control if required
 - l. Coordination with building owner

- m. Odor and dust control during all remedial excavation activities, including, but not limited to, excavation, handling, stockpiling, loading/unloading, and backfilling.
 - 2. In accordance with Section 3, Article 12, the **CONTRACTOR** shall submit a bid breakdown that shows individual unit costs for work elements that compose this bid item.
 - 3. Measurement for payment for Bid Item UC-1 – Site Services shall be per calendar day beginning after satisfactory installation of site facilities and ending at substantial completion or at the end of the Contract Time specified in Section VI Article 6.1, whichever is sooner. Payment shall be unit price bid for each individual item described above as submitted in the **CONTRACTOR's** bid breakdown. A 50% reduction in payment shall occur for each calendar day that operation and/or maintenance of any item included in this bid item was unsatisfactory or unused as determined by the **ENGINEER**. The total bid price for this bid item shall be limited to a maximum of 7.5% of the total bid amount for the entire project.
- I. Bid Item UC-2 –Health and Safety
- 1. Provide all labor, materials, equipment, and incidentals necessary to protect health and safety during proper execution of the Contract from the start of work through final completion including, but not limited to:
 - a. Development of and adherence to a project-specific Health and Safety Plan (HASP)
 - b. Providing a full-time Health and Safety Officer
 - c. Air monitoring
 - d. Dust control
 - e. Emergency response
 - f. Providing necessary fall protection of open excavations for site workers, visitors, and trespassers.
 - 2. In accordance with Section 3, Article 12, the **CONTRACTOR** shall submit a bid breakdown listing the capital and daily operations and maintenance costs for work elements included in this bid item.
 - 3. Measurement for payment for Bid Item UC-2 – Health and Safety shall be per calendar day the HASP has been adhered to in the opinion of the **ENGINEER**. Work included in this bid item shall be by calendar day beginning after the satisfactory establishment of an exclusion zone and shall be considered completed when there is no longer an exclusion zone in the project area or at the end of the Contract Time specified in Section VI, Article 6.1, whichever is sooner. All daily maintenance costs for health and safety are part of this bid item, including everything required for the HASP. A reduction in the payment for this item will occur for each day the **CONTRACTOR** fails to adhere (in the opinion of the **ENGINEER**) to the HASP. There will be 100% reduction in this bid item for days where no remediation work occurs in the exclusion zone. No payment will be made for Saturdays, Sundays, and holidays specified in Section XIII.

J. Bid Item UC-3 – Soil Excavation

1. Provide all labor, materials, equipment, and incidentals necessary for:
 - a. Installation and maintenance of temporary by-pass pumping systems for sanitary and storm sewers, including, but not limited to, temporary connections and installation of temporary structures, pumps, and piping.
 - b. Installation of shoring system, including site evaluation.
 - c. Excavation of overburden and contaminated soil to the horizontal and vertical limits of excavation as delineated on the Drawings, including handling and stockpiling as required. Transportation and disposal of soil is covered under Bid Items UC-6 and UC-7.
 - d. Removal of temporary by-pass system components and installation of permanent piping for sanitary and storm sewer.
 - e. Removal and transportation and disposal of PCE tank.
 - f. Work and expenses incidental thereto for which payment is not provided in other items.
2. Bid Item UC-3 shall be bid unit price for each cubic yard of soil excavated.
3. Measurement for payment of Bid Item UC-3 – Soil Excavation shall be for the actual in-place cubic yards of soil excavated, as determined by a soil survey performed by a New York State licensed surveyor.

K. Bid Item UC-4 – Backfill

1. Provide all labor, materials, equipment, and incidentals necessary for:
 - a. Furnishing and installing common borrow to replace the excavated soil (i.e., backfill) to the horizontal and vertical limits of excavation as delineated on the Drawings, including:
 - Providing material to the site, placing, grading, and compacting.
 - Placing grading and compacting uncontaminated soil that is suitable for reuse as common borrow.
 - All associated laboratory and field testing of the material.
2. Bid Item UC-4 shall be bid unit price for each in-place cubic yard of backfill placed and compacted.
3. Measurement for payment of Bid Item UC-4 – Backfill shall be for the actual cubic yards of backfill placed and compacted, as determined by a soil survey performed by a New York State licensed surveyor.

L. Bid Item UC-5 – Non-Hazardous Soil and Debris Transportation and Disposal

1. Work for this bid item includes, but is not limited to:
 - a. Sampling, analysis, and characterization of excavated soil and demolition debris (with the exception of pavement) from within the delineated limit of work.
 - b. Furnishing and loading trucks and securing loads for safe and legal transport.

- c. Transporting all classified non-hazardous soil to an approved licensed off-site Treatment, Storage and/or Disposal Facility (TSDF) and disposing of the material in accordance with the facility requirements.
 - d. Transporting non-hazardous demolition debris to an approved licensed off-site TSDF and disposing of the material in accordance with the facility requirements.
 - e. Work and expenses incidental thereto for which payment is not provided in other items.
 - 2. Bid Item UC-5 shall be bid unit price for each ton of non-hazardous soil transported and disposed off site. The **CONTRACTOR** shall submit a bid breakdown that shows individual unit costs for work elements that compose this bid item.
 - 3. Measurement for payment of Bid Item UC-5 – Non-Hazardous Soil and Debris Transportation and Disposal shall be for the actual tons of non-hazardous soil disposed at the approved disposal facility. Weight measurement shall be by certified scale and documented by certified weight ticket to be submitted for each truck load to the **ENGINEER/DEPARTMENT** for approval.
- M. Bid Item UC-6 – Hazardous Soil and Debris Transportation and Disposal
- 1. Work for this bid item includes:
 - a. Sampling, analysis, and characterization of excavated impacted soil and demolition debris from within the delineated limit of excavation.
 - b. Furnishing and loading trucks and securing loads for safe and legal transport.
 - c. Transporting all classified hazardous soil to an approved licensed off-site TSDF and disposing of the material in accordance with the facility requirements.
 - d. Transporting hazardous demolition debris to an approved licensed off-site TSDF and disposing of the material in accordance with the facility requirements.
 - e. Work and expenses incidental thereto for which payment is not provided in other items.
 - 2. Bid Item UC-6 shall be bid unit price for each ton of hazardous soil transported and disposed off site. The **CONTRACTOR** shall submit a bid breakdown that shows individual unit costs for work elements that compose this bid item.
 - 3. Measurement for payment of Bid Item UC-6 – Hazardous Soil Transportation and Disposal shall be for the actual tons of hazardous soil disposed at the approved disposal facility. Weight measurement shall be by certified scale and documented by certified weight ticket to be submitted for each truck load to the **ENGINEER/DEPARTMENT** for approval.
- N. Bid Item UC-7 – Hot Mix Asphalt Pavement
- 1. Work for this bid item includes, but is not limited to:
 - a. Furnishing and installing sub-base course above common borrow as indicated on the Drawings. Work includes providing material to Site, placing, grading, and compacting.
 - b. Installing binder and top courses of hot mix asphalt pavement as shown on the Drawings, to the delineated saw cut line shown on the Drawings.

- c. All associated laboratory and field testing of the material.
 - d. Work and expenses incidental thereto for which payment is not provided in other items.
 - 2. Bid Item UC-7 shall be bid unit price for each square foot of installed pavement to the saw cut line shown on the Drawings.
 - 3. Measurement for payment of Bid Item UC-7 – Hot Mix Asphalt Pavement shall be for the actual area of pavement placed, compacted, tested, and graded to the satisfaction and approval of the **ENGINEER/DEPARTMENT**. Measurement shall be by **CONTRACTOR** survey.
- O. Bid Item UC-8 – Concrete Sidewalk Restoration
- 1. Work for this bid item includes, but is not limited to:
 - a. Furnishing and installing sub-base course above common borrow as indicated on the Drawings. Work includes providing material to Site, placing, grading, and compacting.
 - b. Furnish and install concrete to the saw cut line shown on the Drawings.
 - c. All associated laboratory and field testing of the material.
 - d. Work and expenses incidental thereto for which payment is not provided in other items.
 - 2. Bid Item UC-8 shall be bid unit price for each square yard of sidewalk installed to the saw cut line shown on the Drawings.
 - 3. Measurement for payment of Bid Item UC-8 – Concrete Sidewalk Restoration shall be for the actual volume of concrete placed, and finished to the satisfaction and approval of the **ENGINEER/DEPARTMENT**. Measurement shall be by **CONTRACTOR** survey.
- P. Bid Item UC-9 – Site Restoration
- 1. Work for this bid item includes:
 - a. Furnishing and installing topsoil above common borrow as indicated on the Grass Restoration Detail. Work includes providing material to Site, placing, grading, and finishing.
 - b. Providing and installing seed and mulch as shown on the Grass Restoration Detail to the limit of disturbed lawn areas as shown on the Drawings.
 - c. All associated laboratory and field testing of the topsoil material.
 - d. Protection and care of grass restoration areas for the required maintenance period until an acceptable stand of grass is achieved.
 - e. Work and expenses incidental thereto for which payment is not provided in other items.
 - 2. Bid Item UC-9 shall be bid unit price for each square yard of installed grass restoration as shown on the Drawings.

3. Measurement for payment of Bid Item UC-9 – Site Restoration shall be for the actual area of grass restoration and graded to the satisfaction and approval of the **ENGINEER/DEPARTMENT**. Measurement shall be by Contractor survey.
- Q. Bid Item UC-10 – Operate, Monitor, and Maintain Treatment Systems
1. The **CONTRACTOR** shall provide all labor, materials, equipment, and incidentals necessary to operate and maintain the GWET and SVE systems following satisfactory completion of two week prove-out period, including:
 - a. System operation, monitoring, and maintenance
 - b. Maintaining equipment
 - c. Change-out filters
 - d. Collect and ship/deliver samples
 - e. Laboratory analytical costs
 - f. Utility (e.g., electricity, telecommunications, sewer) fees
 - g. Prepare monthly operating reports
 - h. Manage material and utility suppliers
 - i. Provide O&M training at end of O&M period to new operator
 - j. Maintain spare parts inventory.
 2. Work elements not included under this bid item are:
 - a. Activated carbon replacement (see Bid Item UC-11)
 - b. Heat Exchanger and Carbon Vessel Rental (see Bid Item UC-12)
 3. Bid Item UC-10 shall be bid unit price on a per calendar month basis. In accordance with Section 3, Article 12, the **CONTRACTOR** shall submit a bid breakdown that shows individual unit costs for work elements that compose this bid item.
 4. Measurement for payment of Bid Item UC-10 – Operate, Monitor, and Maintain Treatment Systems shall be for months in which the treatment systems were operated and maintained in accordance with the Operations and Maintenance Manual and to the satisfaction of the **ENGINEER/DEPARTMENT**.
- R. Bid Item UC-11 – Activated Carbon Change Out
1. The **CONTRACTOR** shall provide all labor, materials, equipment, and incidentals necessary to change out the activated carbon, including:
 - a. Furnishing the activated carbon
 - b. Transportation and proper disposal of used activated carbon
 - c. Managing vendors
 2. Bid Item UC-11 shall be bid unit price on a per event basis.
 3. Measurement for payment of Bid Item UC-11 – Activated Carbon Change Out shall be for each event in which the activated carbon was replaced in a manner consistent with the Operations and Maintenance manual and to the satisfaction of the **ENGINEER/DEPARTMENT**.

- S. Bid Item UC-12 – Heat Exchanger and Activated Carbon Vessel Rental
1. The **CONTRACTOR** shall provide equipment and incidentals on a rental basis including:
 - a. Furnishing the air-to-air heat exchanger
 - b. Furnishing the activated carbon vessels
 - c. Managing vendors
 2. Work elements not included under this bid item are:
 - a. Installation of equipment and removal of equipment at the end of the rental period (see Bid Item LS-6).
 - b. Activated carbon replacement (see Bid Item UC-11)
 - c. Equipment servicing and maintenance (see Bid Item UC-10)
 3. Bid Item UC-12 shall be bid unit price on a per month basis beginning at the end of the prove-out period.
 4. Measurement for payment of Bid Item UC-12 – Heat Exchanger and Activated Carbon Vessel Rental shall be for months in which these systems are required as determined by the **ENGINEER/DEPARTMENT**. Partial months shall be prorated. The **DEPARTMENT** will give the **CONTRACTOR** at least seven days notice of the end of the rental period.

SECTION XIII

Wage Rates and Associated Contract Requirements



David A. Paterson, Governor

Colleen C. Gardner, Commissioner

Environmental Conservation

David Chiusano, Environmental Engineer
625 Broadway
12th Floor
Albany NY 12233-7017

Schedule Year 2010 through 2011
Date Requested 12/17/2010
PRC# 2010006113

Location Monroe County
Project ID#
Project Type Remedial action involving excavation and offsite disposal of VOC contaminated soils

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 2010 through June 2011. All updates, corrections, posted on the 1st business day of each month, and future copies of the annual determination are available on the Department's website www.labor.state.ny.us. Updated PDF copies of your schedule can be accessed by entering your assigned PRC# at the proper location on the website.

It is the responsibility of the contracting agency or its agent to annex and make part, the attached schedule, to the specifications for this project, when it is advertised for bids and /or to forward said schedules to the successful bidder(s), immediately upon receipt, in order to insure the proper payment of wages.

Please refer to the "General Provisions of Laws Covering Workers on Public Work Contracts" provided with this schedule, for the specific details relating to other responsibilities of the Department of Jurisdiction.

Upon completion or cancellation of this project, enter the required information and mail **OR** fax this form to the office shown at the bottom of this notice, **OR** fill out the electronic version via the NYSDOL website.

NOTICE OF COMPLETION / CANCELLATION OF PROJECT

Date Completed: _____ Date Cancelled: _____

Name & Title of Representative: _____

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

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

Introduction

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

Responsibilities of the Department of Jurisdiction

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

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

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

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

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

Hours

No laborer, worker, or mechanic in the employ of a contractor or subcontractor engaged in the performance of any public work project shall be permitted to work more than eight hours in any day or more than five days in any week, except in cases of extraordinary emergency. The contractor and the Department of Jurisdiction (Contracting Agency) may apply to the Bureau of Public Work for a dispensation permitting workers to work additional hours or days per week on a particular public work project.

There are very few exceptions to this rule. Complete information regarding these exceptions is available on the "[4 Day / 10 Hour Work Schedule](#)" form (PW 30R).

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.state.ny.us.

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.state.ny.us.

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.state.ny.us.

Payrolls and Payroll Records

Every contractor and subcontractor MUST keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three (3) years from the project's date of completion. 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.

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.



David A. Paterson, Governor

Colleen C. Gardner, Commissioner

Environmental Conservation

David Chiusano, Environmental Engineer
625 Broadway
12th Floor
Albany NY 12233-7017

Schedule Year 2010 through 2011
Date Requested 12/17/2010
PRC# 2010006113

Location Monroe County
Project ID#
Project Type Remedial action involving excavation and offsite disposal of VOC contaminated soils

Notice of Contract Award

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

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

Contractor Information

All information must be supplied

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

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

IMPORTANT NOTICE

FOR

CONTRACTORS & CONTRACTING AGENCIES

Social Security Numbers on Certified Payrolls

The Department of Labor is cognizant of the concerns of the potential for misuse or inadvertent disclosure of social security numbers. Identity theft is a growing problem and we are sympathetic to contractors' concerns with regard to inclusion of this information on payrolls if another identifier will suffice.

For these reasons, *the substitution of the use of the last four digits of the social security number on certified payrolls submitted to contracting agencies on public work projects is now acceptable to the Department of Labor.*

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

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

Budget Policy & Reporting Manual

B-610

Public Work Enforcement Fund

effective date December 7, 2005

1. Purpose and Scope:

This Item describes the Public Work Enforcement Fund (the Fund, PWEF) and its relevance to State agencies and public benefit corporations engaged in construction or reconstruction contracts, 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 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, 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.

NEW LEGISLATION

Effective February 24, 2008

WORKER NOTIFICATION – [A9052](#) – [S6240](#)

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the *prevailing wage rate* for their particular job classification *on each pay stub**. It also requires contractors and subcontractors to *post a notice* at the beginning of the performance of every public work contract *on each job site* that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her particular job classification. The required notification will be provided with each wage schedule, may be downloaded from our website www.labor.state.ny.us or made available upon request by contacting the Bureau of Public Work at 518-457-5589.

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

THIS IS A **PUBLIC WORK PROJECT**

Any worker, laborer, or mechanic employed on this project is entitled to receive the ***prevailing wage and supplements*** rate for the classification at which he/she is working.

*Chapter 629
of the
Labor Laws
of 2007*

**These wages are set by law and
must be posted at the work site.**

They can also be found at

www.labor.state.ny.us

If you feel that you have not received proper wages or benefits, please call our nearest office. *

Albany	(518) 457-2744	Newburgh	(845) 568-5398
Binghamton	(607) 721-8005	Patchogue	(631) 687-4886
Buffalo	(716) 847-7159	Rochester	(585) 258-4505
Garden City	(516) 228-3915	Syracuse	(315) 428-4056
New York City	(212) 775-3568	Utica	(315) 793-2314
		White Plains	(914) 997-9507

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

Contractor Name:

Project Location:



NEW LEGISLATION

Effective July 18, 2008

OSHA 10-hour Construction Safety and Health Course – S1537-A

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

***NOTE:** The OSHA 10 Legislation does not apply to projects advertised for bid prior to July 18, 2008 AND only applies to workers on a public work project that are required under Article 8 to receive the prevailing wage.*

Rules and regulations will be promulgated and posted on the NYSDOL website www.labor.state.ny.us when finalized.

Where to find OSHA 10-hour Construction Course

1. NYS Department of Labor website for scheduled outreach training at:

www.labor.state.ny.us/workerprotection/safetyhealth/DOSH_ONSITE_CONSULTATION.shtm

2. OSHA Training Institute Education Centers:

Rochester Institute of Technology OSHA Education Center

Rochester, NY

Donna Winter

Fax (585) 475-6292

e-mail: dlwtpo@rit.edu

(866) 385-7470 Ext. 2919

www.rit.edu/~outreach/course.php3?CourseID=54

Atlantic OSHA Training Center

UMDNJ – School of Public Health

Piscataway, NJ

Janet Crooks

Fax (732) 235-9460

e-mail: crooksje@umdnj.edu

(732) 235-9455

<https://ophp.umdj.edu/wconnect/ShowSchedule.awp?~~GROUP~AOTCON~10~>

Keene State College

Manchester, NH

Leslie Singleton

e-mail: lsingletin@keene.edu

(800) 449-6742

www.keene.edu/courses/print/courses_oshacfm

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

www.OutreachTrainers.org

Requirements for OSHA 10 Compliance

Chapter 282 of the Laws of 2007, codified as Labor Law 220-h will take effect on July 18, 2008. The statute provides as follows:

The advertised specifications for every contract for public work of \$250,000.00 or more must contain a provision requiring that every worker employed in the performance of a public work contract shall be certified as having completed an OSHA 10 safety training course. The clear intent of this provision is to require that all employees of public work contractors 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;
- training roster, attendance record of other documentation from the certified trainer pending the issuance of the card.
- other valid proof

**A certification by the employer attesting that all employees have completed such course is not sufficient proof that the course has been completed.

Any questions regarding this statute may be directed to the New York State Department of Labor, Bureau of Public Work at 518-485-5696.

WICKS Reform 2008

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

- Raises the threshold for public work projects subject to the Wicks Law requiring separate specifications and bidding for the plumbing, heating and electrical work. The total project's threshold would increase from \$50,000 to: \$3 million in Bronx, Kings, New York, Queens and Richmond counties; \$1.5 million in Nassau, Suffolk and Westchester counties; and \$500,000 in all other counties.
- For projects below the monetary threshold, bidders must submit a sealed list naming each subcontractor for the plumbing, HVAC and electrical work and the amount to be paid to each. The list may not be changed unless the public owner finds a legitimate construction need, including a change in specifications or costs or use of a Project Labor Agreement (PLA), and must be open to public inspection.
- Allows the state and local agencies and authorities to waive the Wicks Law and use a PLA if it will provide the best work at the lowest possible price. If a PLA is used, all contractors shall participate in apprentice training programs in the trades of work it employs that have been approved by the Department of Labor (DOL) for not less than three years. They shall also have at least one graduate in the last three years and use affirmative efforts to retain minority apprentices. PLA's would be exempt from Wicks, but deemed to be public work subject to prevailing wage enforcement.
- The Commissioner of Labor shall have the power to enforce separate specification requirements on projects, and may issue stop-bid orders against public owners for non-compliance.
- Other new monetary thresholds, and similar sealed bidding for non-Wicks projects, would apply to certain public authorities including municipal housing authorities, NYC Construction Fund, Yonkers Educational Construction Fund, NYC Municipal Water Finance Authority, Buffalo Municipal Water Finance Authority, Westchester County Health Care Association, Nassau County Health Care Corp., Clifton-Fine Health Care Corp., Erie County Medical Center Corp., NYC Solid Waste Management Facilities, and the Dormitory Authority.
- Reduces from 15 to 7 days the period in which contractors must pay subcontractors.

IMPORTANT INFORMATION

Regarding Use of Form PW30R

“Employer Registration for Use of 4 Day / 10 Hour Work Schedule”

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

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

AND

You **MUST** register your intent to work 4 / 10 hour days, by completing the PW30R Form.

REMEMBER...

The ‘4 Day / 10 Hour Work Schedule’ applies **ONLY** to Job Classifications and Counties listed on the PW30R Form.

(Please note : For each Job Classification check the individual wage schedule for specific details regarding their 4/10 hour day posting.)

Instructions for Completing Form PW30R

“Employer Registration for Use of 4 Day / 10 Hour Work Schedule”

Before completing Form PW30R check to be sure ...

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

Instructions (Type or Print legibly):

Contractor Information:

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

Project Information:

- Enter the Prevailing Rate Case number (PRC#) assigned to this project
- Enter the Project Name / Type (i.e. Smithtown CSD – Replacement of HS Roof)
- Enter the Exact Location of Project (i.e. Smithtown HS, 143 County Route #2, Smithtown, NY; Bldgs. 1 & 2)
- If you are a Subcontractor, enter the name of the Prime Contractor for which you work
- On the Checklist of Job Classifications -
 - Go to pages 2 and 3 of the form
 - Place a checkmark in the box to the right of the Job Classification you are choosing
 - Mark all Job Classifications that apply

Requestor Information:

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

Return Completed Form:

- **Mail** the completed PW30R form (3 pages) to: NYSDOL Bureau of Public Work, SOBC – Bldg.12 – Rm.130, Albany, NY 12240 -**OR** -
- **Fax** the completed PW30R form (3 pages) to: NYSDOL Bureau of Public Work at (518)485-1870

Fact SHEET

New York State Construction Industry FAIR PLAY ACT

The New York State Construction Industry Fair Play Act takes effect on October 26, 2010. The law creates a new standard for determining whether a worker is an employee or independent contractor in the construction industry. It provides new penalties for employers who fail to properly classify their employees.

Studies estimate that anywhere from 15 to 25 percent of construction workers may be misclassified in New York State. Employee misclassification occurs when employers treat workers who should be considered employees as independent contractors or simply do not report them (pay them "off-the-books").

New Standard: The law presumes that individuals working for an employer are employees unless they meet **all** three criteria below. The individual must be:

- (1) Free from control and direction in performing the job, both under contract and in fact
- (2) Performing services outside of the usual course of business for the company **and**
- (3) Engaged in an independently established trade, occupation or business that is similar to the service they perform.

Separate Business Entity: The law also contains a 12-part test to determine when a sole proprietor, partnership, corporation or other entity will be considered a "separate business entity" from the contractor for whom it provides a service. If an entity meets all of the 12 criteria, it will not be considered an employee of the contractor. Instead it will be a separate business that is itself subject to the new law regarding its own employees. The twelve criteria for separate business entity are listed on the back page of this Fact Sheet.

Coverage: The law applies to all contractors in the construction industry. Construction is defined as including constructing, reconstructing, altering, maintaining, moving, rehabilitating, repairing, renovating or demolition of any building, structure or improvement or relating to the excavation of or other development or improvement to land.

Agencies covered: The new standard for determining employment applies to determinations under the Labor Law (including labor standards, prevailing wage law and unemployment insurance) and the Workers' Compensation Law. It does not apply to determinations under the New York State Tax Law. The New York State Department of Taxation and Finance will continue to use its existing standards for determining employment status. The penalties provided by the new law apply to determinations of misclassification under the Labor Law, Workers Compensation Law, and the New York State Tax Law.

Penalties: An employer that willfully violates the Fair Play Act by failing to properly classify its employees will be subject to civil penalties of up to a \$2,500 fine per misclassified employee for a first violation and up to \$5,000 per misclassified employee for a second violation within a five-year period.

Employers also may be subject to criminal prosecution (a misdemeanor) for violations of the act with a penalty of up to 30 days in jail, up to a \$25,000 fine and debarment from Public Work for up to one year for a first offense. Subsequent misdemeanor offenses would be punishable by up to 60 days in jail, up to a \$50,000 fine and debarment from performing Public Work for up to five years.

Employers also remain subject to all of the existing penalties, taxes and restitution for Labor Law, Workers Compensation Law, and Tax Law violations that result from the worker misclassification. Corporate officers and certain shareholders may be personally liable for the fines and penalties under the Act, where they knowingly permit the violations to occur.

Posting: Construction industry employers must post a notice about the Fair Play Act in a prominent and accessible place on the job site. The Commissioner of Labor will post the required notice on the department's web site within 30 days of the effective date of the law. 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

Contact us: If you have any questions concerning the Fair Play Act or if you wish to report suspected worker misclassification, please call the State Labor Department toll-free at 1-866-435-1499 or email us at:

dol.misclassified@labor.state.ny.us .

The full text of the Fair Play Act will also be posted on the department's web site at www.labor.ny.gov .

**To find out more about
THE NEW YORK STATE DEPARTMENT OF LABOR
Go to : WWW.LABOR.NY.GOV**

Separate Business Entity Test

To be considered a separate business entity from the business to which services are provided, a sole proprietor, partnership, corporation or other entity must:

- (1) be performing the service free from the direction or control over the means and manner of providing the service subject only to the right of the contractor to specify the desired result;
- (2) not be subject to cancellation when its work with the contractor ends;
- (3) have a substantial investment of capital in the entity beyond ordinary tools and equipment and a personal vehicle;
- (4) own the capital goods and gain the profits and bear the losses of the entity;
- (5) make its services available to the general public or business community on a regular basis;
- (6) include the services provided on a federal income tax schedule as an independent business;
- (7) perform the services under the entity's name;
- (8) obtain and pay for any required license or permit in the entity's name;
- (9) furnish the tools and equipment necessary to provide the service;
- (10) hire its own employees without contractor approval, pay the employees without reimbursement from the contractor and report the employees' income to the Internal Revenue Service;
- (11) have the right to perform similar services for others on whatever basis and whenever it chooses; and
- (12) the contractor does not represent the entity or the employees of the entity as its own employees to its customers.

The entity must meet all twelve criteria to be considered a separate business entity.

PROTECT *all Workers*
ASSIST *the Unemployed*
CONNECT *Employers and Workers*

www.labor.ny.gov





New York State Department of Labor
Bureau of Public Work
W. Averell Harriman State Office Campus
Building 12 - Room 130
Albany, New York 12240
Phone - (518) 457-5589 Fax - (518) 485-1870

Employer Registration for Use of 4 Day / 10 Hour Work Schedule

Before completing Form PW30R check to be sure ...

There is a *Dispensation of Hours* in place on the project.

The 4 Day / 10 Hour Work Schedule applies to the Job Classifications you will be using.

The 4 Day / 10 Hour Work Schedule applies to the County / Counties where the work will take place.

Please Type or Print the Requested Information

When completed ...

Mail to NYSDOL Bureau of Public Work, SOBC, Bldg. 12, Rm.130, Albany, NY 12240

-or-

Fax to NYSDOL Bureau of Public Work at (518) 485-1870

Contractor Information

Company Name: _____ FEIN: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number _____ Fax Number: _____ Email Address: _____

Contact Person: _____

Phone No: _____ Fax No: _____ Email: _____

Project Information

Project PRC#: _____ Project Name/Type: _____

Exact Location
of Project: _____ County: _____

(If you are Subcontractor)

Prime Contractor Name: _____

Job Classification(s) to Work 4/10 Schedule: *(Choose all that apply on Job Classification Checklist - Pages 2 & 3)*

Requestor Information

Name: _____

Title: _____ Date : _____

Job Classification Checklist

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

Job Classification	Tag #	Applicable Counties	Check Box
Electrician	25m	Nassau, Suffolk	<input type="checkbox"/>
Electrician	43	Cayuga, Chenango, Cortland, Herkimer, Madison, Oneida, Onondaga, Oswego, Otsego, Tompkins, Wayne	<input type="checkbox"/>
Electrician	840Teledata	Cayuga, Onondaga, Ontario, Seneca, Wayne, Yates	<input type="checkbox"/>
Electrician	86	Genesee, Livingston, Monroe, Ontario, Orleans, Wayne, Wyoming	<input type="checkbox"/>
Electrician Lineman	1049Line/Gas	Nassau, Suffolk	<input type="checkbox"/>
Electrician Lineman	1249a	Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Dutchess, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orange, Orleans, Oswego, Otsego, Putnam, Rensselaer, Rockland, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington, Wayne, Wyoming, Yates	<input type="checkbox"/>
Elevator Constructor	138	Columbia, Delaware, Dutchess, Greene, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester	<input type="checkbox"/>
Elevator Constructor	14	Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming	<input type="checkbox"/>
Elevator Constructor	27	Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates	<input type="checkbox"/>
Elevator Constructor	35	Albany, Clinton, Columbia, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Montgomery, Oneida, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington	<input type="checkbox"/>
Elevator Constructor	62.1	Broome, Cayuga, Chenango, Cortland, Delaware, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St. Lawrence, Tioga, Tompkins	<input type="checkbox"/>
Glazier	677.1	Jefferson, Lewis, Livingston, Monroe, Ontario, Seneca, St. Lawrence, Wayne, Yates	<input type="checkbox"/>
Insulator - Heat & Frost	30-Syracuse	Broome, Cayuga, Chemung, Chenango, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Tioga, Tompkins	<input type="checkbox"/>

Job Classification Checklist

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

Job Classification	Tag #	Applicable Counties	Check Box
Operating Engineer - Heavy& Highway	832H	Allegany, Chemung, Genesee, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne, Yates	<input type="checkbox"/>
Painter	178 B	Broome, Chenango, Tioga	<input type="checkbox"/>
Painter	178 E	Chemung, Schuyler, Steuben	<input type="checkbox"/>
Painter	178 O	Delaware, Otsego	<input type="checkbox"/>
Painter	31	Cayuga, Herkimer, Lewis, Madison, Oneida, Onondaga, Ontario, Oswego, Seneca	<input type="checkbox"/>
Painter	38.O	Oswego	<input type="checkbox"/>
Painter	4-Buf,Nia, Olean	Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Livingston, Niagara, Orleans, Steuben, Wyoming	<input type="checkbox"/>
Painter	4-Jamestown	Cattaraugus, Chautauqua	<input type="checkbox"/>
Sheetmetal Worker	46	Livingston, Monroe, Ontario, Seneca, Wayne, Yates	<input type="checkbox"/>
Teamster - Heavy&Highway	294h/h	Albany, Columbia, Fulton, Greene, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington	<input type="checkbox"/>
Teamster - Heavy&Highway	317a.hh	Allegany, Cayuga, Cortland, Seneca, Steuben, Tompkins, Wayne, Yates	<input type="checkbox"/>
Teamster - Heavy&Highway	693.H/H	Broome, Chenango, Delaware, Otsego, Tioga	<input type="checkbox"/>

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.

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 for each hour worked, some classifications require the payment or provision of supplements for each hour paid (including paid holidays on which no work is performed) and/or may require supplements to be paid or provided at a premium rate for premium hours worked.

Effective Dates

When you review the schedule for a particular occupation, your attention should be directed to the dates above the column of rates. These are the dates for which a given set of rates is effective. The rate listed is valid until the next effective rate change or until the new annual determination which takes effect on July 1 of each year. All contractors and subcontractors are required to pay the current prevailing rates of wages and supplements. If you have any questions please contact the Bureau of Public Work or visit the New York State Department of Labor website (www.labor.state.ny.us) for current wage rate information.

Apprentice Training Ratios

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

For example, the ratio 1:1,1:3 indicates the allowable initial ratio is one Apprentice to one Journeyworker. The Journeyworker must be in place on the project before an Apprentice is allowed. Then three additional Journeyworkers are needed before a second Apprentice is allowed. The last ratio repeats indefinitely. Therefore, three more Journeyworkers must be present before a third Apprentice can be hired, and so on.

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

Title (Trade)	Ratio
Boilermaker (Construction)	1:1,1:4
Boilermaker (Shop)	1:1,1:3
Carpenter (Bldg.,H&H, Pile Driver/Dockbuilder)	1:1,1:4
Carpenter (Residential)	1:1,1:3
Electrical (Outside) Lineman	1:1,1:2

Electrician (Inside)	1:1,1:3
Elevator/Escalator Construction & Modernizer	1:1,1:2
Glazier	1:1,1:3
Insulation & Asbestos Worker	1:1,1:3
Iron Worker	1:1,1:4
Laborer	1:1,1:3
Mason	1:1,1:4
Millwright	1:1,1:4
Op Engineer	1:1,1:5
Painter	1:1,1:3
Plumber & Steamfitter	1:1,1:3
Roofer	1:1,1:2
Sheet Metal Worker	1:1,1:3
Sprinkler Fitter	1:1,1:2

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

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

District Office Locations:	Telephone #	FAX #
Bureau of Public Work - Albany	518-457-2744	518-485-0240
Bureau of Public Work - Binghamton	607-721-8005	607-721-8004
Bureau of Public Work - Buffalo	716-847-7159	716-847-7650
Bureau of Public Work - Garden City	516-228-3915	516-794-3518
Bureau of Public Work - Newburgh	845-568-5287	845-568-5332
Bureau of Public Work - New York City	212-775-3568	212-775-3579
Bureau of Public Work - Patchogue	631-687-4883	631-687-4904
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

Monroe County General Construction

Asbestos Worker

12/01/2010

JOB DESCRIPTION Asbestos Worker

DISTRICT 9

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES

Per hour

07/01/2010-
11/30/2010

Asbestos Worker
Removal &
Abatement Only

\$ 17.50 plus additional \$3.00*

Only for the removal of insulation materials from mechanical systems which are not going to be scrapped.

* Increase to be allocated at a later date

SUPPLEMENTAL BENEFITS

Per hour paid

Journeyman

\$ 7.50

OVERTIME PAY

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

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (2, 4, 6, 25) on HOLIDAY PAGE

*Code Q applies to 4, 6, & 25

**Code T applies to 2

9-12a - Removal Only

Boilermaker

12/01/2010

JOB DESCRIPTION Boilermaker

DISTRICT 3

ENTIRE COUNTIES

Allegany, Cattaraugus, Chautauqua, Chemung, Erie, Genesee, Livingston, Monroe, Niagara, Ontario, Orleans, Schuyler, Steuben, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2010	01/01/2011 Additional	01/01/2012 Additional
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Boilermaker	\$ 30.65	\$ 2.00	\$ 1.75
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The wage rate will be 90% of the above for Maintenance work on boilers less than 100,000 pph.

SUPPLEMENTAL BENEFITS

Per hour worked:

\$ 19.44*

* Note - \$18.65 of this amount to be paid at the same premium as the wages.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

Wages per hour:

1000 hour terms at the following percentage of Journeyman's wage:

1st*	2nd*	3rd*	4th*	5th*	6th*	7th	8th
65%	65%	70%	75%	80%	85%	90%	95%

* Note - add \$1.00 per hour to the wage rate for 1st through 6th term.

Supplemental Benefits per hour worked:

1st to 6th \$ 18.44*
7th to 8th 19.44**

* Note - \$17.65 of this amount to be paid at the same premium as the wages.

** Note - \$18.65 of this amount to be paid at the same premium as the wages.

3-7

Carpenter**12/01/2010**

JOB DESCRIPTION Carpenter**DISTRICT** 5**ENTIRE COUNTIES**

Livingston, Monroe, Ontario, Wayne

PARTIAL COUNTIES

Wyoming: Only the Townships of Castile, Perry, Warsaw, Gainesville, Pike, and Genesee Falls.

WAGES

Per hour 07/01/2010

Building:

Floor Layer \$ 24.03

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 14.53

OVERTIME PAY

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

* Note: Double Time after 8 hours worked on Saturday.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following percentage of journeyman's wage.

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits per hour worked:

1st year term	\$ 8.48
2nd year term	8.48
3rd year term	11.51
4th year term	14.53

5-85

Carpenter - Building**12/01/2010**

JOB DESCRIPTION Carpenter - Building**DISTRICT** 5**ENTIRE COUNTIES**

Livingston, Monroe, Ontario, Wayne

PARTIAL COUNTIES

Wyoming: Only the Townships of Genesee Falls, Castile, Perry, Warsaw, Gainesville, Pike.

WAGES

Per hour 07/01/2010

Building:

Carpenter \$ 26.32

Draper 26.32

Dry-wall Applicator 26.32

Lather 26.32

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 17.03

OVERTIME PAY

See (B, E*Note, E2,Q) on OVERTIME PAGE.

*Note: Double Time after 8 hours work on Saturday.

HOLIDAY

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

REGISTERED APPRENTICES

(1) year terms at the following percentage of journeyman's wage.

Indentured before 04/30/2006

1st.	2nd.	3rd.	4th.
50%	60%	70%	85%

Indentured after 05/01/2006

1st.	2nd.	3rd.	4th.
50%	60%	70%	80%

Supplemental benefits per hour worked:

Appr. 1st & 2nd year	\$ 7.96
Appr. 3rd	12.68
Appr. 4th	14.86

5-85

Carpenter - Building / Heavy&Highway

12/01/2010

JOB DESCRIPTION Carpenter - Building / Heavy&Highway

DISTRICT 1

ENTIRE COUNTIES

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

WAGES

Wages per hour:

	07/01/2010	05/01/2011
Carpenter - ONLY for Artificial Turf/Synthetic Sport Surface Installer	\$ 26.00	An Additional \$1.50**

** To be allocated at a later date

SUPPLEMENTAL BENEFITS

Per hour Paid:

07/01/2010

Journeyman \$ 16.94

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (2, 17, 27) on HOLIDAY PAGE
Overtime: See (6, 16, 27) on HOLIDAY PAGE

Note: When a holiday falls upon a Saturday, it shall be observed on the preceding Friday. When a holiday falls upon a Sunday, it shall be observed on the following Monday.

REGISTERED APPRENTICES

Wages per hour:

One year terms at the following percentage of Journeyman's wage:

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits per hour paid:
07/01/2010

Carpenter	
1st year term	\$ 8.44
2nd year term	13.54
3rd year term	14.39
4th year term	15.24

1-42AtSS

Carpenter - Building / Heavy & Highway

12/01/2010

JOB DESCRIPTION Carpenter - Building / Heavy & Highway

DISTRICT 5

ENTIRE COUNTIES

Livingston, Monroe, Ontario, Wayne

WAGES

Per hour	07/01/2010	05/15/2011
Building:		Additional
Piledriver	\$28.77	\$1.65
Certified Welder	30.02	1.65
Diver(Wet Day)	41.38	1.65
Diver(Dry Day)	27.52	1.65
Diver Tender	29.77	1.65
Hazardous	31.27	1.65
Dock Builders	28.77	1.65

SUPPLEMENTAL BENEFITS

Per hour paid

Journeyman	
Piledrivers	\$ 19.56
Certified Welder	19.56
Diver Wet Day	19.78
Diver Dry Day	19.78
Diver Tender	19.78
Hazardous	19.56
Dock Builders	19.56

OVERTIME PAY

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

HOLIDAY

Paid: See (2, 17) on HOLIDAY PAGE
Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1)year terms at the following percentage of journeyman's wage.

1st	2nd	3rd	4th
50%	60%	70%	80%

Supplemental Benefits paid at Premium (Overtime Rate):

Appr. 1st year	\$ 10.81
Appr. 2nd year	15.95
Appr. 3rd year	19.56
Appr. 4th year	19.56

5-289

Carpenter - Heavy&Highway

12/01/2010

JOB DESCRIPTION Carpenter - Heavy&Highway

DISTRICT 5

ENTIRE COUNTIES

Livingston, Monroe, Ontario, Wayne

PARTIAL COUNTIES

Wyoming: Only the Townships of Genesee Falls, Castile, Perry, Warsaw, Gainesville and Pike.

WAGES

Heavy/Highway: For work not included in a building contract.

Tunnel: "Cut & Cover" work and all form work done in the open cut excavations for the purpose of constructing a tunnel (for any use)..... also FABRICATION of forms at ground level, for installation below the open cut elevation or in any tunnel.

Per hour 07/01/2010

Carpenter	\$ 26.79
Welder	28.29

For Hazardous Waste Work an additional \$ 1.50 per hour.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 16.85
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OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

1 year terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.
60%	70%	80%	90%

Supplemental Benefits per hour worked:

Appr. all terms	\$ 16.85
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5-85H

Electrician

12/01/2010

JOB DESCRIPTION Electrician

DISTRICT 5

ENTIRE COUNTIES

Livingston, Monroe

PARTIAL COUNTIES

Genesee: Only the Townships of Bergen, Bethany, Byron, Leroy, Pavillion, Stafford, and that portion of the Townships of Batavia and Elba which lie east of a line following the Little Tonawanda Creek, north on the Tonawanda Creek to the City limits of Batavia, northwest and northeast around the City limits, but including the City of Batavia (in effect prior to 02/01/70), to State Highway 98, north on 98 to Orleans County.

Ontario: Only the Townships of Bristol, Canadice, Naples, West Bloomfield, Richmond, South Bristol, East Bloomfield and Victor.

Orleans: Only the townships of Clarendon, Kendall, and Murray

Wayne: Only the Townships of Macedon, Marion, Ontario, Palmyra, Sodus, Walworth, Williamson

Wyoming: Only the Townships of Castile, Covington, Gainesville, Genesee Falls, Middlebury, Perry, Pike and Warsaw.

WAGES

Per hour	07/01/2010	05/30/2011
		Additional
Electrician*	\$ 30.10	\$ 2.10

* Includes teledata work, except for work bid on and awarded BEFORE 7/1/2007. For all such work see ELECTRICIAN - TELEDATA/SOUND WIREMAN 86T/S.

Work from 4:30 PM - 1:00 AM**	\$ 35.30
Work from 12:30 AM - 9:00 AM**	39.55

** Applies when shift work is mandated either in the job specification or by the contracting agency.

** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 **

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

NOTE - In order to use the '4 Day/10 Hour Work Schedule,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 17.07 plus 5% of wage

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

Wage rates at the following percent per terms.

1st and 2nd term 1000 hrs. 3rd to 6th term 1500hrs.

1st	2nd	3rd	4th	5th	6th
40%	45%	50%	60%	70%	80%

Supplemental Benefits per hour worked:

Appr. 1st 2000 hours \$ 8.17 plus 3% of wage

All other Appr. \$ 17.07 plus 5% of wage

5-86

Electrician - Teledata/Sound Wireman***

12/01/2010

JOB DESCRIPTION Electrician - Teledata/Sound Wireman***

DISTRICT 5

ENTIRE COUNTIES

Livingston, Monroe

PARTIAL COUNTIES

Genesee: Only the townships of Bergen, Bethany, Byron, Leroy, Pavillion, Stafford, and that portion of the townships of Batavia and Elba which lies east of a line following the Little Tonawanda Creek to the city of Batavia, northeast around the city limits, but including the city of Batavia (in effect prior to 02/01/70), to state highway 98 to Orleans County.

Ontario: Only the townships of Bristol, Canadice, East Bloomfield, Naples, Richmond, South Bristol, West Bloomfield and Victor.

Orleans: Only the townships of Clarendon, Kandall and Murray.

Wayne: Only the townships of Macedon, Marion, Ontario, Palmyra, Sodus, Walworth and Williamson.

Wyoming: Only the townships of Castile, Covington, Gainesville, Genesee Falls, Middlebury, Perry, Pike and Warsaw.

WAGES

IMPORTANT INFORMATION - These rates applicable only for projects bid on and awarded before July 1, 2007. For all other projects, please see ELECTRICIAN 86 rate.

Per hour: 07/01/2010

Teledata/Sound Wireman \$ 21.40***

SUPPLEMENTAL BENEFITS

Per hour worked:

Teledata/Sound Wireman \$ 11.67 plus 4 1/2% of wage

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

5-86T/S

Elevator Constructor	12/01/2010
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JOB DESCRIPTION Elevator Constructor

DISTRICT 5

ENTIRE COUNTIES

Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates

WAGES

Per hour:	07/01/2010	01/01/2011 Additional	01/01/2012 Additional
Elevator Constructor	\$ 40.175	\$ 3.00	\$ 3.00
Helper (70%)	28.12	3.00	3.00

**** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 ****

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,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS

Per hour worked:

Elevator Constructor / Helper	\$ 20.235*
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*Plus 6% of wages under 5 years.

*Plus 8% of wages over 5 years.

OVERTIME PAY

See (D, O) on OVERTIME PAGE

HOLIDAY

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

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

REGISTERED APPRENTICES

850 hours per term at the following percentage of journeyman's wage.

1st	2nd	3rd	4th	5th	6th	7th	8th
50%	55%	65%	65%	70%	70%	80%	80%

Supplemental Benefits per hour worked:

Apprentices	07/01/2010 \$ 20.235*
	*plus 6% of wage

5-27

Glazier	12/01/2010
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JOB DESCRIPTION Glazier

DISTRICT 5

ENTIRE COUNTIES

Jefferson, Lewis, Livingston, Monroe, Ontario, Seneca, St. Lawrence, Wayne, Yates

WAGES

Per hour:	07/01/2010	05/01/2011 Additional	05/01/2012 Additional
Glazier	\$ 23.00	\$ 1.25	\$ 1.35

Additional \$.50 per hr for all swing stagework, belt work, open steel or scaffolding over 25' or more from ground, floor or roof levels.

**** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 ****

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,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 15.20

OVERTIME PAY

See (B, E*, E2, Q**, Note) on OVERTIME PAGE.

Note: * Double time before 8:00am and after 6:30pm on Saturday.

** Emergency work on Sunday is 1 1/2 times the hourly rate.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

1000 hours terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.
50%	55%	60%	65%	70%	75%	80%	90%

Supplemental Benefits per hour worked:

Appr. 1st & 2nd term	\$ 11.15
Appr. 3rd term	13.58
Appr. 4th term	13.78
Appr. 5th term	13.99
Appr. 6th term	14.19
Appr. 7th term	14.39
Appr. 8th term	14.80

5-677.1

Insulator - Heat & Frost

12/01/2010

JOB DESCRIPTION Insulator - Heat & Frost

DISTRICT 5

ENTIRE COUNTIES

Livingston, Monroe, Ontario, Orleans, Steuben, Wayne, Yates

PARTIAL COUNTIES

Genesee: Only the Townships of Batavia, Bergen, Bethany, Byron, Elba, Leroy, Pavilion and Stafford.

WAGES

Per hour 07/01/2010

Asbestos Worker \$ 26.11

Insulation Work (On mechanical systems only)

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 16.96

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (4, 6) on HOLIDAY PAGE

Triple Time For Labor Day if Worked

REGISTERED APPRENTICES

(1) year terms at the following wage rates.

1st year	\$ 15.80
2nd year	16.03
3rd year	17.73
4th year	19.71
5th year	21.98

Supplemental Benefits per hour worked:

Appr. First 1000 Hours	\$ 7.19
Appr. Rest of First year	9.04
Appr. 2nd year	15.46
Appr. 3rd year	16.46
Appr. 4th year	16.46
Appr. 5th year	16.46

5-26

Ironworker**12/01/2010**

JOB DESCRIPTION Ironworker**DISTRICT** 5**ENTIRE COUNTIES**

Chemung, Livingston, Monroe, Ontario, Yates

PARTIAL COUNTIES

Allegany: Only the Townships of Birdsall, Burns and Grove.

Genesee: Only the Townships of Batavia, Bergen, Bethany, Byron, Elba, LeRoy, Oakfield, Pavillion, Stafford.

Orleans: Only the Townships of Albion, Barre, Carlton, Clarendon, Gaines, Kendall, Murray, and Village of Holley.

Schuyler: Only the Townships of Dix, Orange, Reading and Tyron.

Steuben: Only the Townships of Addison, Avoca, Bath, Bradford, Cameron, Campbell, Caton, Cohocton, Corning, Dansville, Erwin, Hornby, Lindley, Prattsburg, Pulteney, Rathbone, Thurston, Tuscarora, Urbana, Wayland, Wayne, Wheeler, Woodhull.

Wayne: Only the Townships of Arcadia, Lyons, Macedon, Marion, Ontario, Palmyra, Sodus, Walworth, Williamson and Village of Newark.

Wyoming: Only the Townships of Castile, Covington, Middlebury, Perry.

WAGES

Per hour:	07/01/2010	05/01/2011 Additional
Structural	\$ 24.80	\$1.50
Reinforcing	24.80	1.50
Ornamental	24.80	1.50
Fence Erector	24.80	1.50
Welder	24.80	1.50
Sheeter	25.05	1.50
Stone Derrick Man	24.80	1.50
Mach. Mov./Rigger	24.80	1.50
Precast Concrete Erector	24.80	1.50
Window/Curtainwall Erector	24.80	1.50
Pre-Engineered Building	24.80	1.50

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 20.59

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

One year terms at the following rates of journeyman's wage.

1st.	2nd.	3rd.	4th.
16.00	18.00	20.00	22.00

Supplemental Benefits per hour worked:

Appr. 1st year	\$ 8.50
Appr. 2nd year	13.93
Appr. 3rd year	14.70
Appr. 4th year	15.48

5-33.1

Laborer - Building**12/01/2010**

JOB DESCRIPTION Laborer - Building**DISTRICT** 5**ENTIRE COUNTIES**

Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, Yates

WAGES

Per Hour 07/01/2010

Building Laborer:

Basic	\$ 23.40
Blaster	24.73
Powder Monkey	24.27
Air Track Driller	23.80
Asphalt Raker	23.80
Chuck Tenders	23.60
Jackhammers, Mortor Mixer	23.70
Pipelayers, Burners, Cutters	23.70
Concrete Vibrators	23.84

Asbestos removal \$1.00 over basic rates.

New Chimney Work:

Base to 100 feet	\$24.40
101 to 150 feet	24.65
151 to 200 feet	24.92
201 to 250 feet	25.15
251 and higher	25.40

For hazardous waste work see Heavy/Highway rates.

There shall be a twelve (12) month carryover from the bid date of the posted proposal wage and benefit rate. However, if the project documents contain multiyear rate schedules, the Employer shall be obligated to pay wage rates therein as they become effective.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 13.07
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OVERTIME PAY

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

HOLIDAY

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

REGISTERED APPRENTICES

1000 hr terms at the following wage.

1st term	\$14.66
2nd term	18.31
3rd term	19.96
4th term	20.07

Supplemental Benefits per hour worked:

Appr. 1st year	\$ 7.22
Appr. 2nd year	7.22
Appr. 3rd year	9.22
Appr. 4th year	12.75

5-435

Laborer - Heavy&Highway

12/01/2010

JOB DESCRIPTION Laborer - Heavy&Highway

DISTRICT 5

ENTIRE COUNTIES

Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, Yates

WAGES

GROUP # A: Flagperson.

GROUP # B: Basic, Chain saw, Concrete aggregate bin, Concrete bootmen, Gin buggy, Hand or Machine vibrator, Jack hammer, Mason tender, Mortar mixer, Pavement breaker, Handlers of steel mesh, Small generators for Laborer's tools, Installation of bridge drainage pipe, Vibrator type rollers, Tamper, Drill doctor, Tail or Screw operator on asphalt paver, Water pump operators (1 1/2" & single Diaph.) Nozzle (asphalt, seeding & sandblasting), Laborers on chain link fence, Rock splitter & Power unit, Pusher type concrete saw, All other Gas, Electric, Oil and Air tool opers., Form setters, Stone or Granite curb setters, Relining of Existing Pipe.

GROUP #C: All Rock or Drilling machine operators (Except Quarry master and Similar type), Acetylene torch operators, Powderman, Gunite nozzleman, Pipe layer, Wrecking laborer, Asphalt rakers (Top only).

GROUP #D: Blasters.

12 month carry over from bid date. However, if the project documents contain multiyear rate schedules, the Employer shall be obligated to pay wage rates therein as they become effective.

On mandated night work there will be an additional \$ 1.75 premium.

WAGES (per hour) 07/01/2010

Heavy/Highway

Laborer:

Group # A	\$ 25.37
Group # B	26.07
Group # C	26.27
Group # D	27.07

Hazardous Waste \$1.50 over basic rate.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 14.89
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OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

1000 hr.terms at the following wage.

1st term	\$ 17.07
2nd term	21.16
3rd term	22.26
4th term	22.92

Supplemental Benefits per hour worked:

Appr. 1st term	\$ 7.51
Appr. 2nd term	7.51
Appr. 3rd term	10.51
Appr. 4th term	13.94

5-435H

Laborer - Tunnel

12/01/2010

JOB DESCRIPTION Laborer - Tunnel

DISTRICT 5

ENTIRE COUNTIES

Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, Yates

WAGES

GROUP #A:Change House Man.

GROUP #B:Miners and all machine men, Safety miner, All Shaftwork and Caisson work, Laborer, Pit/Dumpmen, Chuck tender, Brakeman, Powderman,Drilling, Blowpipe, All Air tools, Trigger scaling, Mipper, Gunniting from pot to nozzle, Bit grinder, Signal men, Concrete men, Sheild driven Tunnels & Mixed face and Soft ground liner plate tunnels in free air.

GROUP #C:Cement finisher, Blaster.

GROUP #D:Hazardous/Waste Work.

There shall be a twelve (12) month carryover from the bid date of the posted proposal wage and fringe benefit rates. However, if the project documents contain multiyear wage rate schedules, the Employer shall be obligated to pay the wage rates therein as they become effective.

WAGES (per hour) 07/01/2010

Tunnel Laborer:

Group # A	\$ 28.91
Group # B	29.11
Group # C	30.11
Group # D*	33.11

*Work site required to be designated by State/Federal as hazardous waste site and relevant regulations require employees to use personal protection before rate applies.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 15.03

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

1000 hr terms at the following wage.

1st term	\$ 18.88
2nd term	23.30
3rd term	25.71
4th term	25.95

Supplemental Benefits per hour worked:

Appr. 1st term	\$ 7.60
Appr. 2nd term	7.60
Appr. 3rd term	9.60
Appr. 4th term	13.78

5-435 T

Lineman Electrician

12/01/2010

JOB DESCRIPTION Lineman Electrician

DISTRICT 6

ENTIRE COUNTIES

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

WAGES

Per hour:

Includes Teledata Work within Ten feet of High Voltage Transmission Lines

	07/01/2010	05/02/2011	05/07/2012
Lineman/Tech./Welder	\$ 43.82	\$ 44.52	\$45.23
Cable splicer	43.82	44.52	45.23
Digging Machine Operator	39.44	40.07	40.71
Tractor Trailer Driver	37.25	37.84	38.45
Groundman/Truck Driver	35.06	35.62	36.18
Mechanic 1st Class	35.06	35.62	36.18
Flagman	26.29	26.71	27.14

Additional 1.00 per hr.for entire crew when a helicopter is used.

Above rates applicable on all overhead Transmission line work & Fiber Optic Cable where other construction trades are or have been involved. This applies to transmission line work only, not other construction.

Lineman/Technician/Welder	\$ 42.61	\$ 43.31	\$ 44.01
Digging Machine Operator	38.35	38.98	39.61
Tractor Trailer Driver	36.22	36.81	37.41
Groundman/Truck Driver	34.09	34.65	35.21
Mech. 1st Class	34.09	34.65	35.21
Flagman	25.57	25.99	26.41
Certified WelderPipe Type Cable	44.74	45.48	46.21
Cable Splicer pipe type cable	46.87	47.64	48.41

Additional 1.00 per hour for entire crew when a helicopter job.

Above rates apply on Switching Structures, Maintenance projects, Railroad Catenary install/maint, Third rail installation, Bonding of Rails and pipe type cable and installation of Fiber Optic Cable.

Lineman /Techician	\$ 41.32	\$ 42.02	\$ 42.72
Welder/Cable Splicer	41.32	42.02	42.72
Digging Machine Operator	37.19	37.82	38.45
Tractor Trailer Driver	35.12	35.72	36.31
Groundman/Truck Driver	33.06	33.62	34.18
Mechanic 1st Class	33.06	33.62	34.18
Flagman	24.79	25.21	25.63

Additional 1.00 per.hr.for entire crew when a helicopter is used.

Above rates applicable on all overhead and underground distribution and maintenance work, and all overhead and underground transmission line work and the installation of Fiber Optic Cable where no other construction trades are or have been involved.

Lineman/Technician	\$ 41.32	\$ 42.02	\$ 42.72
Cable Splicer pipe type cable	45.45	46.22	46.99
Certified Welder pipe type	43.39	44.12	44.86
Digging Machine Operator	37.19	37.82	38.45
Tractor Trailer Driver	35.12	35.72	36.31
Mechanic 1st Class	33.06	33.62	34.18
Groundman/Truck Driver	33.06	33.62	34.18
Flagman	24.79	25.21	25.63

Additional \$ 1.00 per hour for entire crew when a helicopter is used.

Above rates applicable on all electrical sub-stations, switching structures, fiber optic cable and all other work not defined as "Utility outside electrical work"

**** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 ****

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,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS

Per hour worked including holidays listed below:

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

\$ 15.00	\$ 16.50	\$ 18.25
*plus 7% of	*plus 7% of	*plus 7% of
hourly wage paid	hourly wage paid	hourly wage paid

OVERTIME PAY

See (B, E, Q,) on OVERTIME PAGE. Double time for all emergency work designated by the Dept. of Jurisdiction.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED 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 %

HOLIDAY

Paid	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov. of NYS Election Day.
Overtime	See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov. of NYS Election Day.

SUPPLEMENTS for holidays paid at straight time

REGISTERED APPRENTICES

(1000) hr terms at the following percentage of Journeyman's wage.

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

Supplemental Benefits per hour worked:

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

\$ 15.00	\$ 16.50	\$ 18.25
*plus 7% of	*plus 7% of	*plus 7% of
hourly wage paid	hourly wage paid	hourly wage paid

*NOTE: The 7% is based on the hourly wage paid, straight time rate or premium rate.

6-1249a

Lineman Electrician - Teledata

12/01/2010

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 WORK OUTSIDE BUILDING PROPERTY LINES.

	07/01/2010	01/01/2011
Cable Splicer	\$ 26.64	\$ 27.44
Installer/Repairman	25.29	26.05
Teledata Lineman	25.29	26.05
Technician/Equip Oper	25.29	26.05
Groundman	13.40	13.81

NOTE: EXCLUDES Teledata work within ten feet of High Voltage (600 volts and over) transmission lines. For this work please see LINEMAN.

SUPPLEMENTAL BENEFITS

Per hour worked:

\$ 4.43	\$ 4.43
*plus 3% of hourly	*plus 3% of hourly
wage paid	wage paid

*NOTE: The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

6-1249LT - Teledata

Lineman Electrician - Traffic Signal Lighting

12/01/2010

JOB DESCRIPTION Lineman Electrician - Traffic Signal Lighting

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Sullivan, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Per hour:

	07/01/2010	05/02/2011	05/07/2012
Lineman/Technician	\$37.54	\$38.02	\$38.25
Certified Welder	39.42	39.92	40.16
Digging Mach	33.79	34.22	34.43
Tractor trailer driver	31.91	32.32	32.51
Groundman Truck Driver	30.03	30.42	30.60
Mechanic 1st Class	30.03	30.42	30.60
Flagman	22.52	22.81	22.95

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

SUPPLEMENTAL BENEFITS

Per hour worked:

All classifications	\$ 15.00	\$16.50	\$18.25
	*plus 6.5% of hourly wage paid	*plus 6.5% of hourly wage paid	*plus 6.5% of hourly wage paid

NOTE: Additional \$1.00 per hr. for entire crew when a helicopter is used.

*NOTE: The 6.5% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

NOTE: DOUBLE TIME FOR ALL EMERGENCY WORK DESIGNATED BY THE DEPT. OF JURISDICTION.

NOTE: THE FOLLOWING RATES WILL APPLY ON ALL CONTRACTING AGENCY MANDATED 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%

HOLIDAY

Paid See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov of NYS Election Day.
Overtime See (5, 6, 8, 13, 25) on HOLIDAY PAGE plus Gov of NYS Election Day.

REGISTERED APPRENTICES

WAGES: (1000) hour terms at the following percentage of Journeymans Wage.

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

SUPPLEMENTAL BENEFITS: Same as Journeyman/Technician.

6-1249a-LT

Lineman Electrician - Tree Trimmer

12/01/2010

JOB DESCRIPTION Lineman Electrician - Tree Trimmer

DISTRICT 6

ENTIRE COUNTIES

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

WAGES

Per hour:

Applies to line clearance, tree work and right-of-way preparation on all new or existing energized overhead or underground electrical, telephone and CATV lines. This also would include stump removal near underground energized electrical lines, including telephone and CATV lines.

	07/01/2010	01/02/2011	01/01/2012
Tree trimmer	\$ 21.22	\$ 21.64	\$ 22.08
Equip Operator	18.72	19.09	19.48
Mechanic	18.72	19.09	19.48
Truck Driver	15.82	16.14	16.46
Ground person	12.99	13.25	13.51
Flag person	9.25	9.44	9.62
SUPPLEMENTAL BENEFITS			
Per hour worked:			
	\$ 6.84	\$ 7.36	\$ 7.88
	*plus 3% of	*plus 3% of	*plus 3% of
	hourly wage paid	hourly wage paid	hourly wage paid

Supplements paid at STRAIGHT TIME rate for holidays.

*NOTE: The 3% is based on the hourly wage paid, straight time rate or premium rate.

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

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

6-1249TT

Mason - Building

12/01/2010

JOB DESCRIPTION Mason - Building

DISTRICT 5

ENTIRE COUNTIES

Genesee, Livingston, Monroe, Ontario, Seneca, Wayne, Wyoming, Yates

WAGES

Per hour	07/01/2010	07/01/2011 Additional
Building:		
Bricklayer	\$ 26.97	\$ 1.00
Cement Finish (Bldg)	26.97	1.00
Plasterer	26.97	1.00
Tuck Pointer	26.97	1.00
Stone Mason	26.97	1.00

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 16.58
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OVERTIME PAY

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

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Per hour worked:

1st, 2nd and 3rd term 1500 hours and 4th term 1525 hours.

Rates per (1) year term:

1st.	2nd.	3rd.	4th.
\$ 15.35	\$ 16.92	\$ 19.81	\$ 23.20

Supplemental Benefits per hour worked:

1st \$ 6.39	2nd \$ 9.18	3rd \$ 10.65	4th \$ 11.62
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5-3B - Z1

Mason - Heavy&Highway

12/01/2010

JOB DESCRIPTION Mason - Heavy&Highway

DISTRICT 5

ENTIRE COUNTIES

Allegany, Broome, Chautauqua, Chemung, Chenango, Cortland, Delaware, Genesee, Livingston, Monroe, Ontario, Orleans, Otsego, Schuyler, Seneca, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

PARTIAL COUNTIES

Cattaraugus: Entire county except in the Townships of Perrysburg and the Village of Gowanda only the Bricklayer classification applies.

Erie: Only the Bricklayer classification applies.

Niagara: Only the Bricklayer classification applies.

WAGES

Per hour:	07/01/2010	07/01/2011 Additional	07/01/2012 Additional
Cement Mason	\$ 28.22	\$ 1.90	\$ 2.00
Bricklayer	28.22	1.90	2.00

Add \$1.00 per hour for work from swing stage or swing scaffold, including rolling scaffold suspended from bridges.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 17.24

OVERTIME PAY

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

HOLIDAY

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

REGISTERED APPRENTICES

Wages per hour:

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

1st	2nd	3rd	4th	5th	6th	7th	8th
55%	60%	65%	70%	75%	80%	85%	90%

Supplemental benefits per hour worked:

All terms \$ 17.24

5-3h

Mason - Tile Finisher

12/01/2010

JOB DESCRIPTION Mason - Tile Finisher

DISTRICT 5

ENTIRE COUNTIES

Genesee, Livingston, Monroe, Ontario, Seneca, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2010	07/01/2011 Additional
Building		
Tile Finisher	\$ 23.12	\$ 1.00
Marble, Slate, Terrazzo and Tile		
Mason Finisher	23.12	1.00

SUPPLEMENTAL BENEFITS

Per hour worked: \$ 12.48

OVERTIME PAY

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

HOLIDAY

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

REGISTERED APPRENTICES

Wages per hour:

1700 hrs for 1st and 2nd term, 1600 hrs for 3rd term.

1st	2nd	3rd
\$10.81	\$15.13	\$20.25

Supplemental benefits per hour worked:

1st	2nd	3rd
\$ 3.38	\$ 6.20	\$ 8.21

5-3TF - Z1

Mason - Tile Setter

12/01/2010

JOB DESCRIPTION Mason - Tile Setter

DISTRICT 5

ENTIRE COUNTIES

Genesee, Livingston, Monroe, Ontario, Seneca, Wayne, Wyoming, Yates

WAGES

Per hour 07/01/2010 07/01/2011
Additional

Building:
Tile Setter: \$ 27.97 \$ 1.00

Marble, Slate, Terrazzo and Tile

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman Setter \$ 16.39

OVERTIME PAY

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

HOLIDAY

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

REGISTERED APPRENTICES

1000 hours per term at the following wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.
\$ 13.87	\$ 15.80	\$ 17.12	\$ 18.78	\$ 20.47	\$ 21.98	\$ 25.51	\$ 26.88

Supplemental Benefits per hour worked:

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.
\$ 8.27	\$ 8.56	\$ 9.46	\$ 10.03	\$ 10.57	\$ 11.27	\$ 12.18	\$ 15.26

5-3TS - Z1

Millwright

12/01/2010

JOB DESCRIPTION Millwright

DISTRICT 5

ENTIRE COUNTIES

Livingston, Monroe, Ontario, Wayne

WAGES

Per hour 07/01/2010

Building and Heavy Highway:
Millwright \$ 25.66
Certified welder 26.91
Hazardous 26.91

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 16.51

OVERTIME PAY

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

HOLIDAY

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

REGISTERED APPRENTICES

(1) year terms at the following percentage of journeyman's wage.

1st	2nd	3rd	4th
60%	70%	80%	90%

Supplemental Benefits per hour worked:

Appr. 1st year	\$ 9.46
Appr. 2nd year	14.40
Appr. 3rd year	15.10
Appr. 4th year	15.81

5-1163

Operating Engineer - Building

12/01/2010

JOB DESCRIPTION Operating Engineer - Building

DISTRICT 5

ENTIRE COUNTIES

Allegany, Chemung, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne, Yates

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies east of a linedrawn down the center of Route 98 and the entirety of the City of Batavia.

WAGES

Cranes 1 - Up to & including 25 ton hydraulic cranes, all boom trucks
Cranes 2 - 26 to 250 ton capacity hydraulic & lattice boom cranes and all "Euro-type" mobile tower crane
Cranes 3 - 251 ton capacity and over hydraulic and lattice boom cranes.
Cranes 4 - All tower cranes (when need to climb up)

CLASS 1: Air Tugger; Crane; Derrick, Big Generator Plant Hoist (on steel erection); Dredge Cableway; Backhoe, Clamshell, Dragline; Carrier Mounted Backhoe with 360 degree swing. Dragline Shovel and Similar machines over three-eighths cu.yd.capacity(Fact.rating); Bridge Crane (all types); Caisson auger and similar type machine; Forklift (with Factory Rating of fifteen ft. or more lift); Hoist (on steel erection); Mucking Machines; Ross Carrier (and similar types); Three-Drum Hoist (when all three drums are in use); Hydraulic/Krupp drill types.

CLASS 2: A-Frame Truck; Tractor Backhoe; Backfilling Mach., Hoist (1 or 2 drums); Barber Green & similar mach.; Maintenance Engr(mechanic); Post Hole Digger; Bulldozer; Carry-all type scraper; Pumps (regardless of Motive Power), no more than four (4 in number not to exceed twenty (20 inches in total capacity; Fine Grade and Finish Rollers; Side Boom Tractor; Stone Crusher; Compressors: Four (4) not to exceed 2000 CFM combined capacity; or three (3) or less with more than 1200 CFM, but not to exceed 2000 CFM; Concrete Mixer; Skid Steer loader with attachments; Concrete Pump; Concrete Placer; Tournadozer and similar types; Mechanical Slurry Machine (all kinds); Motor Grader; Belt Crete and similar type machines; Bituminous spreading machine, 3/8 yd. capacity or less (Factory Rating); Tournapull and similar types; (Dinky Locomotives all types); Elevating Grader; Elevator; Trenching Machines; Mega Mixers & Similar Type Mach.; Shot Crete Pump Mach.; Gunite Pump Mach; Fine Grade Machines (all kinds); Welder; Front End Loader; Forklift with Factory rating of less than fifteen (15) feet lift; Well Drill, High Pressure Boiler; Well Point System; EXCEPTION: Single electric pumps up to and incl. four (4) inches need not be manned.

CLASS 3: Any combination (Not to exceed three (3) pieces of equipment); Welding; Machine or Mechanical Conveyor (over 12 ft.in length); Mechanical Heater; Roller (Fill and Grade); Pumps (regardless of motive power), No more than three (3) in number, not to exceed twelve (12) inches total capacity; Rubber Tired Tractor; Compressors -- three (3) or less not to exceed 1200 CFM combined capacity; Longitudinal Float;
EXCEPTION: Single gasoline driven welding machine to 300 amps need not be manned.

CLASS 4: Junior Engineers / Oilers

Operating Engineer Building

Per hour: 07/01/2010 07/01/2011

Building:		
Crane 1	\$ 27.34	\$ 27.88
Crane 2	30.07	30.61
Crane 3	30.85	31.39
Crane 4	31.62	32.16
Master Mechanic	28.58	29.12
CLASS # 1	27.34	27.88
CLASS # 2	26.62	27.16
CLASS # 3	24.23	24.77
CLASS # 4	20.17	20.71

Maintenance, repair and renovation work on nuclear power plant paid 90% of above rates. The above rates do not cover hazardous waste removal work, See Heavy/Highway.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 20.52	\$ 21.53
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OVERTIME PAY

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

HOLIDAY

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

REGISTERED APPRENTICES

(1) year terms at the following percentage of journeyman's wage.

1st term	60% of class 3 rate
2nd term	65% of class 3 rate
3rd term	75% of class 2 rate
4th term	80% of class 1 rate

Supplemental Benefits per hour worked:

\$ 20.52	\$ 21.53
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5-832B

Operating Engineer - Building - Excavating & Paving	12/01/2010
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JOB DESCRIPTION Operating Engineer - Building - Excavating & Paving

DISTRICT 5

ENTIRE COUNTIES

Allegany, Chemung, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne, Yates

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies east of a linedrawn down the center of Route 98 and the entirety of the City of Batavia.

WAGES

The following rates apply to "Site Work" which may include site preparation and grading, underground work or paving, athletic fields,skateboard parks and all other work outside the footprint of any building.

CLASS A: Asphalt Paver; Automatic Fine Grader; Backhoe (except Tractor mounted, Rubber Tired); Blacktop Plant (automated); Cableway; Caisson Auger; Central Mix Concrete Plant (automated); Cherry Picker (over 5 ton capacity); Crane; Cranes and Derricks (steel erection); Dragline; Dual Drum Paver; Front End Loader (4 c.y. and over); Hoist (two or three drum); Pile Driver; Power Grader with elevating loader attachment; Quarry Master (or equivalent); Shovel; Slip Form Paver (if second man is needed, he shall be an oiler); Tractor Drawn Belt-type Loader; Truck Crane; Tunnel Shovel; Excavator-all purpose-Hydraulically operated; Hydro Axe; Hydraulic/krupp drill type;

CLASS B: Articulated off road material Hauler; Backhoe (tractor mounted, Rubber Tired); Bituminous Spreader and Mixer; Blacktop Plant (non-automated); Boring Machine; Cage Hoist; Central Mix Plant (non-automated) and all concrete batching plants; Cherry Picker (5 tons and under); Compressor (4 or less) exceeding 2,000 c.f.m. combined capacity; Concrete Paver over 16S; Concrete Pump; Crusher; Drill Rigs (tractor mounted); Front-end Loader (under 4 c.y.); Hi-pressure Boiler (15 lbs. and over); Hoist, One Drum; Kolman Plant Loader and similar type loaders (if Employer requires another man to clean the screen or to maintain the equipment, he shall be an oiler); Maintenance Engineer; Maintenance Grease Man; Mechanical Slurry Machine; Mixer for stabilized base self-propelled; Monorail Machine; Plant Engineer, Power Broom; Power Grader; Pump Crete, Ready Mix Concrete Plant; Road Widener; Roller (all above sub-grade); Side Boom, Tractor Scraper, Tractor with Dozer and/or Pusher; Trencher; Winch; Skid Steer Loader with attachments.

CLASS C: Compressors: 4 not to exceed 2,000 c.f.m. combined capacity; or 3 or less with more than 1,200 c.f.m. but not to exceed 2,000 c.f.m.; Compressors (any size but subject to other provisions for compressors), Dust Collectors, Generators, Welding Machines (four of any type or combination); Concrete Pavement Spreaders and Finishers; Conveyor; Drill (core); Drill (well); Electric Pump used in conjunction with Well Point Systems; Farm Tractor with accessories; Fine Grade Machine; Fork Lift; Gunite Machine; Hammers/Hydraulic self-propelled; Locomotive; Post Hole Digger and Post Driver; Pumps (regardless of motive power, not more than 4 in number not to exceed 20" in total capacity; Submersible Electric Pumps (when used in lieu of well Points); Tractor with towed accessories; Vibrator Compactor; Vibro Tamp; Well Point.

CLASS D: Compressor (any size, but subject to other provisions for compressors) Dust Collectors, Generator, Welding machines (three or less of any type or combination); Concrete Mixer (16S and under); Concrete Saw (self propelled); Form Tamper; Mulching Machine; Power Heaterman; Pumps regardless of motive power no more than 3 in number not to exceed 12" in total capacity; Revinius Widener; Steam Cleaner; Tractor.

CLASS E: Junior Engineer

Per hour:	07/01/2010	07/01/2011
Building Excavating and Paving:		
Master Mechanic	\$ 26.36	\$ 26.90
Class A	25.76	26.30
Class B	25.33	25.87
Class C	24.72	25.26
Class D	21.63	22.17
Class E	20.53	21.07

The above rates do not cover hazardous waste removal work, See Heavy/Highway.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 20.17	\$ 21.18
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OVERTIME PAY

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

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1) year terms at the following percentage of journeyman's wage.

1st term	60% of Class C rate
2nd term	65% of Class C rate
3rd term	75% of Class B rate

4th term 80% of Class A rate

Supplemental Benefits per hour worked:

\$ 20.17

\$ 21.18

5-832BEX

Operating Engineer - Heavy&Highway

12/01/2010

JOB DESCRIPTION Operating Engineer - Heavy&Highway

DISTRICT 5

ENTIRE COUNTIES

Allegany, Chemung, Livingston, Monroe, Ontario, Schuyler, Steuben, Wayne, Yates

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies east of a line drawn down the center of Route 98 and the entirety of the City of Batavia.

WAGES

Crane 1: All tower cranes, including self erecting to be paid \$4.00 per hour over Class A rate.

Crane 2: All Lattice Boom Cranes: All other cranes with a manufacturer's rating of fifty (50) ton and over, to be paid \$3.00 per hour over Class A rate.

Crane 3: All hydraulic cranes and derricks with a manufacturer's rating of forty nine (49) ton and below, including boom trucks, to be paid \$2.00 per hour over Class A rate.

Crane rates apply when a Certificate of Competence is required by the New York State Department of Labor.

MASTER MECHANIC:

CLASS A: Asphalt Paver; Automated Concrete Spreader (CMI Type); Automatic Fine Grader; Backhoe (except tractor-mounted, rubber tired); Belt Placer (CMI Type); Blacktop Plant (Auto); Cableway; Caisson Auger; Central Mix Concrete Plant (Automated); Concrete Curb Machine (Self-Propelled, Slipform); Concrete Pump; Dragline; Dredge; Dual Drum Paver; Excavator (All Purpose-Hydraulically Operated) (Gradall or Similar); Fork Lift (Factory Rated 15 feet and Over); Front End Loader (4 cu. yd. and Over); Head Tower (Sauerman or Equal); Hoist (Two or Three Drum); Holland Loader; Horizontal Directional Drill and Power Ram type equipment; Maintenance Engineer; Mine Hoist; Mucking Machine or Mole; Overhead Crane (Gentry or Straddle Type); Pavement Breaker (self-propelled) Wertgen: PB-4 and similar type; Pavement Profiler over 105 horsepower; Pavement Rubblizer; Pile Driver; Power Grader; Quad 9; Scraper; Shovel; Side Boom; Slip Form Paver (If a second man is needed, he shall be an Oiler); Tractor Drawn Belt-Type Loader; Truck or Trailer Mounted Log Chipper (Self Feeder with Loader); Tug Boat moving equipment or materials; Tunnel Shovel.

CLASS B: Backhoe (Tractor-Mounted, Rubber Tired); Bituminous Spreader & Mixer; Blacktop Plant (Non-automated); Blast or Rotary Drill (Truck or Tractor Mounted); Boring Machine; Cage Hoist; Central Mix Plant (Non Automated) and All Concrete Batching Plants; Compressors (4 or less) exceeding 2,000 c.f.m. combined capacity; Core Drill; Crusher; Diesel Power Unit; Drill Rigs hydraulic Krupp type); Drill Rigs (Tractor Mounted); Fork Lift (Factory rated under 15 feet); Front End Loader (Under 4 cu.yd.); Hoist (One Drum); Horizontal Directional Drill Locator; Hydro-Axe; Hydro-Blaster (self-propelled, non-manually operated); Kolman Plant Loader and Similar Type Loaders (If Employer requires another man to clean the screen or to maintain the equipment, he shall be an Oiler); L.C.M. Work Boat Operator; Locomotive; Log Skidder; Lubrication Engineer/Greaseman; Mixer (for stabilized base self-propelled); Monorail Machine; Pavement Profiler 105 horsepower and under; Plant Engineer; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above sub-grade); Sea Mule; Skid Steer Loader with attachments; Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Vacuum Blasting Machine (self-propelled, non-manually operated); Vacuum Truck; Vermeer Type Saw; Welder; Winch; Winch Cat.

CLASS C: A Frame Truck; Articulated Off Road Material Hauler; Aggregate Plant; Ballast Regulator (ride on); Cement and Bin Operator; Compressors (4 not to exceed 2,000 c.f.m. combined capacity: or 3 or less with more than 1,200 c.f.m. but not to exceed 2,000 c.f.m.); Compressors (any size but subject to other provisions for compressors), Dust Collectors, Generators, Pumps, Welding Machines, Light Plants (4 of any type or combination); Concrete Pavement Spreaders and Finishers; Concrete Saw, (self-propelled); Conveyor; Deck Equipment Operator (Marine); Electric Pump Used in Conjunction with well-point system; Farm Tractor with Accessories; Fine Grade Machine; Form Tamper; Grout Pump; Guniting Machine; Hammers (hydraulic-self propelled); Hydro-Spiker (ride-on); Hydraulic Pump (jacking system); Hydroblaster (low pressure cleaning); Light Plants; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Post Hole Digger & Post Driver; Power Broom (towed); Power Heaterman; Power Sweeper; Reviniis Widener; Roller (grade & fill); Scarifier (ride-on); Shell Winder; Span-Saw (ride-on); Steam Cleaner; Submersible Electric Pump (when used in lieu of well point system); Tamper (ride-on); Tie Extractor (ride-on); Tie Handler (ride-on); Tie Insertor (ride-on); Tie Spacer (ride-on); Track Liner (ride-on); Tractor (with or Without towed accessories); Vibratory Compactor; Vibro Tamp; Well Drill; Well Point.

Per hour:	07/01/2010	07/01/2011 Additional	07/01/2012 Additional
Crane 1	\$ 36.71	\$ 37.76	\$ 38.86
Crane 2	35.71	36.76	37.86
Crane 3	34.71	35.76	36.86
Master Mechanic	33.97	35.02	36.12
CLASS A	32.71	33.76	34.86
CLASS B	32.00	33.05	34.15

CLASS C	29.14	30.19	31.29
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Additional 2.50 per hr. for E.P.A. or D.E.C. certified toxic or hazardous waste work.

A single irregular work shift can start any time from 5:00 pm to 1:00 am.

All employees who work a single irregular work shift on Governmental mandated night work shall be paid and additional \$1.75 per hr. effective for work bid on or after September 01,2000.

**** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 ****

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,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 20.88	\$ 21.83	\$ 22.98
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OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

REGISTERED APPRENTICES

(1000) hour terms at the following percentages.

1st term	60% of Class C
2nd term	65% of Class C
3rd term	70% of Class B
4th Term	75% of Class A

Supplemental Benefits per hour worked:

\$ 20.88	\$ 21.83	\$ 22.98
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5-832H

Operating Engineer - Heavy&Highway - Tunnel

12/01/2010

JOB DESCRIPTION Operating Engineer - Heavy&Highway - Tunnel

DISTRICT 5

ENTIRE COUNTIES

Allegany, Cayuga, Chemung, Cortland, Jefferson, Lewis, Livingston, Madison, Monroe, Oneida, Onondaga, Ontario, Oswego, Schuyler, Seneca, St. Lawrence, Steuben, Tompkins, Wayne, Yates

PARTIAL COUNTIES

Genesee: Only that portion of the county that lies east of a linedrawn down the center of Route 98 and the entirety of the City of Batavia.
Herkimer: That portion of the county that lies west of a line drawn due north and due south through the railroad station in Little Falls, NY.

WAGES

Crane 1: All cranes, including self erecting to be paid \$4.00 per hour over the Class A rate.

Crane 2: All Lattice Boom Cranes and all other cranes with a manufacturer's rating of fifty (50) ton and over to be paid \$3.00 per hour over Class A rate.

Crane 3: All hydraulic cranes and derricks with a manufacturer's rating of forty nine (49) ton nad below, including boom trucks, to be paid \$2.00 per hour over Class A rate.

MASTER MECHANIC/CHIEF TUNNEL ENG.:

CLASS A: Automatic Concrete Spreader (CMI Type); Automatic Fine Grader; Backhoe (except tractor-mounted,rubber tired); Belt Placer (CMI Type); Blacktop Plant (Automated); Cableway; Caisson Auger; Central Mix Concrete Plant (Automated); Concrete Curb Machine (Self-propelled slipform) Concrete Pump (8" or over); Dredge; Dual Drum Paver; Any Mechanical Shaft Drill; Excavator (all purpose-hydraulic-Gradall or Similar); Fork Lift (factory rated 15 ft and over); Front End Loader (4 c.y & over); Gradall; Head Tower (Sauerman or Equal), Hoist Shaft; Hoist (two or three Drum); Mine Hoist; Maintenance Engineer (Shaft and Tunnel) ; Mine Hoist; Mucking Machine or Mole, Overhead Crane (Gantry or Straddle Type); Pile Driver; Power Grader; Remote Controlled Mole or Tunnel Mach.; Scraper; Shovel; Side Boom; Slip Form Paver (If a second man is needed, he shall be an Oiler); Tractor Drawn Belt Type Loader; Tripper/Maintenance Eng.(Shaft & Tunnel); Truck or Trailer Mounted Log Chipper (self-feeding); Tug Operator (Manned rented equip. excluded); Tunnel Shovel; Mining Machine(Mole and Similar Types).

CLASS B: Automated Central Mix Concrete Plant; Backhoe Trac-Mtd, Rubber Tired); Backhoe (topside); Bitum. Spred. & Mixer, Blacktop Plant non-automated); Blast or Rotary Drill (Truck or Tractor Mounted); Boring Machine; Cage Hoist; Central Mix Plant(NonAutomated) and All Concrete Batching Plants; Compressors (4 or less exceeding 2,000 c.f.m. combined capacity); Concrete Pump; Crusher; Diesel Power Unit; Drill Rigs (Tractor Mounted); Front End Loader (under 4 c.y.); Grayco Epoxy Machine; Hoist (One Drum); Hoist 2 or 3 Drum (Topside); Kolman Plant Loader & Similar Type Loaders (if Employer requires another person to clean the screen or to maintain the equipment, he shall be an Oiler); L.C.M. Work Boat Operator; Locomotive; Maint. Eng. (Topside); Grease Man; Welder; Mixer (for stabilized base-self propelled); Monorail Machine; Plant Eng.; Personnel Hoist; Pump Crete; Ready Mix Concrete Plant; Refrigeration Equipment (for soil stabilization); Road Widener; Roller (all above sub-grade); Sea Mule; Shotcrete Mach.; Shovel (Topside); Tractor with Dozer and/or Pusher; Trencher; Tugger Hoist; Tunnel Locomotive; Winch and Winch Cat.

CLASS C: A Frame Truck; Ballast Regulator (ride-on); Compressors (4 under 2,000 cfm combined capacity; or 3 or less with more than 1200 cfm. but not to exceed 2,000 cfm); Compressors (any size but subject to other provisions for compressors-Dust Collectors, Generators, Pumps, Welding Machines, Light Plants-4 of any type or combination); Concrete Pavement Spreaders and Finishers; Conveyor; Drill core; Drill well; Elec Pump Used in Conjunction with Well Point System; Farm Tractor with Accessories; Fine Grade Machine; ForkLift (under 15 ft); Grout Pump (over (5) cu. ft.; Gunite Machine; Hammers (hydraulic- self propel.); Hydra-Spiker-Ride on; Hydra-Blaster; Hydra Blaster (water); Motorized Form Carrier; Post Hole Digger & Post Driver; Power Sweep; Roller grade & fill); Scarifer (Ride on); Span-Saw (Ride-on); Submersible Electric Pump (when used in lieu of well point system); Tamper (Ride-on); Tie-Extractor, Tie Handler, Tie Inserter, Tie Spacer and Track Liner (Ride-on); Tractor (with towed accessories); Vibratory Compactor; Vibro Tamp, Well Point.

CLASS D: Aggregate Plant; Cement & Bin Operator; Compressors(3 or less not to exceed 1,200 c.f.m. combined capacity); Compressors(any size, but subject to other provisions for compressors-Dust Collectors, Generators, Pumps, Welding Machines, Light Plants-3 or less-any type or combination); Concrete Saw (self propelled); Fireman; Form Tamper; Hydraulic Pump (jacking system); Light Plants; Mulching Machine; Oiler; Parapet Concrete or Pavement Grinder; Power Broome towed; Power Heaterman; Revinus Widener; Shell Winder; Steam Cleaner and Tractor; Greaseman; Junior Engineer.

Per hour:	07/01/2010	07/01/2011
Crane 1	\$39.08	\$40.13
Crane 2	38.08	39.13
Crane 3	37.08	38.13
Master Mechanic	37.21	38.26
CLASS A	35.08	36.13
CLASS B	33.86	34.91
CLASS C	31.07	32.12
CLASS D	28.06	29.11

SUPPLEMENTAL BENEFITS

Per hour paid:

Journeyman	\$20.90	\$21.85
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OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1000) hours terms at the following percentages.

1st term	60% of Class D
2nd term	65% of Class C
3rd term	70% of Class B
4th term	75% of Class A

Supplemental Benefits per hour paid:

\$20.90	\$21.85
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5-832TL.

Operating Engineer - Marine Construction

12/01/2010

JOB DESCRIPTION Operating Engineer - Marine Construction

DISTRICT 4

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:

DREDGING OPERATIONS	07/01/2010
CLASS A Operator, Leverman, Lead Dredgeman	\$ 32.89
CLASS A1 Dozer, Front Loader Operator	To Conform to Operating Engineer Prevailing Wage in Locality where Work is being Performed including Benefits.
CLASS B Spider/Spill Barge Operator, Tug Operator(over1000hp), OperatorII, Fill Placer, Derrick Operator, Engineer, Chief Mate, Electrician, Chief Welder, Maintenance Engineer	\$ 28.49
Certified Welder, Boat Operator(licensed)	\$ 26.84
CLASS C Drag Barge Operator, Steward, Mate, Assistant Fill Placer, Welder (please add)	\$ 26.14 \$ 0.06
Boat Operator	\$ 25.29
CLASS D Shoreman, Deckhand, Rodman, Scowman, Cook, Messman, Porter/Janitor Oiler(please add)	\$ 21.09 \$ 0.09

SUPPLEMENTAL BENEFITS

Per Hour:

THE FOLLOWING SUPPLEMENTAL BENEFITS APPLY TO ALL CATEGORIES

	07/01/2010
All Classes A & B (overtime hours add)	\$ 8.05 plus 7% of straight time wage \$ 0.63
All Class C (overtime hours add)	\$ 7.75 plus 7% of straight time wage \$ 0.48
All Class D (overtime hours add)	\$ 7.45 plus 7% of straight time wage \$ 0.23

OVERTIME PAY

See (B, F, R) on OVERTIME PAGE

HOLIDAY

Paid: See (1) on HOLIDAY PAGE
Overtime: See (5, 6, 8, 15, 26) on HOLIDAY PAGE

4-25a-MarConst

Operating Engineer - Survey Crew

12/01/2010

JOB DESCRIPTION Operating Engineer - Survey Crew

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES

Dutchess: : The Northern portion of the county from the Northern boundry line of the City of Poughkeepsie North.

Genesee: Only that portion of the county that lies east of a line down the center of Route 98 to include all area that lies within the City of Batavia

WAGES

Per hour:

SURVEY CLASSIFICATIONS: Party Chief- One who directs a survey party. Instrument person- One who runs the instrument and assists the Party Chief. Rod person- One who holds the rods and, in general, assists the survey party.

	07/01/2010	06/01/2011	06/01/2012
Survey Rates:			
Party Chief	\$ 30.87	\$ 31.62	\$ 32.62
Instrument/Rod person	28.10	28.85	29.85

Additional \$3.00 per hr. for work in a Tunnel.

Additional \$2.50 per hr. for EPA or DEC certified toxic or hazardous waste work

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 19.25	\$ 20.50	\$ 21.75
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OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

WAGES: (1 yr. or 1000 hrs.) terms at the following wage rates.

1st year 60%	\$ 16.86	\$ 17.31	\$ 17.91
2nd year 70%	19.67	20.19	20.89
3rd year 80%	22.48	23.08	23.88

SUPPLEMENTAL BENEFITS:	\$ 19.25	\$ 20.50	\$ 21.75
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6-545 D.H.H.

Operating Engineer - Survey Crew - Consulting Engineer

12/01/2010

JOB DESCRIPTION Operating Engineer - Survey Crew - Consulting Engineer

DISTRICT 6

ENTIRE COUNTIES

Albany, Allegany, Broome, Cayuga, Chemung, Chenango, Clinton, Columbia, Cortland, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Yates

PARTIAL COUNTIES

Dutchess: The northern portion of the county from the northern boundry line of the City of Poughkeepsie north.

Genesee: Entire county except that portion of the county that lies west of a line down the center of Route 98 excluding that area that lies within the City of Batavia.

WAGES

Per hour:

Feasibility and preliminary design surveying, line and grade surveying for inspection or supervision of construction

when performed under a Consulting Engineer Agreement.

SURVEY CLASSIFICATIONS: Party Chief- One who directs a survey party.

Instrument Man- One who runs the instrument and assists the Party Chief.

Rodman- One who holds the rods and in general, assists the survey party.

	06/01/2010	06/01/2011	06/01/2012
Survey Rates:			
Party Chief	\$ 30.87	\$ 31.62	\$ 32.62
Instrument/Rodperson	28.10	28.85	29.85

Additional \$3.00 per hr. for work in a Tunnel.

Additional \$2.50 per hr. for EPA or DEC certified toxic or hazardous waste work

SUPPLEMENTAL BENEFITS

Per hour worked:	\$ 19.25	\$ 20.50	\$ 21.75
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OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

Paid: See (5, 6) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

6-545 DCE

Painter

12/01/2010

JOB DESCRIPTION Painter

DISTRICT 3

ENTIRE COUNTIES

Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Cortland, Delaware, Erie, Genesee, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Wayne, Wyoming, Yates

WAGES

Per hour:	07/01/2010	05/01/2011
		Additional
Bridge*	\$ 34.40	\$ 2.00
Tunnel*	34.40	2.00
Tank*	32.40	2.00

For Bridge Painting Contracts, ALL WORKERS on and off the bridge (including Flagmen) are to be paid Painter's Rate; the contract must be ONLY for Bridge Painting.

* Note an additional \$1.00 per hour is required when the contracting agency or project specification requires any shift to start prior to 6:00am or after 12:00 noon.

SUPPLEMENTAL BENEFITS

Per hour worked:	\$ 18.95	\$ 19.00
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OVERTIME PAY

Exterior work only See (B, E4*, F, R) on OVERTIME PAGE.

All other work See (B, F, R) on OVERTIME PAGE.

* Note - Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

Wages per hour:

1000 hour terms at the following percentage of Journeyman's wage rate:

1st	2nd	3rd	4th	5th	6th
50%	55%	60%	65%	75%	85%

Supplemental benefits per hour worked:

1st & 2nd terms	\$ 1.90
3rd & 4th terms	4.90

5th & 6th terms 5.90

3-4-Bridge, Tunnel, Tank

Painter **12/01/2010**

JOB DESCRIPTION Painter

DISTRICT 5

ENTIRE COUNTIES

Monroe, Wayne, Yates

PARTIAL COUNTIES

Livingston: Only the Townships of Geneseo, Conesus, Caledonia, York, Avon, Lima, Leicester, Livonia, Mount Morris and Groveland.
Ontario: Entire county except the Townships and City of Geneva.

WAGES

Per hour	07/01/2010	05/01/2011 Additional
Base	\$ 22.31	\$ 1.10
Spray	22.91	1.10
Sandblast	23.06	1.10
Wall Covering	22.61	1.10
Lead Paint Abatement	22.31	1.10
Drywall: Taper-Finisher*	23.01	1.35

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 15.85

Journeyman Taper-Finisher* 15.65

OVERTIME PAY

Exterior work only See (B,E4,F,R) on OVERTIME PAGE.

all other work See (B, F, R) on OVERTIME PAGE.

NOTE: Saturday is payable at straight time if the employee misses work, except where a doctor's or hospital verification of illness is produced Monday through Friday when work was available to the employee.

HOLIDAY

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

REGISTERED APPRENTICES

Apprentices - Painter/Decorator: 1000 hour terms at the following percentage of journeyman's basic wage rate or the Transportation Bridge wage for bridge work:

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.
*50%	55%	**60%	65%	70%	75%	80%	90%

Apprentices - Taper/Drywall Finisher: 1000 hour terms at the following percentage of journeymen's Taper wage:

1st	2nd	3rd	4th	5th	6th
*50%	55%	**60%	65%	75%	85%

Supplemental Benefits per hour worked:

*Appr. 1st & 2nd terms	\$ 1.90
**Appr. 3rd thru 8th terms	3.90

5-150

Painter - Metal Polisher **12/01/2010**

JOB DESCRIPTION Painter - Metal Polisher

DISTRICT 9

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

07/01/2010

Metal Polisher \$ 25.60*

*Note: All workers shall be paid an additional premium in an amount equal to twenty (20%) percent of their basic straight time rate of pay for all time worked on hanging scaffolds and on standing scaffolds while working more than 34 feet off the ground. Such premium are to be paid on top of their straight time or overtime, whichever is applicable. This also applies to employees erecting scaffolding.

SUPPLEMENTAL BENEFITS

Per Hour: 07/01/2010

Journeyworker: \$ 11.12

OVERTIME PAY

See (B, E, Q, 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

55% of Basic Polisher Rate

9-8A/28A-MP

Plumber

12/01/2010

JOB DESCRIPTION Plumber

DISTRICT 5

ENTIRE COUNTIES

Livingston, Monroe, Ontario, Yates

PARTIAL COUNTIES

Allegany: Only the Townships of Alfred, Almond, Andover, Birdsall, Burns, Grove, Independence, Ward, Wellsville, W. Almond, Willing, Scio east of Rt. 19.

Genesee: Only the Townships of Bergen, Bethany, Byron, Leroy, Pavillion and Stafford.

Orleans: Only the Townships of Albion, Barre, Carlton, Clarendon, Gaines, Kendall and Murray.

Seneca: Only the Townships of Fayette, Junius, Ovid, Romulus, Seneca Falls, Tyre, Varick and Waterloo.

Steuben: Only the Townships of Cameron, Canisteo, Freemont Greenwood, Harsville, Hornell, Hornellville, Howard, Jasper, Rathbone, Troopsburg, Tuscarora, W. Union, and Woodhull.

Wayne: Only the Townships of Arcadia (Newark), Galen (Clyde), Huron, Macedon, Marion, Lyons, Ontario, Palmyra, Rose, Sodus, Walworth and Williamson.

WAGES

Per hour 07/01/2010

Plumber \$ 31.51

Maintenance, repair and renovation work performed on nuclear power plants paid at 100% of wage above plus full benefits.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 17.86

OVERTIME PAY

Site work & New const. See (B*, E, E2, Q) on OVERTIME PAGE.

All other work See (B*, E, Q) on OVERTIME PAGE.

*Time and one half for work on the day after Thanksgiving.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

Overtime: See (5, 6) on HOLIDAY PAGE

REGISTERED APPRENTICES

(1/2) year terms at the following percent of Journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
40%	45%	50%	53%	56%	59%	62%	66%	70%	75%

Supplemental Benefits per hour worked:

Appr. 1st year \$ 6.93

Appr. 2nd, 3rd, 4th years 15.11

Appr. all other years 16.11

5-13-SF

Roofer	12/01/2010
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JOB DESCRIPTION Roofer **DISTRICT 5**

ENTIRE COUNTIES
Livingston, Monroe, Ontario, Wayne, Yates

WAGES

Per hour	07/01/2010	05/30/2011	06/04/2012
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Roofer	\$ 24.55	\$ 1.30	\$ 1.30
Waterproofers	24.55*	1.30	1.30

*When working on a roofing project requiring an individual to be a Licensed Asbestos Handler.

*Licensed Asbestos Handler: Non Removal-Base Wage plus \$.50 and \$.30 in Supps.

*Licensed Asbestos Handler: Removal-Base Wage plus \$1.30 and \$.30 in Supps.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman	\$ 14.72
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OVERTIME PAY

See (B,E*Note,E2,Q) on OVERTIME PAGE. *Note Double-time for new work on Saturdays.

HOLIDAY

Paid: See (1) on HOLIDAY PAGE

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

REGISTERED APPRENTICES

(1/2) year terms at the following percentage of journeyman's wage.

1st.	2nd.	3rd.	4th.	5th.	6th.
45%	50%	55%	60%	70%	75%

Supplemental Benefits per hour worked:

Appr. 1st and 2nd terms	\$ 5.24
Appr. 3rd thru 6th terms	14.72

5-22

Sheetmetal Worker	12/01/2010
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JOB DESCRIPTION Sheetmetal Worker **DISTRICT 5**

ENTIRE COUNTIES
Livingston, Monroe, Ontario, Seneca, Wayne, Yates

WAGES

Per hour	07/01/2010	05/02/2011 Additional	04/30/2012 Additional
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Sheetmetal Worker	\$ 28.14	\$ 1.67	\$ 1.86
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To include metal standing seam roofing, flashing and gravel stop.

Maintenance, repair and renovation work on nuclear power plant paid at 90% of above wage plus full benefits.

**** IMPORTANT NOTICE - EFFECTIVE 04/01/2009 ****

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,' you must submit an 'Employer Registration for Use of 4 Day/10 Hour Work Schedule,' form PW30R; additionally, there must be a dispensation of hours in place on the project.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 19.16

OVERTIME PAY

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

HOLIDAY

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

REGISTERED APPRENTICES

(1/2) year terms at the following wage.

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
\$ 12.05	\$ 12.96	\$ 13.86	\$ 14.77	\$ 16.28	\$ 17.48	\$ 18.69	\$ 19.89	\$ 22.61	\$ 25.32

Supplemental Benefits per hour paid:

1st.	2nd.	3rd.	4th.	5th.	6th.	7th.	8th.	9th.	10th.
\$ 8.71	\$ 9.63	\$ 12.95	\$ 13.06	\$ 14.84	\$ 14.93	\$ 15.07	\$ 15.16	\$ 15.36	\$ 15.56

5-46

Sprinkler Fitter

12/01/2010

JOB DESCRIPTION Sprinkler Fitter

DISTRICT 1

ENTIRE COUNTIES

Albany, Allegany, Broome, Cattaraugus, Cayuga, Chautauqua, Chemung, Chenango, Clinton, Columbia, Cortland, Delaware, Erie, Essex, Franklin, Fulton, Genesee, Greene, Hamilton, Herkimer, Jefferson, Lewis, Livingston, Madison, Monroe, Montgomery, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, Seneca, St. Lawrence, Steuben, Tioga, Tompkins, Warren, Washington, Wayne, Wyoming, Yates

WAGES

Per hour

07/01/2010

Sprinkler \$ 30.15
Fitter

SUPPLEMENTAL BENEFITS

Per hour worked

Journeyman \$ 18.85

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 percentage of Journeyman's wage

1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
50%	50%	55%	60%	65%	70%	75%	80%	85%	90%

Supplemental Benefits per hour worked

07/01/2010

1st & 2nd terms \$ 8.41
3rd & 4th terms \$ 13.35
All others \$ 18.85

1-669

Teamster - Building

12/01/2010

JOB DESCRIPTION Teamster - Building

Page 56

DISTRICT 5

ENTIRE COUNTIES

Livingston, Monroe, Ontario, Wayne

PARTIAL COUNTIES

Genesee: Only in the Townships of Oakfield, Elba, Batavia, Byron, Alexander, Bethany, Pavillion, Leroy, Strafford and Bergen.

Orleans: Only in the Townships of Gaines, Carlton, Barre, Kendall, Murray, Clarendon, and Albion.

Steuben: Only in the Township of Wayland.

Wyoming: Only in the Townships of Attica, Orangeville, Wethersfield, Eagle, Genesee Falls, Castile, Gainesville, Perry, Warsaw, Middlebury, Covington and Pike.

WAGES

Per hour worked: 07/01/2010

Building

Group A	\$ 21.84
Group B	21.69
Group C	22.09
Group D	21.99
Group E	22.09

Group A: Concrete transportation (Ready Mix); Tractor and attached units (Except Low-Boys) and trucks of actual ten (10) tons capacity or over.

Group B: Truck-actual capacity of less than ten (10) tons; helpers.

Group C: Mechanics

Group D: Tractor and Low-Boy.

Group E: 25 ton and over tractors and low-boys moving engineers self-powered equipment.

SUPPLEMENTAL BENEFITS

Per hour worked:

Journeyman \$ 10.88

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

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

5-118

Teamster - Heavy&Highway

12/01/2010

JOB DESCRIPTION Teamster - Heavy&Highway

DISTRICT 5

ENTIRE COUNTIES

Livingston, Monroe, Ontario, Wayne

PARTIAL COUNTIES

Genesee: Only in the Townships of Oakfield, Elba, Batavia, Byron, Alexander, Bethany, Pavillion, Leroy, Strafford and Bergen.

Orleans: Only in the Townships of Gaines, Carlton, Barre, Kendall, Murray, Clarendon, and Albion.

Steuben: Only in the Township of Wayland.

Wyoming: Only in the Townships of Attica, Orangeville, Wethersfield, Eagle, Genesee Falls, Castile, Gainesville, Perry, Warsaw, Middlebury, Covington and Pike.

WAGES

Per hour 07/01/2010

Heavy/Highway:

Group #1	\$ 21.46
Group #2	21.51
Group #3	21.56
Group #4	21.71
Group #5	21.86

There shall be a twelve (12) month carryover from the bid date of the posted proposal wage and fringe benefit rates. However, if the project document contains multiyear rate schedules, the Employer shall be obligated to pay wage rates therein as they become effective.

Group #1: Warehousemen, Yardmen, Truck helpers, Pickups, Panel trucks, Flatboy material trucks(straight jobs), Single Axle dump trucks, Dumpsters, Material checkers and receivers, Greasers, Truck tiremen, Mechanics helpers and parts chasers. Rubber-tired tractors (towing or pushing flat body vehicles), Form truck.

GROUP #2: Tandems and batch trucks, Mechanics, Dispatcher, When used as a hauling vehicle the following: Front end loader, A-frame and fork lift.

GROUP #3: Semi-trailers, Low-boy trucks, Asphalt distributor trucks, And agitator, Mixer trucks and Dumpcrete type vehicles, Truck mechanic, Fuel trucks, Boom truck.

GROUP #4: Specialized earth moving equipment, Euclid type, or similar off-highway, Where not self-loaded, Straddle (Ross) carrier, And self-contained concrete mobile truck.

GROUP #5: Off-highway Tandem back-dump, Twin engine equipment and Double-hitched equipment where not self-loaded.

SUPPLEMENTAL BENEFITS

Per hour paid:

Journeyman \$ 14.14

OVERTIME PAY

See (B, E, Q) on OVERTIME PAGE

HOLIDAY

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

5-791H

Welder

12/01/2010

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 07/01/2010

Welder (To be paid the same rate of the mechanic performing the work)

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.

- (A) Time and one half of the hourly rate after 7 hours per day
- (AA) Time and one half of the hourly rate after 7 and one half 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
- (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
- (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
- (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
- (F) Time and one half of the hourly rate on Saturday and Sunday
- (G) Time and one half of the hourly rate on Saturday and Holidays
- (H) Time and one half of the hourly rate on Saturday, Sunday, and Holidays
- (I) Time and one half of the hourly rate on Sunday
- (J) Time and one half of the hourly rate on Sunday and Holidays
- (K) Time and one half of the hourly rate on Holidays
- (L) Double the hourly rate on Saturday
- (M) Double the hourly rate on Saturday and Sunday
- (N) Double the hourly rate on Saturday and Holidays
- (O) Double the hourly rate on Saturday, Sunday, and Holidays
- (P) Double the hourly rate on Sunday
- (Q) Double the hourly rate on Sunday and Holidays
- (R) Double the hourly rate on Holidays
- (S) Two and one half times the hourly rate for Holidays, if worked
- (S1) Two and one half times the hourly rate the first 8 hours on Sunday or Holidays One and one half times the hourly rate all additional hours.
- (T) Triple the hourly rate for Holidays, if worked

- (U) Four times the hourly rate for Holidays, if worked
- (V) Including benefits at SAME PREMIUM as shown for overtime
- (W) Time and one half for benefits on all overtime hours.

NOTE: BENEFITS are PER HOUR WORKED, for each hour worked, unless otherwise noted

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



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)9.

☐ 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. Does this project comply 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

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

A list of those barred from bidding, or being awarded, any public work contract or subcontract with the State, under section 141-b of the Workers' Compensation Law, may be obtained at the following link, on the NYS DOL Website:

<https://dbr.labor.state.ny.us/EDList/searchPage.do>

NYSDOL Bureau of Public Work Debarment List 12/16/2010

Article 8

AGENCY	Fiscal Officer	SSN/FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	AG	*****1355	4-A GENERAL CONSTRUCTION CORP.		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	DOL	*****7478	A & T GENERAL CONSTRUCTION INC.		3 ALAN B SHEPARD PLACE YONKERS NY 10705	12/11/2006	12/11/2011
DOL	NYC		A & T IRON WORKS INC		25 CLIFF STREET NEW ROCHELLE NY 10801	06/15/2010	06/15/2015
DOL	DOL	*****0711	A ULIANO & SON LTD		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	DOL		A ULIANO CONSTRUCTION		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	NYC	*****5804	AAR CO ELECTRIC INC		5902 AVENUE N BROOKLYN NY 11234	03/20/2009	03/20/2014
DOL	DOL	*****9095	ABDO TILE CO		6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	06/25/2015
DOL	DOL	*****9095	ABDO TILE COMPANY		6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	06/25/2015
DOL	DOL	*****0635	ABOVE ALL PUMP REPAIR CORP		360 KNICKERBOCKER AVENUE BATAVIA NY 11716	10/20/2008	10/20/2013
DOL	NYC	*****8758	ACC CONSTRUCTION CORP.		6 EAST 32ND ST - 7TH FL NEW YORK NY 10016	05/25/2006	05/25/2011
DOL	NYC	*****5022	ACE DRYWALL SYSTEMS INC.		194 ASHLAND PLACE BROOKLYN NY 11217	03/06/2008	03/06/2013
DOL	AG	*****8219	ACTIVE CABLING INC		C/O FRANK DECAPITE 7 SYCAMORE ROAD DRWOODBURY NY 11797	10/02/2008	10/01/2013
DOL	DOL		ADAM A CEMERYS		2718 CURRY ROAD SCHENECTADY NY 12303	07/08/2010	07/08/2015
DOL	DOL	*****3012	ADAM DECKMAN	DECKMAN PAINTING	154 POND VIEW PARKWAY ROCHESTER NY 14612	04/16/2007	04/16/2012
DOL	DOL		ADAM'S FLOOR COVERING LLC		2718 CURRY ROAD SCHENECTADY NY 12303	07/08/2010	08/08/2015
DOL	DOL		ALL TOWNS MECHANICAL	BARRY MORRIS	18 EAST SUNRISE HIGHWAY FREEPORT NY 11758	01/21/2008	01/21/2013
DOL	DOL	*****3101	ALLSTATE CONCRETE CUTTING, INC.		635 MIDLAND AVENUE GARFIELD NJ 07026	07/09/2007	07/09/2012
DOL	DOL	*****8291	AMIR'S VISION INC		230 PRATT STREET BUFFALO NY 14204	09/17/2008	09/17/2013
DOL	AG		ANASTASIA ANTHOULIS	AKA STACEY GOUZOS	131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	DOL	*****0860	ANDREA STEVENS	STEVENS TRUCKING	2458 EAST RIVER ROAD CORTLAND NY 13045	01/23/2008	01/23/2013
DOL	AG		ANTHONY BRANCA		700 SUMMER STREET STAMFORD CT	11/24/2009	11/24/2014
DOL	DOL		ANTHONY POSELLA		30 GLEN HOLLOW ROCHESTER NY 14622	10/19/2009	10/19/2014
DOL	DOL		ANTHONY T RINALDI		C/O CRAIN CONSTRUCTION CO KINDERHAMACK RDKACKENSACK NY 07061	10/02/2008	10/02/2013
DOL	DOL		ANTHONY TAORMINA		215 MCCORMICK DRIVE BOHEMIA NY 11716	05/20/2009	05/20/2014
DOL	DOL		ANTHONY ULIANO		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	AG	*****7327	ANTHOS CONTRACTING CORP		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	DOL	*****2725	ARAGONA CONSTRUCTION CORP		5755 NEWHOUSE ROAD EAST AMHERST NY 14051	10/10/2007	10/10/2012
DOL	DOL	*****8688	ARC MECHANICAL CORP		215 MCCORMICK DRIVE BOHEMIA NY 11716	05/20/2009	05/20/2014
DOL	DOL	*****8482	ARGO CONTRACTING CORP		5752 WEST WEBB ROAD YOUNGSTOWN OH 44515	05/21/2008	05/21/2013
DOL	NYC	*****5804	ARIE BAR	C/O AAR CO ELECTRIC INC	5902 AVENUE N BROOKLYN NY 11234	03/20/2009	03/20/2014
DOL	DOL		ARTHUR C OSUORAH		PO BOX 1295 BUFFALO NY 14215	02/15/2008	02/15/2013
DOL	DOL	*****8027	ARTHUR DESIGN ENGINEERS & ASSOCIATES		PO BOX 1295 BUFFALO NY 14215	02/15/2008	02/15/2013
DOL	DOL	*****2993	AST DRYWALL & ACOUSTICS INC		46 JOHN STREET - STE 711 NEW YORK NY 10038	12/16/2008	12/16/2013
DOL	DA	*****5761	AZTEC PLUMBING & HEATING CORP		153 BAYWOODS LANE BAY SHORE NY 11706	03/19/2007	03/19/2012
DOL	DOL	*****7828	BALLAGH GENERAL CONTRACTING INC		250 KNEELAND AVENUE YONKERS NY 10705	07/09/2007	07/09/2012

NYSDOL Bureau of Public Work Debarment List 12/16/2010

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DOL	NYC		BASIL ROMEO		243-03 137TH AVENUE ROSEDALE NY 11422	03/25/2010	03/25/2015
DOL	DOL		BEATRICE ORTEGA		764 BRADY AVE - APT 631 BRONX NY 10462	05/21/2008	05/21/2013
DOL	DOL		BENNY VIGLIOTTI		C/O LUVIN CONSTRUCTION CO P O BOX 357CARLE PLACE NY 11514	03/15/2010	03/15/2015
DOL	DOL		BERNADETTE GORMALLY		250 KNEELAND AVENUE YONKERS NY 10705	07/09/2007	07/09/2012
DOL	NYC		BERNARD COHNEN		193 HARWOOD PLACE PARAMUS NJ 07652	05/14/2008	05/14/2013
DOL	DOL	*****5455	BEST OF FRIENDS OF SCHENECTADY CONSTR CO		425 HAMILTON STREET SCHENECTADY NY 12305	01/24/2006	01/24/2011
DOL	DOL	*****9890	BETTY JOE FRAZIER	NOBLE CONSTRUCTI ON GROUP	23960 WHITE ROAD WATERTOWN NY 13601	02/14/2008	02/14/2013
DOL	DOL		BIAGIO CANTISANI		200 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL	*****0818	BLASTEC INC	MILLER SANDBLASTIN G & PAINTING	121 LINCOLN AVENUE ROCHESTER NY 14611	02/21/2008	02/21/2013
DOL	DOL	*****8501	BLOCKHEAD CONCRETE & PAVING INC		P O BOX 71 CHEEKTOWAGA NY 14225	09/03/2008	09/03/2013
DOL	NYC	*****8377	BOSPHORUS CONSTRUCTION CORPORATION		3817 KINGS HIGHWAY-STE 1D BROOKLYN NY 11234	07/08/2010	07/08/2015
DOL	DOL		BRIAN HOXIE		2219 VALLEY DRIVE SYRACUSE NY 13207	12/04/2009	12/04/2014
DOL	DOL	*****4311	C & F SHEET METAL CORP		201 RICHARDS STREET BROOKLYN NY 11231	02/25/2009	02/24/2014
DOL	DOL	*****9286	CALI BROTHERS INC		1223 PARK STREET PEEKSKILL NY 10566	09/12/2007	09/12/2012
DOL	DOL		CANTISANI & ASSOCIATES LTD		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	NYC	*****4437	CAPPRY CONTRACTING MGMT. CORP		1081 CONEY ISLAND AVENUE BROOKLYN NY 11230	02/09/2006	02/09/2011
DOL	DOL		CARMODY CONCRETE CORP		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		CARMODY ENTERPRISES LTD		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		CARMODY INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		CARMODY MASONRY CORP		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		CARMODY"2" INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL	*****9721	CATENARY CONSTRUCTION CORP		112 HUDSON AVENUE ROCHESTER NY 14605	02/14/2006	10/20/2014
DOL	DOL	*****7924	CBI CONTRACTING INCORPORATED		2081 JACKSON AVENUE COPIAGUE NY 11726	06/03/2010	06/03/2015
DOL	DOL		CHARLES MURDOUGH		203 KELLY DRIVE EAST AURORA NY 14052	03/26/2008	03/26/2013
DOL	DOL	*****1416	CHEROMINO CONTROL GROUP LLC		61 WILLET ST - SUITE 14 PASSAIC NJ 07055	12/03/2009	07/09/2015
DOL	DOL		CHESTER A BEDELL		1233 WALT WHITMAN ROAD MELVILLE NY 11747	04/29/2008	04/29/2013
DOL	DOL		CHRISTOPHER NICHOLSON		91 NEWMAN PLACE BUFFALO NY 14210	10/19/2006	10/19/2011
DOL	DOL		CITY GENERAL BUILDERS INC		131 MELROSE STREET BROOKLYN NY 11206	03/02/2010	03/02/2015
DOL	DOL	*****7086	CITY GENERAL IRON WORKS INC		131 MELROSE STREET BROOKLYN NY 11206	03/02/2010	03/02/2015
DOL	DOL	*****5329	CNY MECHANICAL ASSOCIATES INC		P O BOX 250 EAST SYRACUSE NY 13057	11/06/2008	11/06/2013
DOL	DOL	*****6866	COMMERCIAL SYSTEM CONSTRUCTION		91 NEWMAN PLACE BUFFALO NY 14210	10/19/2006	10/19/2011
DOL	DOL	*****5740	CORTLAND GLASS COMPANY INC		336 TOMPKINS STREET CORTLAND NY 13045	02/02/2010	10/21/2015
DOL	DOL	*****7794	CRAIN CONSTRUCTION COMPANY INC		ONE KINDERHAMACK ROAD HACKENSACK NJ 07061	10/02/2008	10/02/2013
DOL	DOL		CRAIN CONSTRUCTION OF NEW JERSEY		ONE KINDERHAMACK ROAD HACKENSACK NJ 07061	10/02/2008	10/02/2013
DOL	DOL		CRAIN CONSTRUCTION OF NEW YORK INC		C/O CRAIN CONSTRUCTION CO ONE KINDERHAMACK ROADHACKENSACK NJ 07061	10/02/2008	10/02/2013

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DOL	DOL		CRAIN CONTRACTING COMPANY		ONE KINDERHAMACK ROAD HACKENSACK NJ 07061	10/02/2008	10/02/2013
DOL	NYC	*****8777	CROSSLAND ELECTRICAL SYSTEMS INC		846 EAST 52ND STREET BROOKLYN NY 11203	12/19/2008	12/29/2013
DOL	DOL	*****0115	CROW AND SUTTON ASSOCIATES INC		949 GROVESIDE ROAD BUSKIRK NY 12028	08/27/2008	08/27/2013
DOL	DOL	*****4266	CRYSTAL INTERIOR CONTRACTING INC		922 CRESCENT STREET BROOKLYN NY 11208	05/21/2008	05/21/2013
DOL	DOL	*****1804	CUSTOM GARDEN LANDSCAPING INC		283 NORTH MIDDLETOWN ROAD PEARL RIVER NY 10965	09/28/2009	09/28/2014
DOL	DOL	*****6339	D J FLOORS INC		9276 VIA CIMATO DRIVE CLARENCE CENTER NY 14032	08/29/2007	08/29/2012
DOL	DOL		D JAMES SUTTON		949 GROVESIDE ROAD BUSKIRK NY 12028	08/27/2008	08/27/2013
DOL	DOL		DANIEL CELLUCCI ELECTRIC		17 SALISBURY STREET GRAFTON MA 01519	06/02/2010	06/02/2015
DOL	DOL	*****7129	DANIEL T CELLUCCI	DANIEL CELLUCCI ELECTRIC	17 SALISBURY STREET GRAFTON MA 01519	06/02/2010	06/02/2015
DOL	DOL		DARIN ANDERSON		134-25 166 PLACE #5E JAMAICA NY 11434	08/07/2008	08/07/2013
DOL	DOL		DARREN MAYDWELL		115 LEWIS STREET YONKERS NY 10703	05/12/2009	05/12/2014
DOL	DOL		DEANNA J REED		5900 MUD MILL RD-BOX 949 BREWERTON NY 13029	09/02/2008	09/02/2013
DOL	DOL	*****3012	DECKMAN PAINTING		154 POND VIEW PARKWAY ROCHESTER NY 14612	04/16/2007	04/16/2012
DOL	DOL	*****2311	DELCON CONSTRUCTION CORP		220 WHITE PLAINS ROAD TARRYTOWN NY 10591	08/27/2009	08/27/2014
DOL	DOL	*****6971	DELPHI PAINTING AND DECORATING INC		1445 COMMERCE AVENUE BRONX NY 10461	10/09/2007	10/09/2012
DOL	DOL	*****3538	DELTA CONTRACTING PAINTING AND DESIGN INC		75 MCCULLOCH DRIVE DIX HILLS NY 11746	10/19/2010	10/19/2015
DOL	DOL		DESMOND CHARLES		922 CRESCENT STREET BROOKLYN NY 11208	05/21/2008	05/21/2013
DOL	DOL	*****7157	DG PIPELINE INC		312 HALSEYVILLE ROAD ITHACA NY 14850	09/06/2006	09/06/2011
DOL	DOL		DIMITEIUS KASSIMIS		152-65 11TH AVENUE WHITESTONE NY 11357	05/22/2008	05/22/2013
DOL	DOL	*****3364	DJH MECHANICAL ASSOCIATES LTD		155 KINGSBRIDGE ROAD EAST MOUNT VERNON NY 10552	02/01/2006	02/01/2011
DOL	DOL		DONALD NOWAK		10 GABY LANE CHEEKTOWAGA NY 14227	10/15/2009	10/15/2014
DOL	DOL		DONALD SCHWENDLER		9276 VIA CIMATO DRIVE CLARENCE CENTER NY 14032	08/29/2007	08/29/2012
DOL	DOL	*****6148	DOT CONSTRUCTION OF NY INC		765 BRADY AVE - APT 631 BRONX NY 10462	05/21/2008	05/21/2013
DOL	DOL		DOUGLAS MCEWEN		121 LINCOLN AVENUE ROCHESTER NY 14611	02/21/2008	02/21/2013
DOL	DOL		DOUGLAS S GRIFFEN		312 HALSEYVILLE ROAD ITHACA NY 14850	09/06/2006	09/06/2011
DOL	DOL		DRAGOLJUB RADOJEVIC	61 WILLET ST - SUITE 14	PASSAIC NJ 07055	12/03/2009	07/09/2015
DOL	NYC	*****6176	E N E L ELECTRICAL CORP		1107 MCDONALD AVENUE BROOKLYN NY 11230	07/30/2010	07/30/2015
DOL	DOL		EDWARD SUBEH		1 CHELSEA COURT ATLANTIC CITY NJ 08401	10/06/2008	10/06/2013
DOL	DOL	*****3554	ELITE BUILDING ENTERPRISES INC		34-08 PARKWAY DRIVE BALDWIN NY 11510	07/01/2008	07/21/2013
DOL	AG	*****3233	EMEIS & EMEIS GENERAL CONTRACTING CORP		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	DOL	*****0780	EMES HEATING & PLUMBING CONTR		5 EMES LANE MONSEY NY 10952	01/20/2002	01/20/3002
DOL	DOL	*****6101	ENHANCED DATA COM INC		75 SHERBROOK ROAD NORTH BABYLON NY 11704	07/01/2010	07/01/2015
DOL	DOL		ERROL L ALLEN		134-25 166 PLACE #5E JAMAICA NY 11434	08/07/2008	08/07/2013
DOL	DOL		ESCO INSTALLERS LLC		1 CHELSEA COURT ATLANTIC CITY NJ 08401	10/06/2008	10/06/2013
DOL	DOL	*****0329	FAULKES PLUMBING HEATING & AIR CONDITIONING INC		3 UPTON STREET HILTON NY 14468	06/10/2008	06/10/2013
DOL	DOL		FERNANDO GOMEZ		201 RICHARDS STREET BROOKLYN NY 11231	02/25/2009	02/25/2014
DOL	DOL	*****0768	FISHER CONCRETE INC		741 WELSH ROAD JAVA CENTER NY 14082	04/08/2009	04/08/2014

NYSDOL Bureau of Public Work Debarment List 12/16/2010

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DOL	DOL	*****0115	FOXCROFT NURSERIES INC		949 GROVESIDE ROAD BUSKIRK NY 12028	08/27/2008	08/27/2013
DOL	DOL		FRANCIS (FRANK) OSCIER		3677 SENECA STREET WEST SENECA NY 14224	09/03/2008	09/03/2013
DOL	NYC		FRANK (FRANCIS) OSCIER		3677 SENECA STREET WEST SENECA NY 14224	09/03/2008	09/03/2013
DOL	NYC		FRANK BAKER		24 EDNA DRIVE SYOSSET NY 11791	05/14/2008	05/14/2013
DOL	DOL		FRANK J MERCANDO	C/O MERCANDO CONTRACTIN G CO INC	134 MURRAY AVENUE YONKERS NY 10704	11/22/2008	11/22/2013
DOL	DOL		FRANK J MERCANDO		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	12/11/2014
DOL	DOL	*****0128	FRANK J TUCEK & SON INC		92 NORTH ROUTE 9W CONGERS NY 10920	01/29/2007	01/29/2012
DOL	DOL		FRANK ORTIZ		75 SHERBROOK ROAD NORTH BABYLON NY 11704	07/01/2010	07/01/2015
DOL	DOL		FRED ABDO	ABDO TILE COMPANY AKA ABDO TILE CO	6179 EAST MOLLOY ROAD EAST SYRACUSE NY 13057	06/25/2010	06/25/2015
DOL	DOL	*****9202	G & M PAINTING ENTERPRISES INC		13915 VILLAGE LANE RIVERVIEW MI 48192	02/05/2010	02/05/2015
DOL	DOL	*****9832	G A FALCONE CONSTRUCTION INC		253 COMMONWEALTH AVENUE BUFFALO NY 14216	08/07/2007	08/07/2012
DOL	DOL	*****7088	GBA CONTRACTING CORP		4015 21ST AVENUE ASTORIA NY 11105	01/11/2008	01/11/2013
DOL	NYC		GELSOMINA TASSONE		25 CLIFF STREET NEW ROCHELLE NY 10801	06/15/2010	06/15/2015
DOL	DOL		GEORGE A PATTI III		P O BOX 772 JAMESTOWN NY 14701	08/13/2010	08/13/2015
DOL	AG		GEORGE BEGAKIS		57-16 157TH STREET FLUSHING NY 11355	10/04/2006	10/04/2011
DOL	NYC		GEORGE LUCEY		150 KINGS STREET BROOKLYN NY 11231	01/19/1998	01/19/2998
DOL	DOL		GERALD A POLLOCK		336 TOMPKINS STREET CORTLAND NY 13045	06/29/2010	10/21/2015
DOL	AG		GERARD IPPOLITO		563 MUNCEY ROAD WEST ISLIP NY 11795	07/14/2008	07/14/2013
DOL	AG		GERASIMO ANDRIANIS		22-15 47TH STREET ASTORIA NY 11105	08/03/2006	08/03/2011
DOL	DOL		GREG SURACI		364 BLEAKER ROAD ROCHESTER NY 14609	10/25/2007	10/25/2012
DOL	DOL		GRIOGORIOS BELLOS		4015 21ST AVENUE ASTORIA NY 11105	01/11/2008	01/11/2013
DOL	DOL	*****9985	GROUND LEVEL CONSTRUCTION		10 GABY LANE CHEEKTOWAGA NY 14227	10/15/2009	10/15/2014
DOL	DOL	*****8904	HALLOCKS CONSTRUCTION CORP	P O BOX 278	YORKTOWN HEIGHTS NY 10598	12/01/2008	12/01/2013
DOL	DOL		HARALAMBOS KARAS		80-12 ASTORIA BOULEVARD EAST ELMHURST NY 11370	11/22/2008	10/22/2013
DOL	DOL	*****0080	HI-AMP ELECTRICAL CONTRACTING CORP		265-12 HILLSIDE AVENUE FLORAL PARK NY 11004	02/15/2008	02/15/2013
DOL	DOL	*****9893	HOXIE'S PAINTING CO INC		2219 VALLEY DRIVE SYRACUSE NY 13207	12/04/2009	12/04/2014
DOL	DOL	*****6429	IDM ENTERPRISES INC		60 OUTWATER LANE GARFIELD NJ 07026	05/09/2009	05/09/2014
DOL	DOL	*****6293	IMPRESSIVE CONCRETE CORP		264A SUBURBAN AVENUE DEER PARK NY 11729	12/18/2007	12/18/2012
DOL	DOL	*****8898	IN-TECH CONSTRUCTION INC		8346 BREWERTON ROAD CICERO NY 13039	07/06/2007	07/06/2012
DOL	DOL	*****7561	INDUS GENERAL CONSTRUCTION		33-04 91ST STREET JACKSON HEIGHTS NY 11372	04/28/2010	04/28/2015
DOL	NYC	*****7728	INTEGRITY CONSTRUCTION & CONSULTING SERVS		7615 MYRTLE AVENUE GLENDALE NY 11385	02/15/2007	02/15/2012
DOL	DOL	*****0488	INTERWORKS SYSTEMS, INC.		1233 WALT WHITMAN ROAD MELVILLE NY 11747	04/29/2008	04/29/2013
DOL	DOL		ISRAEL MONTESINOS		517 MILES SQUARE ROAD YONKERS NY 10701	02/15/2008	02/15/2013
DOL	DOL		IVAN D MARKOVSKI		60 OUTWATER LANE GARFIELD NJ 07026	05/09/2009	05/09/2014
DOL	DOL		IVAN TORRES		11 PLYMOUTH ROAD DIX HILLS NY 11746	02/15/2008	02/15/2013

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DOL	DOL	*****0579	J & I CONSTRUCTION CORP		110 FOURTH STREET NEW ROCHELLE NY 10801	02/15/2008	02/15/2013
DOL	DOL	*****7357	J C MCCASHION CONSTRUCTION INC		84 FREDERICK AVENUE ALBANY NY 12205	04/13/2006	04/13/2011
DOL	DOL	*****1584	J M TRI STATE TRUCKING INC		140 ARMSTRONG AVENUE SYRACUSE NY 13209	10/21/2009	10/21/2014
DOL	AG	*****1562	JANS GENERAL CONSTRUCTION CORP.		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	DOL		JASON ASBURY		22562 SEA BASS DRIVE BOCA RATON FL 33428	10/10/2007	10/10/2012
DOL	DOL		JAY MEYER		239 MARSH DRIVE DEWITT NY 13214	02/20/2007	02/20/2012
DOL	DOL		JEANETTE CALICCHIA		1223 PARK STREET PEEKSKILL NY 10566	09/12/2007	09/12/2012
DOL	DOL		JEFFREY ARTIERI		107 STEVENS STREET LOCKPORT NY 14094	11/04/2009	11/04/2014
DOL	DOL		JOHN B DUGAN		121 LINCOLN AVENUE ROCHESTER NY 14611	02/21/2008	02/21/2013
DOL	DA		JOHN BIAS		153 BAYWOODS LANE BAY SHORE NY 11706	03/19/2007	03/19/2012
DOL	DOL		JOHN BUONADONNA		283 NORTH MIDDLETOWN ROAD PEARL RIVER NY 10965	09/28/2009	09/28/2014
DOL	NYC		JOHN C MCCASHION		84 FREDERICK AVENUE ALBANY NY 12205	04/13/2006	04/13/2011
DOL	NYC		JOHN DITURI		1107 MCDONALD AVENUE BROOKLYN NY 11230	07/30/2010	07/30/2015
DOL	DOL		JOHN JIULIANI		222 GAINSBORG AVENUE E WEST HARRISON NY 10604	05/10/2010	05/10/2015
DOL	NYC		JOHN MARI JR		278 ROBINSON AVENUE NEW YORK NY 10312	04/06/2008	04/06/2013
DOL	NYC		JOHN O'SHEA		4350 BULLARD AVENUE BRONX NY 10466	01/28/2008	01/28/2013
DOL	DOL	*****5970	JOHN PREVETE FRAMING AND JOHN PREVETE FRAMING INC	JOHN PREVETE	320 RIDGE ROAD WEST MILFORD NJ 07480	03/26/2008	03/26/2013
DOL	DOL		JOHN SAN SEVERE		C/O CRAIN CONSTRUCTION CO ONE KINDERHAMACK ROADHACKENSACK NJ 07061	10/02/2008	10/02/2013
DOL	DOL		JOSE DOS SANTOS JR		85-08 60TH AVENUE ELMHURST NY 11373	11/21/2008	11/21/2013
DOL	DOL		JOSEPH CALICCHIA		1223 PARK STREET PEEKSKILL NY 10566	09/12/2007	09/12/2012
DOL	DOL		JOSEPH MONETTE		C/O JOHN MONETTE 140 ARMSTRONG AVENUESYRACUSE NY 13209	10/21/2009	10/21/2014
DOL	DOL	*****1763	JR RESTORATION & ROOFING INC		152-65 11TH AVENUE WHITESTONE NY 11357	05/22/2008	05/22/2013
DOL	DOL		JULIUS AND GITA BEHREND		5 EMES LANE MONSEY NY 10952	11/20/2002	11/20/3002
DOL	DOL	*****9422	JUNKYARD CONSTRUCTION CORP.		2068 ANTHONY AVENUE BRONX NY 10457	12/26/2007	12/26/2012
DOL	DOL	*****3810	K M MARTELL CONSTRUCTION, INC.		57 CROSS ROAD MIDDLETOWN NY 10940	06/25/2007	06/25/2012
DOL	DOL	*****9993	K M R ENTERPRISES		10 STUFFLE STREET CROPSEYVILLE NY 12052	12/20/2006	12/20/2011
DOL	DOL		K NELSON SACKOOR		16 JOY DRIVE NEW HYDE PARK NY 11040	01/05/2010	01/05/2015
DOL	DOL	*****8648	K-STAR CONSTRUCTION CORP		42 48 161ST STREET FLUSHING NY 11358	12/11/2006	12/11/2011
DOL	NYC		KAMIL OZTURK		3715 KINGS HWY - STE 1D BROOKLYN NY 11234	07/08/2010	07/08/2015
DOL	NYC		KAZIMIERZ KONOPSKI		194 ASHLAND PLACE BROOKLYN NY 11217	03/06/2008	03/06/2013
DOL	AG		KEFCAL CONSTRUCTION, INC.		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	NYC	*****4923	KELLY'S SHEET METAL, INC.		1426 ATLANTIC AVENUE BROOKLYN NY 11216	12/28/2007	12/28/2012
DOL	DOL		KEMPTON MCINTOSH		8531 AVENUE B BROOKLYN NY 11236	12/16/2008	12/16/2013
DOL	DOL		KENNETH W. GRIFFIN		101 LILL STREET ROCHESTER NY 14621	05/01/2006	05/01/2011
DOL	DOL		KEVIN MARTELL		57 CROSS ROAD MIDDLETOWN NY 10940	06/25/2007	06/25/2012
DOL	AG	*****3318	KOSMAR CONTRACTING CORP.		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012

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DOL	DOL		KRIS CLARKSON		2484 CATON ROAD CORNING NY 14830	06/20/2007	06/20/2012
DOL	NYC	*****8816	LAKE CONSTRUCTION AND DEVELOPMENT CORPORATION		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL	*****9628	LANCET ARCH INC		112 HUDSON AVENUE ROCHESTER NY 14605	02/14/2006	10/19/2014
DOL	DOL		LANCET SPECIALTY CONTRACTING CORP		C/O CATENARY CONSTRUCTION 112 HUDSON AVENUE ROCHESTER NY 14605	10/19/2009	10/19/2014
DOL	DOL		LARRY FRANGOS		5752 WEST WEBB ROAD YOUNGSTOWN OH 44515	05/21/2008	05/21/2013
DOL	DOL	*****7907	LEEMA EXCAVATING INC		140 ARMSTRONG AVENUE SYRACUSE NY 13209	10/21/2009	10/21/2014
DOL	AG	*****5102	LIBERTY TREE SERVICE, INC.		563 MUNCEY ROAD WEST ISLIP NY 11795	07/14/2008	07/14/2013
DOL	DOL	*****6651	LIGHTNING FAST LABOR FORCE SERVICES, INC.		150 NORTH CHESTNUT STREET ROCHESTER NY 14604	05/01/2006	05/01/2011
DOL	DOL	*****5953	LPD CONTRACTING INC		1205 MCBRIDE AVENUE WEST PATTERSON NJ 07424	08/27/2007	08/27/2012
DOL	DOL	*****5171	LUVIN CONSTRUCTION CORP		P O BOX 357 CARLE PLACE NY 11514	03/15/2010	03/15/2015
DOL	DOL	*****9875	M & S STRIPING INC		73 INDUSTRIAL PARK BLVD ELMIRA NY 14901	01/10/2007	01/10/2012
DOL	DOL	*****9688	M K PAINTING INC		4157 SEVENTH STREET WYANDOTT MI 48192	05/14/2007	05/14/2012
DOL	AG		MANNS CONTRACTING CORP		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	NYC		MANUEL P TOBIO		150 KINGS STREET BROOKLYN NY 14444	08/19/1998	08/19/2998
DOL	NYC		MANUEL TOBIO		150 KINGS STREET BROOKLYN NY 11231	08/19/1998	08/19/2998
DOL	DOL		MARK LINDSLEY		355 COUNTY ROUTE 8 FULTON NY 13069	08/08/2009	08/14/2014
DOL	DOL		MASONRY CONSTRUCTION INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		MASONRY INDUSTRIES INC		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	AG	*****9970	MAY CONSTRUCTION CO INC		700 SUMMER STREET STAMFORD CT	11/24/2009	11/24/2014
DOL	NYC	*****4132	MCCASHION BROTHERS HOLDING COMPANY LLC		84 FREDERICK AVENUE ALBANY NY 12205	04/13/2006	04/13/2011
DOL	DOL		MCI CONSTRUCTION INC		975 OLD MEDFORD AVENUE FARMINGDALE NY 11738	08/24/2009	08/24/2014
DOL	DOL		MCS PAINTING CONTRACTORS, INC.		LIME KILN COURT STONY POINT NY 10980	01/25/2006	01/25/2011
DOL	DOL	*****4259	MERCANDO CONTRACTING CO INC		134 MURRAY AVENUE YONKERS NY 10704	12/11/2009	12/11/2014
DOL	DOL	*****0241	MERIT FENCE CO INC		130 OLD ROUTE 6 CARMEL NY 10512	08/06/2003	02/02/2012
DOL	DOL		MICHAEL L. KRIVITZA	NORTHEAST TECHNOLOGI ES	105 PINE STREET - APT 2 EAST ROCHESTER NY 14445	05/14/2007	05/14/2012
DOL	DOL		MICHAEL STEVENS	STEVENS TRUCKING	2458 EAST RIVER ROAD CORTLAND NY 13045	01/23/2008	01/23/2013
DOL	DOL	*****0860	MICHAEL STEVENS	STEVENS TRUCKING	2458 EAST RIVER ROAD CORTLAND NY 13045	01/23/2008	01/23/2013
DOL	DOL		MICHAEL TAYLOR		66 RYBKA ROAD STUYVESANT FALLS NY 12174	03/02/2007	03/02/2012
DOL	DOL	*****0818	MILLER SANDBLASTING AND PAINTING		121 LINCOLN AVENUE ROCHESTER NY 14611	02/21/2008	02/21/2013
DOL	DOL	*****4435	MODERN TECH DESIGN & SERVICES INC		9151 SOUTHWESTERN BLVD ANGOLA NY 14006	01/19/2006	01/19/2011
DOL	NYC		MOHAMMAD SELIM		73-12 35TH AVE - APT F63 JACKSON HEIGHTS NY 11372	03/04/2010	03/04/2015
DOL	DA		MOHAMMED SALEEM		768 LYDIG AVENUE BRONX NY 10462	08/18/2009	05/25/2015
DOL	DOL	*****2251	MURDOUGH DEVELOPMENT CO., INC.		203 KELLY DRIVE EAST AURORA NY 14052	03/26/2008	03/26/2013
DOL	DA	*****9642	MUTUAL OF AMERICAL GENERAL CONSTRUCTION & MANAGEMENT CORP		768 LYDIG AVENUE BRONX NY 10462	08/18/2009	05/25/2015
DOL	DOL	*****9445	NASDA ENTERPRISES INC		134-25 166 PLACE #5E JAMAICA NY 11434	08/07/2008	08/07/2013

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DOL	DOL	*****2213	NEUSS CONSTRUCTION, INC.		1191 ROUTE 9W - SUITE #C6 MARLBORO NY 12542	09/06/2006	09/06/2011
DOL	DOL		NICK NITIS		3 ALAN B SHEPARD PLACE YONKERS NY 10705	12/11/2006	12/11/2011
DOL	DOL		NICOLE SPELLMAN		2081 JACKSON AVENUE COPIAGUE NY 11726	06/03/2010	06/03/2015
DOL	DOL	*****9890	NOBLE CONSTRUCTION		23960 WHITE ROAD WATERTOWN NY 13601	02/14/2008	02/14/2013
DOL	DOL	*****7771	NORTHEAST TECHNOLOGIES		105 PINE STREET APT. 2 EAST ROCHESTER NY 14445	05/14/2007	05/14/2012
DOL	DOL	*****1833	NORTHEASTERN SUPREME FLOOR CO.,INC		66 BENEDICT STREET CASTLETON NY 12033	03/02/2007	03/02/2012
DOL	DOL	*****7041	NYCOM SERVICES CORP		80-12 ASTORIA BOULEVARD EAST ELMHURST NY 11370	11/22/2008	11/22/2013
DOL	DOL	*****0797	O GLOBO CONSTRUCTION CORP		85-06 60TH AVENUE ELMHURST NY 11373	11/21/2008	11/21/2013
DOL	DOL	*****1803	OMNI CONTRACTING COMPANY, INC.		3 ALAN B. SHEPARD PLACE YONKERS NY 10705	12/11/2006	12/11/2011
DOL	NYC	*****6176	ORSOGRIL NEW YORK INC		25 CLIFF STREET NEW ROCHELLE NY 10801	06/15/2010	06/15/2015
DOL	NYC	*****3855	OT & T INC		36-28 23RD STREET LONG ISLAND CITY NY 11106	01/15/2008	05/14/2013
DOL	NYC	*****9833	PARADISE CONSTRUCTION CORP		6814 8TH AVENUE BROOKLYN NY 11220	12/03/2007	12/03/2012
DOL	DOL	*****3039	PARAGON PLATE GLASS, INC.		210 FACTORY STREET WATERTOWN NY 13601	11/07/2006	11/07/2011
DOL	DOL		PATRICK BURNS		19 E. CAYUGA STREET OSWEGO NY 13126	05/15/2008	05/15/2013
DOL	DOL		PATRICK SHAUGHNESSY		88 REDWOOD DRIVE ROCHESTER NY 14617	05/16/2008	05/16/2013
DOL	DOL		PEDRO RINCON		131 MELROSE STREET BROOKLYN NY 11206	03/02/2010	03/02/2015
DOL	AG		PETER GOUZOS		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	DOL		PETER J LANDI		249 MAIN STREET EASTCHESTER NY 10709	10/05/2009	10/05/2014
DOL	DOL	*****7229	PETER J LANDI INC		249 MAIN STREET EASTCHESTER NY 10709	10/05/2009	10/05/2014
DOL	DOL	*****1136	PHOENIX ELECTRICIANS COMPANY INC		540 BROADWAY P O BOX 2222ALBANY NY 12201	03/09/2010	03/09/2015
DOL	DOL	*****5419	PINE VALLEY LANDSCAPE CORP		RR 1, BOX 285-B BUSKIRK NY 12028	08/27/2008	08/27/2013
DOL	DOL		PRECISION DEVELOPMENT CORP		115 LEWIS STREET YONKERS NY 10703	05/12/2009	05/12/2014
DOL	DOL	*****9359	PRECISION STEEL ERECTORS INC		P O BOX 949 BREWERTON NY 13029	09/02/2008	09/02/2013
DOL	DOL	*****2326	PUTMAN CONSTRUCTION COMPANY OF WESTERN NY		29 PHYLLIS AVENUE BUFFALO NY 14215	09/03/2008	09/03/2013
DOL	DOL	*****7438	R & H COMMERCIAL FLOORING, INC.		102 WILLOW AVENUE WATKINS GLEN NY 14891	06/20/2007	06/20/2012
DOL	DOL	*****1596	R & T SUPREME SPORTS FLOORING, LLC		66 RYBKA ROAD STUYVESANT FALLS NY 12174	03/02/2007	03/02/2012
DOL	DOL	*****1629	R S CONSTRUCTION COMPANY LLC		571 MILES SQUARE ROAD YONKERS NY 10701	04/04/2007	04/04/2012
DOL	AG	*****2626	RAINBOW RENOVATIONS, INC.		35-44 CRESCENT STREET LONG ISLAND CITY NY 11106	08/03/2006	08/03/2011
DOL	DOL		RAMON BONILLA		938 E 232ND STREET #2 BRONX NY 10466	05/25/2010	05/25/2015
DOL	DOL	*****7294	REDWOOD FLOORING, INC.		88 REDWOOD DRIVE ROCHESTER NY 14617	05/16/2008	05/16/2013
DOL	NYC	*****6978	RISINGTECH INC		243-03 137TH AVENUE ROSEDALE NY 11422	03/25/2010	03/25/2015
DOL	DOL		ROBBYE BISSEsar		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	01/11/2003	01/11/3003
DOL	DOL		ROBERT DIMARSICO		1233 WALT WHITMAN ROAD MELVILLE NY 11747	04/29/2008	04/29/2013
DOL	DOL		ROBERT O'HANLON		635 MIDLAND AVENUE GARFIELD NJ 07026	07/09/2007	07/09/2012
DOL	DOL		ROBERT STEVENSON		571 MILES SQUARE ROAD YONKERS NY 10701	04/04/2007	04/04/2012
DOL	DOL	*****1721	ROBERTS CONSTRUCTION OF UPSTATE NEW YORK INC		5 SANGER AVENUE NEW HARTFORD NY 13413	01/28/2009	01/28/2014
DOL	DOL	*****3467	ROCKERS AND NOCKERS LLC		207 RIVERVIEW ROAD REXFORD NY 12148	10/23/2007	10/23/2012

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DOL	DOL	*****9025	ROJO MECHANICAL LLC		938 E 232ND STREET #2 BRONX NY 10466	05/25/2010	05/25/2015
DOL	DOL		RONALD R SAVOY	C/O CNY MECHANICAL ASSOCIATES INC	P O BOX 250 EAST SYRACUSE NY 13057	11/06/2008	11/06/2013
DOL	DOL		ROSARIO CARRUBBA		5755 NEWHOUSE ROAD EAST AMHERST NY 14051	10/10/2007	10/10/2012
DOL	DOL	*****5905	ROSE PAINTING CORP		222 GAINSBORG AVENUE EAST WEST HARRISON NY 10604	05/10/2010	05/10/2015
DOL	DOL		RUDOLPH NEUSS		8 FAR HORIZONS DRIVE NEWBURGH NY 12550	09/06/2006	09/06/2011
DOL	DOL		RUSSELL TUPPER		8346 BREWERTON ROAD CICERO NY 13039	07/06/2007	07/06/2012
DOL	DOL		RUTH H SUTTON		939 GROVESIDE ROAD BUSKIRK NY 12028	08/27/2008	08/27/2013
DOL	DOL	*****2585	S B WATERPROOFING INC		SUITE #3R 2167 CONEY ISLAND AVENUEBROOKLYN NY 11223	11/04/2009	11/04/2014
DOL	DOL	*****9066	SAMAR PAINTING & DECORATING INC		137 E MAIN STREET ELMSFORD NY 10523	12/01/2008	12/01/2013
DOL	NYC	*****0987	SCHWARTZ ELECTRIC CONTRACTORS INC		89 WALKER STREET NEW YORK NY 10013	01/04/2008	01/04/2013
DOL	DOL	*****6348	SEABURY ENTERPRISES LLC		22562 SEA BASS DRIVE BOCA RATON FL 33428	10/10/2007	10/10/2012
DOL	NYC	*****4020	SERVI-TEK ELEVATOR CORP		2546 EAST TREMONT AVENUE BRONX NY 10461	07/16/2009	07/16/2014
DOL	NYC	*****8252	SEVERN TRENT ENVIRONMENTAL SERVICES INC		16337 PARK ROW HOUSTON TX 77084	06/12/2007	06/12/2012
DOL	DOL		SHAIKF YOUSUF		C/O INDUS GENERAL CONST 33-04 91ST STREETJACKSON HEIGHTS NY 11372	04/28/2010	04/28/2015
DOL	DOL	*****0256	SIERRA ERECTORS INC		79 MADISON AVE - FL 17 NEW YORK NY 10016	04/16/2009	04/16/2014
DOL	DOL	*****0415	SIGNAL CONSTRUCTION LLC		199 GRIDER STREET BUFFALO NY 14215	11/14/2006	02/25/2015
DOL	DOL	*****8469	SIGNATURE PAVING AND SEALCOATING		P O BOX 772 JAMESTOWN NY 14701	08/13/2010	08/13/2015
DOL	DOL	*****8469	SIGNATURE SEALCOATING AND STRIPING SERVICE		345 LIVINGSTON AVENUE P O BOX 772JAMESTOWN NY 14702	04/04/2007	08/13/2015
DOL	DOL	*****9397	SKY COMMUNICATIONS, INC.		PO BOX 278 DEWITT NY 13214	02/20/2007	02/20/2012
DOL	AG		SN CONTRACTING CORP		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	AG	*****7480	SNA CONTRACTING CORP		131 47TH STREET BROOKLYN NY 11232	01/26/2007	01/25/2012
DOL	AG	*****2738	SNA CONTRACTING CORP.		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	DOL		SPASOJE DOBRIC		61 WILLET STREET - SUITE PASSAIC NJ 07055	07/09/2010	07/09/2015
DOL	DOL	*****0918	SPECTRUM CONTRACTING GROUP INC		875 THIRD AVENUE NEW YORK NY 10022	12/11/2006	12/11/2011
DOL	AG	*****1355	SPIRIDON ANTHOULIS		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	AG		STACEY GOUZOS		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	DOL	*****3496	STAR INTERNATIONAL INC		89-51 SPRINGFIELD BLVD QUEENS VILLAGE NY 11427	08/11/2003	08/11/3003
DOL	NYC	*****6650	START ELEVATOR CONSTRUCTION, INC.		4350 BULLARD AVENUE BRONX NY 10466	01/28/2008	01/28/2013
DOL	NYC	*****3896	START ELEVATOR MAINTENANCE, INC.		4350 BULLARD AVENUE BRONX NY 10466	01/28/2008	01/28/2013
DOL	NYC	*****1216	START ELEVATOR REPAIR, INC.		4350 BULLARD AVENUE BRONX NY 10466	01/28/2008	01/28/2013
DOL	NYC	*****2101	START ELEVATOR, INC.		4350 BULLARD AVENUE BRONX NY 10466	01/28/2008	01/28/2013
DOL	DOL		STEED GENERAL CONTRACTORS INC		1445 COMMERCE AVENUE BRONX NY 10461	10/09/2007	10/09/2012
DOL	DOL		STEPHEN BALZER		34-08 PARKWAY DRIVE BALDWIN NY 11510	07/01/2008	07/01/2013
DOL	DOL		STEVE PAPASTEFANOU		1445 COMMERCE AVENUE BRONX NY 10461	10/09/2007	10/09/2012
DOL	DOL	*****4081	STS CONSTRUCTION OF WNY		893 EAGLE STREET BUFFALO NY 14210	06/09/2009	06/09/2014

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DOL	DOL	*****5966	SUPREME SPORT SURFACES, INC.		66 BENEDICT STREET CASTLETON NY 12033	03/02/2007	03/02/2012
DOL	DOL	*****2036	SURACI ENTERPRISES INC		364 BLEAKER ROAD ROCHESTER NY 14609	10/25/2007	10/25/2012
DOL	DOL	*****9336	SWITZER SALES	ARTIERI SPECIALTIES	107 STEVENS STREET LOCKPORT NY 14094	11/04/2009	11/04/2014
DOL	AG		TAO GENERAL CONTRACTORS INC		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	DOL		THEODORE F FAULKES		18 FIREWEED TRAIL HILTON NY 14468	06/10/2008	06/10/2013
DOL	DOL		THOMAS ASCHMONEIT		79 MADISON AVENUE - FL 17 NEW YORK NY 10016	04/16/2009	04/16/2014
DOL	DOL		THOMAS E. MOONEY		164 WINSLOW STREET WATERTOWN NY 13601	11/07/2006	11/07/2011
DOL	DOL		THOMAS GORMALLY		250 KNEELAND AVENUE YONKERS NY 10705	07/09/2007	07/09/2012
DOL	DOL		TIMOTHY P SUCH		893 EAGLE STREET BUFFALO NY 14210	06/09/2009	06/09/2014
DOL	DOL		TNT DEMOLITION AND ENVIRONMENTAL INC		355 COUNTY ROUTE 8 FULTON NY 13069	08/08/2009	08/19/2014
DOL	DOL	*****3315	TOTAL DOOR SUPPLY & INSTALLATION INC		16 JOY DRIVE NEW HYDE PPARK NY 11040	01/05/2010	01/05/2015
DOL	DOL	*****3315	TOTAL DOOR SUPPLY & INSTALLATION INC		16 JOY DRIVE NEW HYDE PPARK NY 11040	01/05/2010	01/05/2015
DOL	DOL		TRI STATE TRUCKING INC		140 ARMSTRONG AVENUE SYRACUSE NY 13209	10/21/2009	10/21/2014
DOL	NYC	*****5184	UDDIN USA CORP		663 DEGRAW STREET BROOKLYN NY 11217	05/17/2007	05/17/2012
DOL	DOL		ULIANO AND SONS INC		22 GRIFFEN COURT MILLER PLACE NY 11746	10/26/2010	10/26/2015
DOL	DOL	*****8663	URBAN-SUBURBAN RECREATION INC		3 LUCON DRIVE DEER PARK NY 11728	06/20/2007	06/20/2012
DOL	DOL	*****0854	VANESSA CONSTRUCTION INC		588 MEACHAM AVE/STE 103 ELMONT NY 11003	08/24/2010	08/24/2015
DOL	DA		VASILIOS TSIMITRAS		235 91ST STREET BROOKLYN NY 11209	11/27/2006	11/27/2011
DOL	DOL		VIRGINIA L CAPONE		137 E MAIN STREET ELMSFORD NY 10523	12/01/2008	12/01/2013
DOL	NYC	*****9936	VISHAL CONSTRUCTION INC		73-12 35TH AVE - APT F63 JACKSON HEIGHTS NY 11272	03/04/2010	03/04/2015
DOL	NYC	*****5466	VIVA VICTORIA ENTERPRISES LTD		10317 90TH STREET OZONE PARK NY 11417	06/12/2006	06/12/2011
DOL	DOL	*****0329	WET PAINT CO. OF OSWEGO, INC		19 E. CAYUGA STREET OSWEGO NY 13126	05/15/2008	05/15/2013
DOL	DOL		WHITE PLAINS CARPENTRY CORP		220 FERRIS AVENUE WHITE PLAINS NY 10603	12/04/2009	12/04/2014
DOL	DOL		WILLIAM PUTNAM		50 RIDGE ROAD BUFFALO NY 14215	09/03/2008	09/03/2013
DOL	DA		WILLIAM TSIMITRAS		235 91ST STREET BROOKLYN NY 11209	11/27/2006	11/27/2011
DOL	DOL		WILLIAM W FARMER JR		112 HUDSON AVENUE ROCHESTER NY 14605	10/19/2009	10/19/2014
DOL	DOL		WINSTON J. GOINS, SR.		87 MALLING DRIVE ROCHESTER NY 14621	05/01/2006	05/01/2011
DOL	AG		YANG GENERAL CONTRACTING LTD		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	AG	*****0288	YIN CONSTRUCTION LTD		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	AG		YULY ARONSON		700 SUMMER STREET STAMFORD CT	11/24/2009	11/24/2014
DOL	AG	*****1564	ZARBEN GENERAL CONSTRUCTION INC		131 47TH STREET BROOKLYN NY 11232	01/25/2007	01/25/2012
DOL	DOL		ZEPHENIAH DAVIS		2068 ANTHONY AVENUE BRONX NY 10457	12/26/2007	12/26/2012

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AGENCY	Fiscal Officer	SSN/FEIN	EMPLOYER NAME	EMPLOYER DBA NAME	ADDRESS	DEBARMENT START DATE	DEBARMENT END DATE
DOL	NYC	*****8212	VELOX CLEANING CORP		32 ESSEX LANE WILLINGBORO NJ 08046	07/09/2010	07/09/2015